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THE CONFUSED STATE OF THE INTERNSHIP

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Thirty years ago in Chicago, at the seventh annual conference of the Council on Medical Education, held at the Congress Hotel, Dr. James B. Herrick¹ read a paper which appeared to certain members of the audience as being quite revolutionary in character. It was entitled "The Educational Function of Hospitals and the Hospital Year." Sooner or later, Dr. Herrick asserted, a period of training in a hospital would be demanded of every American medical student before he became licensed to practice. Difficulties in the way of such a prescribed hospital year seemed by no means insurmountable. Either one of two things soon was bound to take place: either more internships would become available to accommodate the large annual output of doctors from medical schools or the number of graduates each year would be curtailed. Of these two possibilities, it was the number of internships which seemed most likely to change. An increasing proportion of the better hospitals soon would realize the impossibility of effective work without the assistance of interns. There would develop good internships and bad internships. An obvious difficulty, therefore, presently must be surmounted. In order to protect the prospective intern a means must be invented by which hospitals could be standardized in their ability to offer a satisfactory type of training.

An interested group of listeners heard this paper. Among those in the audience were such hardy perennials as Dr. Arthur D. Bevan, chairman of the Council on Medical Education of the American Medical Association, Dr. George Blumer of Yale, Dr. A. J. Carlson of the University of Chicago, General Ireland of the United States Army, Dr. W. A. Pusey of the College of Physicians and Surgeons and Dr. Fred E. Zapffe of the Association of American Medical Colleges. Dr. Blumer was the only one with enough temerity to discuss Dr. Herrick's paper from the floor. He thought that the most serious practical objection to Dr. Herrick's rather visionary plan was the present impossibility of finding a sufficient number of hospitals where conditions were such that a student could be placed in them safely. He feared, as things were at the time, that, if all students were encouraged to take internships, many might learn bad habits rather than good medicine from such an experience and might be injured rather than helped.

In this fashion the vexing problem of the internship and its classification first acquired medical publicity.

No doubt there were many in the audience who perceived at once the full implications of what seemed to be in the back of Dr. Herrick's mind. One imagines the applause which concluded his remarks, and the buzz of argument which soon developed in the corridors outside the hall where the meeting was held.

There were several present who were prepared to go even further than Dr. Herrick. They believed not only that the standardization of the internship was desirable but also that their own particular talents and interests made them eminently suited to undertake the task of inspection and classification. It is difficult to conceive of such energetic teachers as Dr. Blumer or Dr. Carlson uninterested in such a presentation; certainly Dr. Zapffe easily perceived that the Association of American Medical Colleges found here a problem close to its heart; Dr. Pusey was not the man to listen to Dr. Herrick's cold and logical condemnation of bad surgical practice in hospitals without at once attempting to do something about it; and Dr. Bevan immediately visualized the standardization of internships as a problem to be faced by the American Medical Association, since it concerned the entire medical profession—doctors, educators, hospital superintendents and possibly those responsible for administering medical licensure.

The aftermath of Dr. Herrick's paper has been most interesting. Hardly another single paper presented at any annual congress on medical education has had such far-reaching results.

Almost immediately the Council on Medical Education of the American Medical Association considered the possibility of classifying hospital internships in much the same manner as had been utilized in the classification of medical schools. In line with this idea, internships were to be classified in A, B and C categories, thereby enabling medical schools and state boards to recommend hospitals in the A group to medical students as being institutions wherein the internship was of guaranteed worth-whileness. In the C group were to be listed those hospitals seemingly incapable of offering an internship which could be regarded as of any educational merit. In the B group would appear hospitals of doubtful strength: institutions wherein a year of residence might be of dubious usefulness though certainly the time spent there would not be wasted.

Medical schools and various state licensing boards soon climbed aboard Dr. Herrick's band wagon. In 1915 the House of Delegates of the American Medical Association was informed that the Licensing Boards of Pennsylvania and New Jersey now required that every candidate to be eligible for license to practice medicine in those states must have served at least one year as an intern in an approved hospital: and six medical colleges had adopted the requirement of a fifth year to be spent by the student as an intern in an approved

Read before the joint meeting of the Council on Medical Education and Hospitals and the Federation of State Medical Boards of the United States at the Thirty-Seventh Annual Congress on Medical Education and Licensure, Chicago, Feb. 18, 1941.
1. Herrick, J. B.: The Educational Function of Hospitals and the Hospital Year, A. M. A. Bull. 6: 105-112 (Jan.) 1911.

hospital or in other acceptable clinical work before the M.D. degree was granted. The medical schools first to take this step were Minnesota, Leland Stanford Jr., Rush, California, Northwestern and Vermont.

While many medical educators believed in the soundness of Dr. Herrick's idea that a required intern year was desirable, there were certain dissenters. At the annual congress in 1916 Dr. James Ewing² of Columbia University read a notable paper which he labeled "Principles and Experiments in Medical Education" and wherein he attacked vigorously the required intern year. He believed that the average hospital always would be unsuited for medical education, that a fifth purely clinical year raised an additional bar against the choice of a career in scientific medicine and that such a year tended to unbalance the medical curriculum by placing excessive emphasis on clinical training. Such a year, to be sure, was likely to help in the making of good practitioners. But to him it seemed an artificial measure designed to deal with the lower strata of student society and nothing more than a means for manufacturing smart young doctors acquainted with little more fundamental in medicine than the jargon of fashionable clinical tests and methods. The accomplishment of this did not appear to him as a progressive step toward the improvement of a good, general medical education.

One phenomenon which Dr. Herrick failed to foresee was the enormous expansion of hospitals which occurred. He was right, however, in predicting that an ever increasing proportion of the better hospitals would quickly realize the impossibility of effective work without the aid of interns.

No sooner did the Council on Medical Education publish its first list of hospitals approved for intern training than a new list was needed. It was a matter of mechanical impossibility during the decade before 1929 to classify internships on the A, B and C basis, since the entire complexion and number of hospitals changed over night.

DIFFICULTIES OF STANDARDIZATION

As hospitals rather than individuals began to play an increasing part in medical practice, Dr. Herrick's original postulate became restated by many doctors in many ways; a universally acceptable means was desirable by which hospitals could be standardized in their ability to offer a satisfactory type of intern training. At the congress in 1919 there was a paper on this matter by Dr. A. R. Warner,³ president of the American Hospital Association. This paper is second in importance to Dr. Herrick's in the history of the confused state of the internship. Here Dr. Warner gave an intelligent analysis of the difficulties encountered in an effort fairly to classify internships and agreed with Dr. Bevan that at least four factors are importantly involved in the process: hospitals themselves, the medical profession, the state licensing boards and the medical colleges. He believed that, in order to make a truly successful classification of internships, all these factors must be dovetailed together and that the interests of each must be recognized.

This paper provoked a great deal of discussion. The upshot was the formation of an organization known as the American Hospital Conference. This was to consist of two representatives each from twelve independent

groups of interested people: the American Medical Association, the American College of Surgeons, the American Nurses Association, the American Hospital Association, the Association of American Medical Colleges, the Federation of State Medical Boards of the United States, the American Association of Hospital Social Workers, the Catholic Hospital Association of the United States and Canada, the American Association of Industrial Physicians and Surgeons and the Medical Departments of the United States Army, Navy and Public Health Service. To this group later were added representatives from the International Compensation Board, the National League of Nursing Education and the National Organization for Public Health Nursing. The conference had the laudable intention of holding one or more meetings each year at which problems relating to the development and standardization of hospitals might be discussed. It formed an executive committee, and this was directed to prepare standards and carry on other essential work.

This association did not function with appreciable effectiveness. It presently changed its name to the American Conference on Hospital Service. It failed to prepare standards of classification unanimously acceptable to its membership. It died a quiet death. If it accomplished anything in the few years of its life, it bought about a sympathetic interest and reasonable cooperation of all organizations of the country which are engaged in various fields of endeavor included in hospital service. Presumably its executive committee, in attempting to prepare standards for classifying internships, was foiled by the chaos that develops when a large number of people of divergent opinion attempts to institute any sweeping reform.

The Council on Medical Education and Hospitals of the American Medical Association in the meantime continued calmly about its business of studying hospitals. The Council became increasingly convinced that the person most interested in the internship problem was the medical student and that one of the essential purposes in providing a classification of hospitals offering internships was to enable each student to select for himself with a reasonable guaranty of safety that institution which would most nearly satisfy his own particular needs. With this idea in mind, year by year hospitals were inspected and if they fulfilled certain sensible basic requirements they were listed as being approved for intern training. Just as in the case of medical schools, the value of classifying hospitals on an A, B and C basis became less obvious and the desirability of a minimum standard toward which any medical school or hospital might aim grew more evident. Internships became increasingly popular and were eagerly sought by each graduating class. The essentials of a Hospital Approved for Intern Training were modified from time to time so that the general level of intern training improved steadily and, on the whole, this method of managing the problem of internships and their classification appeared to yield fairly satisfactory results.

QUALIFICATIONS OF A SPECIALIST

Then came the meeting of the American Medical Association at Philadelphia in 1931. A simple sounding resolution introduced into the House of Delegates by Dr. Carl F. Moll⁴ of Michigan was to be the third great factor in adding confusion to the state of the internship.

2. Ewing, James: *Principles and Experiments in Medical Education*, A. M. A. Bull. 11: 120-128 (Jan.) 1916.
3. Warner, A. R.: *Hospital Standardization*, A. M. A. Bull. 13: 242-260 (Jan.) 1919.

4. Moll, C. F.: *Resolutions on Appointment of a Commission on Qualifications for Specialists*, J. A. M. A. 96: 2114 (June 20) 1931.

Dr. Moll, like many others, was conscious of the growing tendency on the part of many physicians to make self-appointed specialists of themselves. This he believed was an unsound practice and therefore he asked the House of Delegates for the appointment of a Commission on Qualification for Specialists. It was to be the duty of this commission to consider what qualifications a specialist should have and, in general, the type of educational training and clinical experience a man needed in any field before he could be recognized as a specialist in it.

As a result of this resolution the Council on Medical Education and Hospitals was directed to investigate the matter of specialization in medicine in this country and to make recommendations looking to the establishment of proper qualifications of physicians who might wish to be termed specialists. It appeared at once that many people and many organizations were vociferously eager to have a hand in deciding who was a specialist and how he should be made. After a period of struggle the present arrangements of the various specialty boards were duly established and began to function.

Each specialty board has its own peculiarities, but underneath all is a common denominator. To become a specialist, a doctor must have graduated from a recognized medical college and must have served an acceptable internship. On this foundation he must build to become a specialist by spending at least three years in obtaining intensive training in whatever field he selects.

The amazing popularity of the specialty board development has now refocused attention on postgraduate education in hospitals and particularly on the internship and the residency. Once again, as they were thirty years ago, are hospitals, doctors, state licensing boards and medical colleges in the midst of a discussion wherein the classification and direction of the hospital phase of graduate medical instruction appears of paramount importance.

Naturally, the state of the internship is a little confused by the vigorous stirring it has received recently. Yet the situation is not as awkward as it appeared thirty years ago because so much more is known.

Nowadays, of his own volition, almost every graduate of each recognized medical school in the country secures an internship in a hospital approved by the American Medical Association. A young doctor is more likely than not to reside in some such hospital for two or three years or more before he begins to practice. No licensure requirements or medical school regulations can make the internship appear more essential than it is at present.

This fact has diminished the immediate need for state licensing boards to demand an intern year as part of a candidate's credentials for licensure, though the tendency to enforce this requirement is spreading. In 1915, Pennsylvania and New Jersey were the pioneers in the field. Now twenty other states, the District of Columbia, Alaska and Puerto Rico have followed suit. Possibly a factor in retarding the more rapid growth of this movement is the complicated machinery which might be required to enforce it. Naturally, each state is deeply concerned with the qualifications of those whom it admits to practice. Theoretically, a required intern year in a good hospital is ideal. If an intern year was to be demanded by law throughout the country, however, many states might be compelled to make their own list of hospitals whose internships they could approve, and to construct such a list free from possible political criticism would be difficult. In those states

where obvious resources are not at hand with which to perfect so cumbersome an affair, it seems but common sense to proceed slowly and to avoid the risk of legislation which, to say the least, might be difficult to enforce properly.

Medical schools are even more diffident. In 1915 six schools required an intern year before their students received medical diplomas, and now but twelve make this demand. Vermont and Columbia at one time experimented with the plan but abandoned it. Dr. Ewing's argument of twenty-five years ago still has a certain force. But, more particularly, many teachers feel that no medical school can rationally give credit toward a doctor's degree for work not done under its own jurisdiction. Rarely is a medical school able to offer internships of its own, to control the quality of these or even to assure completely satisfactory placement of each of its graduates.

CLASSIFICATION OF INTERNSHIPS

It appears reasonable to conclude from these figures that state licensing boards have faith in a required intern year and in all probability are likely to go forward with it as conditions become suitable. On the other hand, medical educators are dubious.

Nevertheless, the most satisfactory classification of the internships continues to be a lively football which is much kicked about. Certain thoughtful people honestly believe that the internship has now become so important a part of medical education that the approval of hospitals suitable for intern training and the curriculum offered by them most appropriately lies in the hands of the medical colleges. They wish medical schools to prepare a list of hospitals to which students can be recommended safely with assurance that in these institutions a more or less rigid teaching program will be effectively carried out. In this fashion they hope that a well organized educational experience can be made of the internship which will formally introduce young doctors to the importance of a continuing postgraduate education. By this means they believe that the general level of medical practice throughout the country will be raised.

Other equally thoughtful people take a more conservative view. They believe that the process of undergraduate education in medicine already is sufficiently long. They do not perceive the wisdom of attempting to make of the internship a discipline that is in large measure academic. They prefer still to regard the internship as the young doctor's first great clinical opportunity, where, under the guidance of a competent preceptor, he stands on his own feet, begins to make decisions for himself and in this way acquires practical knowledge more rapidly and surely than by any other means. Those who have this philosophy do not wish the internship or what it teaches to be rigidly standardized by any single group of doctors. They think that except within broad limits the internship should have no fixed pattern. In brief, to them what amounts to free choice of internship in any institution whose basic respectability is assured seems as important for a young doctor as is free choice of physician to a patient.

The real point at issue appears to lie in whether or not the method of classifying hospitals approved for intern training utilized by the American Medical Association can be improved. Those who wish to have a new list of hospitals appear to give little weight to the experience of the Council on Medical Education and Hospitals in the field of hospital inspection and place

little emphasis on the value of the Council's carefully developed impersonal method of periodic hospital examination. With this point of view I myself have no sympathy.

A few years ago the Massachusetts Medical Society studied critically hospitals in Massachusetts by inspection and through data from surveys forwarded to the society by the council. One could not help but realize that hospitals in this state approved for intern training were not all of the same caliber; they fell into three easily separable groups. The A group offered the best internships and trained the fewest men; the C group offered the worst internships and trained the greatest number; the interns in the A group were in the main the best scholars, and the interns in the C group were from the lower ranks. No doubt an experience such as that of Massachusetts is almost universal.

Without question, medical schools owe their students the best possible advice in regard to choice of internship. The importance of the internship as a base from which to begin the practice of medicine cannot be over-emphasized. At the Harvard Medical School for many years an account has been kept of hospitals in which our students have interned, of the value of the experience from our students' point of view and of the impression made on various hospital staffs by Harvard men. Most of the hospitals in which our students have been trained have been approved by the American Medical Association; a certain number on the approved list have seemed unsatisfactory and our students have been advised to avoid them; and a very rare hospital not approved for intern training has offered some particular type of opportunity which certain students have been advised to seize. It seems perfectly sound for each school to have a confidential hospital list of this nature for its own purposes.

If, however, an appreciable number of hospitals with internships now approved by the Council were to be picked out in some arbitrary manner and announced publicly as henceforward being no longer approvable for intern training, unnecessary confusion and hardship would result. The fact of the matter is that there are not enough internships of highest quality to meet the demand of all candidates who wish to acquire them. There never will be so long as hospitals regard the care of the sick as their first duty and the education of young doctors in residence as of secondary importance. The best internships are bound to be limited in number and to be awarded to those applicants who appear most competent; no other intern policy is honest. The stronger hospitals will not accept second-rate material. But unfortunately medical students do not all have the same native ability, so that those unable to obtain first-class internships will be compelled to take others less good so long as the desire for some kind of an internship appears as important as it does at the moment.

Hospitals have a distinct advantage in that candidates applying for internships must be graduates of an approved medical school. In order to be equally fair to interns, to protect good students from going to poor hospitals and to help poor students in obtaining as good hospital appointments as they can, hospitals too must be approved.

Hospitals as well as students are annoyed and displeased by a multiplicity of surveys and inspections. In order to avoid a further stride of confusion in the mat-

ter of hospital internship, I believe there should be but one limited list of hospitals approved for intern training. This list should include all institutions which do not exploit interns, which maintain a high quality of professional work and which stimulate interns in the acquisition of knowledge. To prepare and keep up to date a list of this nature is an elaborate, painstaking business. So long as the American Medical Association continues to maintain one as intelligently as it has for the past thirty years, no other classification is particularly needed. For as Dr. Warner pointed out, twenty-two years ago, there are four factors involved: hospitals, doctors, state licensing boards and medical colleges. Any successful classification of hospitals must dovetail together all these factors. The American Medical Association is the most representative body of this profession to appraise so hard a task in a wholly disinterested manner. It is the one body in the country with resources and machinery to do the work well.

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PURPOSE, CONTENT AND METHODS OF TEACHING PUBLIC HEALTH TO MEDICAL STUDENTS

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DEFINITION AND PURPOSE

A definition of the practice of public health which suits my present purpose and will stand on its merits under the circumstances is: The application of the sciences of preventive medicine through government for social ends. The public health is but a convenient expression of the collective health of the members of the community, the social aggregation of families or households under some civil government jurisdiction.

Medicine and biology created a precedent when about a hundred years ago they entered on a career as servants of government, with functions defined by statute law and supported by tax revenues. For the first time the sanitary protection and health status of man and his wife and children became an object of the official solicitude of statesmen and of local government. Persons and their well-being as well as the safety of their material possessions and property were to be protected. This was a new motive in the progress of representative government toward social usefulness and came some hundreds of years after government accepted responsibility for care of the poor in sickness. Organized care of the sick by institutions and agencies, one of the two large fields of administrative medicine, was not then included in the field of public health and is not dealt with in our discussion of the present topic.

It was the impersonal *societas*, the community, the *demos*, the commons, the crowd of people, that was to be guarded and benefited by public health services, rather than the individual citizen, whose personal health was a coincidental object or necessity. We of the schools of medicine have been involved in this expanding function of government because both the leadership and the laborers of preventive medicine required additional basic sciences, and disciplines in fields of

knowledge not previously indispensable to the individual servant of the sick, for whose laboratory and clinical education we had been responsible. Our graduates found themselves ill equipped in several fields of administrative and public medicine where new opportunities awaited them.

About the time when the universities first offered postgraduate courses in science and vocational training to physicians and others who intended to engage in the career of public health, the conviction was becoming general that further and immediate progress in the health of the community, and probably the optimum practical benefits from public promotion of health under our form of government would depend to an increasing degree on the personal services, professional advice and opinions of the family physician.

The obligation of medical faculties was acknowledged to provide time in the medical curriculum and teachers to deal with those sciences and skills recognized as necessary for an understanding of the problems, the methods, the resources and results of preventive medicine as this can be made useful through civil government.

CONTENT

The additional basic sciences and accessory disciplines indispensable to the understanding and use of our present knowledge of public health are three: medical or vital statistics, environmental sanitation, including so-called industrial or occupational hygiene, and epidemiology.

The subject matter of these major building blocks of the practice of public health is not appropriate to any of the standard departments of the usual medical school of today, although each may be touched on and used for illustration or example in various laboratory and clinical courses. Without these three, only a trivial and cursory descriptive introduction to the superficial aspects of public health of a popular character can be presented to the student of medicine.

With these suitably included in the medical curriculum the physician can continue to grow in the intellectual and practical use of all his other information and skills which contribute to the improvement of collective as well as of individual health.

Existing departments of the medical schools of today, whether here or abroad, can deal with all the other factors which touch on or have been incorporated into the public or governmental functions of preventive medicine. Until and unless the well established departments of a modern school of medicine deal each in turn with the theoretical and practical applications of their respective subjects to the prevention of disease and the development of health and its improvement or protection, there is no good sense in adding to the former curriculum an embroidery of so-called public health, hygiene or preventive medicine.

Each basic science in the first two years, particularly physiology and bacteriology, is crowded with information, with theory, with practice directly contributory to a sound understanding and use of preventive medicine, whether of individual or public concern. If the opportunity, the incentive, the application is lost while the laboratory sciences are taught, these cannot readily be recaptured in a course in public health when there is not time, equipment or state of student mind to profit by a review of those aspects of the laboratory subject which are of special interest or necessity for an organized health service.

In the first year preferably and certainly before the end of the second year at the medical school, the student should have presented to him the principles involved in the description, interpretation, analysis and evaluation of facts which can be expressed mathematically. The substance of medical statistics will include the theory of probability, the significance of data, the logic of the statistical method, the distinction between an isolated observation and the weight of evidence of mass phenomena, the truth that statistics prove little, and that rarely, but that their use reveals trends and probable truths which can be tested critically by controlled experiment.

It is when the student is in the midst of experimental data dealing with accumulated records of anatomic, biochemical and physiologic facts that he first needs the discipline of the statistical method to save him time, to sort out relative truths and values, to refine the sharp edge of quantitative methods, to learn what chance variation means before he is faced with the loose quotations and opinions of clinicians who so rarely show a reasonable respect for evidence beyond that of the one patient in hand.

So much of the material accessible only through official public health channels is to be understood and safely used with the aid of rigorous mathematics that medical science statistics, whether vital, natal, mortal or merely morbid, must be mastered in its simplest terms early in the medical curriculum to become a familiar usable tool whether in calculating calories, drug dosage, heat loss, heart power or calcium deficit, or secular trends of diseases and deaths.

It is not enough to learn the use of a slide rule, now an almost universal high school gadget. The course in vital or medical statistics must be presented by a master, with the imagination of a professional gambler and the experience of a civil engineer, an epidemiologist or a biophysicist. It is unusual to find such a person either intellectually equipped for the job or with the inclination to deal with the numerical expression of facts, rather than with their creation from clinical or experimental observation, among the teaching staff of a medical school. When the right person is found he will require space, time and equipment for some laboratory work, using data already familiar to the students from their basic science courses or such as they are certain to meet in their expanding acquaintance with series of institutional patients, with medical publications and through the grist of health department records.

This teacher of vital statistics to medical students will, it seems to me, be an increasingly indispensable member of the society of scholars, the *collegium* which we like to think our medical faculty actually is. If he were used by clinicians before they arrive at conclusions of therapeutic triumph on their first seventeen patients, or assume a falling case fatality percentage based on one winter's experience with pneumonia, there would be less irresponsible medical publication.

Another contribution to the education of medical students in public health by persons of other than medical origin must be that of sanitation in its strict and correct sense, the science of environment as this affects the health of man. Environment, be it physical or biologic, all of man's material envelop except that created by the social and psychic atmosphere of fellow man, is not dealt with except casually and in an amateurish manner by any of the standard departments of our medical schools. I am not referring to plumbing fixtures

or street cleaning, nor yet to the covering of ash and garbage cans, but to an objective scientific study of the evidence of cause and effect by which man's health of body and even of his mind is in any respect affected by conditions of material environment. Air, light, water, foods, particularly milk, waste disposal, occupational hazards, vermin and insect control in relation to communicable disease, together with noise and the resources of engineers and administrators by which man as a congregating animal may be spared the damages potential in his own swarming and hiving; these are the subject matter of sanitary science. Not only are the principles to be dealt with, but examples of control in action are to be observed, and the statistical, historical and epidemiologic results of measures such as water and sewage purification, pasteurization of milk, mosquito control and air and light conditioning are to be proved from official and experimental records. As the physician in the sciences is in debt to the medical statistician for putting evidence on a quantitative basis, so the profession of public health and the practitioner of individual medicine are beholden and deeply grateful for the mastery of environment by engineers whether of the civil, chemical, electrical or general sanitary specialty. These features of public medicine should be familiar to the embryo doctor before he becomes an egocentric wielder of stethoscope and scalpel satisfied that he has labeled and healed a sickness in a man.

This course in sanitation will call into the faculty of medicine a sanitary engineer, a nonmedical sanitarian, and should certainly follow physiology and bacteriology and biochemistry, and preferably precede the major clinical teaching of medicine and surgery. Such a course can hardly be offered without involving that composite subject generally called Industrial Hygiene, a poor hybrid label for what is one part environmental sanitation of occupations and one part the hygiene or personal physiology of the workman himself. Under favorable conditions of time and teachers these two parts will be dealt with by a physician with special experience in physiology and pathology, who has applied his science of sanitation to solving the riddles of disease or disability of human function and structure in factory and shop, counting room and commercial office, mine, farm or construction gang. It is perhaps too much to expect that in our proposed introduction to the content of the public health there should be two courses, one in general and one in industrial sanitation, but if you will look about you today, listen to the calls for physicians to supervise the health of defense production plants, and note the quite insignificant minority of workers of any category for whom there is any medical buffer between them and the hazards of their job, you will, I think, see the logic of the demand for more liberal provision in the curriculum for industrial sanitation and the hygiene of the worker as part of the teaching in public health.

Before we can consider the place and functions of epidemiology, which may be thought of as the third new topic, the capstone of the educational structure of public health, we must make some stipulations as to the broadening of the teaching and scope of each of the clinical departments, whether the big five of medicine, surgery, obstetrics, pediatrics and psychiatry or their specialty subdivisions.

It is not suitable from any point of view to have the preventive aspects of any clinical department dealt

with in a systematic manner in a department of public health. Unless in medicine, surgery, obstetrics and pediatrics the preventive aspects of disease are dealt with there is but a forlorn hope that any devotee of public medicine can inculcate ideas after the hero of the amphitheater has ignored the matter.

The question of when and by whom preventive clinical medicine is to be taught may be said to have been permanently and definitively answered by the progressive, liberal, social and constructive attitudes of the departments of obstetrics and pediatrics, from which progress in public health has benefited more, in theory, practice and results, than from all the rest of the fields of clinical medical practice.

Where shall the student learn of maternal mortality, its extent, its trends, its causes, means of abatement and social significance, if not from the professor of obstetrics? Where will the promise and limitations of antepartum care be better taught than on the lying-in service and its prepartum and postpartum outpatient classes? How better illustrate the social slaughter of abortions and the effect of contraceptive information on their prevalence than by clinical observation in the gynecologic service? The public health teacher may emphasize statute law that calls for premarital and antepartum serodiagnosis and show what has been the declining trend of congenital and conjugal syphilis but venereal disease control is first, and always, an individual clinical job of the physician with his patient.

Without laboring the point through pediatrics, orthopedics, dermatology, ophthalmology and other fields, let me say once for all that no clinical subject is well taught unless the student leaves his patient, the disease under discussion or the topic as a whole with a clear picture of what might and should have been done to prevent the disease, so far as our knowledge permits us to know and our resources to apply this.

The first and last eagerness and worry of the student should be on the score of preventability, once he has understood the diagnosis and done his best at treatment of the patient and the disease. No teacher of the disease entity should feel free to close his chapter or lecture without expressing his opinion and giving good evidence as to the preventability or otherwise, practical or only theoretical, of the disease under discussion. The curiosity of students should be particularly aroused by any disease which they cannot yet classify as preventable.

General or internal medicine and surgery have not regularly dealt with the preventable aspects of the sickness they present. By the admission of the teacher of public health into the clinical amphitheater in some medical schools to deal with the public, the social, the preventable, the epidemiologic aspects of the patient's condition, a beginning has been made, and by the increasing emphasis of surgeons on the origins, preventable causes and public concern with cancer there has been real progress in incorporating the public health aspects of medical service in the teaching of diagnosis and treatment of the patient in hand.

When the medical student in the fourth year has had his vital statistics, his environmental sanitation and some comprehension that medicine as it may be practiced should include knowledge of the incidence and prevalence and preventability of disease among particular categories of the population, he should have an introduction to epidemiology, not only as a method inherent in the study and control of communicable diseases, but

as a science of the natural history of diseases and human disabilities as these express themselves among groups of persons, the mass phenomena of illness as human, social, communal, racial and national experience, not only its manifestations in the cell, the organ, the tissue or body of the particular patient but as it may be expected to appear to the statesman, the sociologist, the historian, the geographer and the anthropologist. Furthermore, the science and art of epidemiology should be revealed by examples of its use in measuring and to a large degree controlling the conduct of public services for health.

Wherever the medical graduate may settle for his career, he must be aware of the health status of his local community, state or nation, to become an understanding observer of morbidity, mortality and natality experience and of their relation to the well-being of his own professional clientele. These should be part of the subject matter to be presented under the title of epidemiology and public health service, preferably by a teacher matured in the practice of public health who has had personal responsibility within government for epidemiologic and administrative duties.

METHODS

As for the methods of teaching public health to medical students there are limitations but few novelties, for they will be found to be those familiar to medical educators from the beginning, namely description, demonstration, experiment, discussion, independent study and observation. The most serious inadequacies of much of the teaching have been the popular rather than a professional presentation of the subject matter by a series of lecturers concerned with promotional undertakings in restricted fields of health, the use of lectures almost exclusively, and these designed to inform and entertain the students rather than to supplement laboratory and practical contact with the actual services of public health by educational disciplines not previously included in the curriculum.

In the teaching of elementary, or shall we say basic, medical statistics, laboratory methods will give the soundest and most enduring results. Material can be drawn from many fields already familiar to the medical student. Class and section periods devoted to applying the simple mathematical disciplines required in the competent and responsible use of rates, trends, probabilities and chance variation will have to be combined with section conferences where the principles are explained and the student's understanding of them tested. The chief item of equipment beyond tables, chairs and the students' own slide rules will be multiple copies of such original records of phenomena as are likely to be assembled by the individual in laboratory or clinical practice, and such as are the basis of incidence, prevalence, morbidity, natality, mortality and other rates in common use in public health.

Examples of the futility of premature presentation of records of an insufficient number of cases to carry conviction pro or con are readily available. In a university medical school where there is a systematic annual medical examination of students and the teaching staff, and record of dispensary and infirmary services for a considerable body of men and women, something closely akin to community health statistics can be had over such periods of years as to be adequate for almost any of the needs for teaching medical statistics.

When environmental sanitation is dealt with in the second or third year of the medical curriculum there is a wide range of choice and opportunity for selection of methods and subject matter which will be determined largely by the teacher. Lectures there must be as the subject matter lends itself to methodical sequence of presentation. Class room illustration is relatively easy by the pictorial method of charts, slides, films and models. The choice of special importance will be in regard to excursions, visits to sanitary engineering installations, industrial plants, water works, pasteurization and other food establishments, and in respect to what is described as a sanitary survey of an area, district or community. Both of these teaching methods take an amount of time out of proportion to their educational results for medical students.

During the fourth year, when the student has clearly in mind the preventive aspects of the clinical branches of medical practice, the subject of epidemiology should be presented in a way to illustrate its usefulness in studying the natural history of disease and as a tool to serve the needs of the health officer, with which the physician in private or institutional practice is also intimately concerned.

There should be included at this time a brief description of the basic legal authority, the usual form of organization, the functions and the results of federal, state and local health services, together with explanation of the reciprocal legal and professional obligations in the interest of public health between the medical practitioner and the health officer.

TIME REQUIRED

There will be needed, preferably in the first year, not less than ten two or three hour periods of combined or consecutive lecture and laboratory work for medical statistics, in fairly close sequence rather than scattered over the whole academic year. There will be needed in the second rather than in the third or fourth year from ten to fifteen hours of lectures and class demonstrations on environmental sanitation. There will be needed in the third year as much as thirty hours of supervised observation of field and office functions of the local or state health department, including at least the bedside care, health education and control functions of the visiting and public health nurse, school health services and the sanitary, communicable disease and vital statistics services of the department of health. There will be needed in the fourth year thirty hours for lecture and discussion of epidemiology and the functions and results of public health service.

A total of ninety to one hundred and five hours spent on public health is sufficient to put into the medical curriculum that content necessary for the practitioner of medicine, fifty-three to fifty-eight hours being devoted to lecture periods and thirty-seven to forty-seven to field work.

It will be noted that there are not included in this teaching of public health such topics as medical economics or sociology, sickness or medical indemnity insurance, hospital or dispensary management, medical social service or welfare and relief functions of civil government, for which provision should be made, if at all, elsewhere in the medical curriculum.

A method used with especial success at the College of Physicians and Surgeons of Columbia University over the past twenty years to enlist the personal interest of each student in the application of the science of public

health to the problems which are of present concern to him is the guidance of the student in a study and report on some question of the preventability or prevalence of a disease, which the student chooses independently. The presentation of such reports before the class during the fourth year lecture periods on epidemiology and public health have been educationally productive to a high degree.

The joint medical and public health clinic as initiated and described by Leathers and Robinson at Vanderbilt University is another teaching procedure which should become as general as the clinical-pathologic conference.

One of the technical difficulties which the teacher of public health must try to overcome is that he cannot bring the student and the public, the community as a patient, face to face. He must avail himself of current reports, of epidemics, of administrative episodes or efforts at prevention and control, and evidence of success or failure to use the recommended procedures and resources to avoid disease, as these appear in official records and documents. The community as a patient or object of medical diagnosis and protection must be made real to the student.

SUMMARY

1. The purpose of teaching public health to medical students is primarily to make them so well acquainted with the group or social manifestations of disease and the methods of its prevention, and of the promotion of health by use of the medical sciences through government, that he will be a better physician and a more effective collaborator with the civil health authorities.

2. The content should include, beside the preventive and constructive health aspects of each of the basic science and clinical departments, the additional educational disciplines of medical statistics, environmental sanitation and epidemiology.

3. The methods should include, besides the lecture, conference and discussion, laboratory work in statistical practice, observation of public health services in field and office, individual study and report projects on the prevalence and prevention of disease, and study of such standard textbooks as those of Rosenau, Mustard or Smillie, and such periodical publications as bulletins and reports of public health departments.

Without teachers as qualified in the fields of biostatistics, sanitary science and epidemiology as are the faculty representatives of the other departments of the college of medicine, a university cannot assume that it has met with educational adequacy its obligation toward the student of medicine or to the public expecting preventive as well as curative services.

600 West 168th Street.

Cancer.—At one time chimney sweeps headed the list of cancer death rates. This is no longer the case, mainly because they had been able to adopt higher standards of cleanliness. But their death rate from cancer is still far above the average. Fifty years ago the chimney sweep's black skin was regarded as a joke. We now realize that if a sweep has to live in a house without proper washing arrangements he is probably condemned to death from a particularly unpleasant kind of cancer. Gas workers are affected in a rather similar way. The substances in soot and oil which cause cancer were isolated by Professor Kennaway of the London Cancer Hospital; and his colleague Cook discovered their exact composition. It is now possible to test lubricating oils for their presence.—Haldane, J. B. S.: *Science and Everyday Life*, New York, Macmillan Company, 1940.

EARLY DIAGNOSIS OF MALIGNANT METASTASES TO THE SPINE

A CLINICAL SYNDROME

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LOS ANGELES

Adequate roentgen therapy of malignant metastatic lesions often produces such dramatic relief of pain and such remarkable regression of the lesions that the evaluation of early findings related to pain, erythrocyte sedimentation rate and serum phosphatase level is worthy of discussion and clarification.

Since roentgen ray therapy is the only hope for successful treatment, an early diagnosis becomes imperative. The feeling of many physicians concerning the possibilities of an early diagnosis and the successful treatment of demonstrable malignant metastases to the spine has been, unnecessarily, one of pessimism and futility. Our observations disclosed certain constant features attending metastatic lesions in the vertebrae. An accurate diagnosis can be made long before roentgen ray evidence is present. The constant features mentioned suggest a syndrome based on (1) the character of the pain, (2) the changes in the erythrocyte sedimentation rate and (3) the level of the serum phosphatase.

EVALUATION OF ROENTGEN RAY DIAGNOSIS

In most patients osseous lesions become massive and widespread before they become roentgenologically apparent. The reasons for this are evident after a study of roentgen ray density of bone is made. Snure and Maner¹ have shown that practically all of the spongiosa of a vertebral body can be replaced by metastatic tissue without evidence of the lesion demonstrable by means of roentgen rays. They have also shown that there is no roentgenologically detectable difference in density of bone until at least 1 sq. cm. of the cortex is destroyed. Even then the lesion is not apparent unless the central rays pass through the long axis of the defect. This explains Lawton's² failure to obtain positive roentgen evidence in involved bones removed at autopsy, because in no instance had the cortex been destroyed. As recently as 1938 he² stated that the diagnosis of metastases to bone could not be made without positive roentgen evidence and that when permission for autopsy is refused the diagnosis can never be confirmed. This is true only if roentgen diagnosis is used to the exclusion of all other diagnostic methods.

It is obvious from the foregoing statements that when roentgen evidence of metastasis is demonstrable the lesion is advanced and probably diffuse and the optimum time for treatment has passed.

From the Medical Clinic of the Cedars of Lebanon Hospital.

Presented before the staff meeting of the Cedars of Lebanon Hospital May 15, 1940.

Dr. Jacob Abowitz and Dr. C. K. Emery of the roentgenologic service, gave cooperation which made this study possible.

Drs. Wolfson and Reznick are clinic assistants at the Cedars of Lebanon Hospital; Dr. Gunther is adjunct physician to Cedars of Lebanon Hospital and assistant clinical professor of medicine, College of Medical Evangelists.

1. Snure, Henry, and Maner, G. D.: Roentgen Ray Evidence of Metastatic Malignancy in Bone, *Radiology* 28: 173 (Feb.) 1937.

2. Lawton, S. E.: Bone Metastases from Carcinoma of the Stomach, *Surgery* 3: 121 (Jan.) 1938.

VALUE OF THE ERYTHROCYTE SEDIMENTATION RATE

The value of the erythrocyte sedimentation rate in various conditions³ is too well known to warrant comment here. However, its correlation with the presence of metastatic lesions has received relatively scant attention. Schiller⁴ has stated:

If a malignant growth be removed operatively, the sedimentation rate should return to normal within six weeks if complete removal has been obtained. If the rate returns to normal and remains normal at least six months, one may give a guardedly favorable prognosis. If the rate becomes abnormal within this time, it is suggestive of local recurrence of the growth or metastasis.

In a series of 62 carefully studied case histories Kaump, Heck and Bannick⁵ showed a remarkable correlation between metastatic involvement of bone and increase in erythrocyte sedimentation rate. In the case reports of Swenson and Holzman⁶ and Kaump, Heck and Bannick⁵ and the Cabot case 24301,⁷ the diagnostic value of an increased sedimentation rate is further emphasized. It was the only positive laboratory finding in obscure diagnostic problems in which, finally, roentgen or autopsy studies proved the presence of metastatic lesions of the bones.

VALUE OF STUDIES OF SERUM PHOSPHATASE

A significant finding in cases of metastases to bones is an elevated phosphatase content of the blood serum. Excellent discussions of the changes in the serum phosphatase in other conditions may be found in the reviews of various authors.⁸

When roentgen studies are of diagnostic value two types of lesions are encountered: (1) evidence of increased osteoblastic activity, as indicated by localized areas of increased density due to increased calcification;⁹ (2) localized rarefaction, indicating increased osteolytic and osteoclastic activity with decalcification.

With metastatic lesions of bone which result in increased, localized calcification (increased osteoblastic

activity) the serum phosphatase levels are almost always elevated.¹⁰ With destructive (osteoclastic) lesions, while the serum phosphatase values may be normal they are frequently elevated.¹¹

EVALUATION OF PAIN

Pain, as with tumors of the spinal cord and its nerve roots,¹² is often the earliest, most outstanding and most compelling symptom of spinal metastasis.¹³ This pain has definite recognizable characteristics. It is a root, or radicular, pain. It is almost always limited to definite segments, or dermatomes, supplied by the nerve roots exiting through the foramina formed by the involved vertebrae. The pain is aggravated by coughing, sneezing, yawning, straining at stool, bending movements of the spine or sudden jarring of the body.

The similarity of this pain to the root pain of arthritis of the spine is so great that these two conditions have frequently been confused.¹⁴ However, a careful analysis will usually reveal distinct differences:

1. In arthritis the painful root zones cover wide areas and include several dermatomes. Thus the patient outlines a wide zone of radicular distribution. More than one area may be painful simultaneously. Thus the cervical roots covering the entire shoulder girdle and outer side of the arm may constitute one region. A wide zone of root pain may also be present over the abdomen and back between the xiphoid and the umbilicus, with radiation to the back. Or the entire precordium may be included in a wide root zone on the left side of the chest and back.¹⁵ Contrariwise, the root pains associated with early metastatic lesions of the vertebrae occur in very narrow zones, limited to two roots or possibly one root. Thus the zone of radiculitis, or the painful zone, is confined to a relatively narrow area supplied by the nerve roots adjacent to the vertebra or vertebrae that are involved. The limitation of the pain is so sharply defined that (as in our case 2) the narrowness of the painful area might easily be mistaken for a localized intercostal myositis or neuralgia.

3. Wintrobe, M. M.: The Application and Interpretation of the Blood Sedimentation Test in Clinical Medicine, M. Clin. North America **21**: 1537 (Sept.) 1937. Feder, J. M.: Some Observations on the Blood Cell Sedimentation Rate in General Medical Diagnosis; Its Value as an Aid in Differentiating Malignant from Benign Tumors: Analysis of Fifty Cases, J. South Carolina M. A. **35**: 102 (April) 1939. Smith, G. H., and Mack, Florence: Carcinolytic Action and Erythrocyte Sedimentation, Yale J. Biol. & Med. **9**: 173 (Dec.) 1936. Frenzel, M.: Ueber den praktischen Wert der Blutkörperchensenkungsgeschwindigkeit, München. med. Wchnschr. **56**: 923 (June 16) 1939. Lautman, M. E.: Sedimentation Test in Chronic Arthritis; Its Value as an Aid in Differential Diagnosis and Treatment, J. Arkansas M. Soc. **33**: 187 (April) 1937.

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2. Arthritic pains have a periodicity and rhythmicity which depend on mechanical factors, associated with movements of the spinal column, and meteorologic conditions, such as sudden changes in the weather. The root pain of metastatic lesions is constantly present and unmitigatingly intense and is not influenced by climatic changes.

3. The person with arthritis who suffers root pain is constantly turning and changing his position in bed because motion affords relief. The sufferer with metastatic lesions is reluctant to move or turn once he finds a comfortable position in bed, because motion aggravates the pain. If he cannot find a comfortable position in bed he may pace the floor or do his sleeping upright in a chair, as do many patients with nerve root and cord tumors.

An outstanding difference between the radiculitis of arthritis of the spine and that due to metastatic lesions is the presence or absence of localized tenderness to percussion over the spinous processes. In the former condition deep percussion over the spinous processes of the suspected vertebrae does not elicit local tenderness and pain. In the latter condition percussion tenderness is a constant sign. The superficial hyperesthesia of the skin, which is best elicited by pinching or by light pressure anywhere within the painful spinal segment, must not be confused with the deep tenderness elicited by percussion (see table).

Patients with Pott's disease or other destructive processes of the bodies of the vertebrae (excluding Charcot's disease) may exhibit percussion tenderness, but their condition is easily differentiated from metastatic lesions by characteristic history and physical stigmas.

REPORT OF CASES

CASE 1.—*Diagnostic value of root pain with localized tenderness to percussion, an elevated phosphatase level and a rapid sedimentation time.*

L. L., a white woman aged 73, first appeared at the medical clinic in January 1938, complaining of a mass in the right

Important Differential Findings in Spinal Metastasis and Spinal Osteoarthritis

	Spinal Metastasis	Spinal Osteoarthritis
Distribution of peripheral pain	Usually limited to narrow zones of one or two nerve-roots' distribution	Usually covers a large number of spinal dermatomes, with wide areas of distribution
Periodicity and rhythmicity of pain	None; constantly present and intense; relief only by roentgen ray therapy	Influenced by meteorologic conditions; relief by analgesics, vitamin B ₁ and physical therapy
Effect of motion on the pain	Aggravates and intensifies the pain; patient shows reluctance to move once a relatively comfortable position is attained	Tends to relieve the pain; patient is constantly turning and changing position because motion affords relief
Deep percussion tenderness	Percussion tenderness over the suspected vertebrae is a constant sign	Percussion tenderness is not present; cutaneous sensitivity may be present
Sedimentation rate	Increased, usually greatly so	Not increased
Serum phosphatase	Increased, or increasing; above 4 Bodansky units	Not increased

breast. Her history included pain in the lower part of the back of three years' duration. The pain was not severe; there was no radiation, and at varying intervals the pain would spontaneously subside.

The mass in the breast proved to be a *scirrhous carcinoma*. Roentgenologic investigation revealed no evidence of metastasis to bone. The patient refused surgical intervention and was treated with radium.

She was symptom free until May 1939, when she complained of severe and constant pain in the lumbar region, which radiated bilaterally to the outer sides of the hips and thighs. Percussion over the lumbar region revealed a sharply localized area of deep tenderness over the second and third lumbar vertebrae.

The serum phosphatase level was 11.8 Bodansky units (the upper limit of normal is 4.0 Bodansky units in our laboratory), and the erythrocyte sedimentation rate was 12 mm. in fifty-four minutes (Linzenmeyer: normal 12 mm. in one hundred and

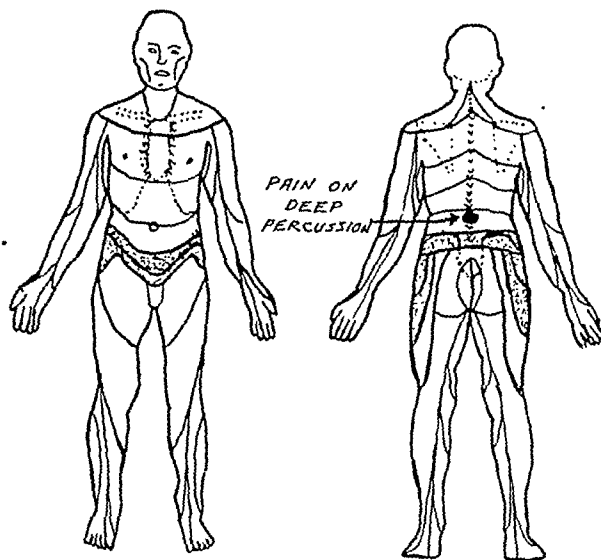


Fig. 1.—Subjective pain distributed in narrow radicular zone of dorsal root 12 and lumbar root 1. Localized tenderness to deep percussion was present over the spinous process of the upper lumbar vertebrae.

twenty minutes). Three weeks later the serum phosphatase level was 15.1 Bodansky units and the sedimentation rate remained at 12 mm. in fifty-five minutes. Roentgen ray studies did not show metastases. However, in view of the aforementioned findings a positive clinical diagnosis of metastatic involvement of the second and third lumbar vertebrae was made.

In July 1939 definite roentgen ray evidence of an osteoblastic type of metastatic lesion of the second lumbar vertebra was reported. The patient received roentgen irradiation and experienced relief of her symptoms. By March 1940 she was feeling well. The deep tenderness to percussion and the radiculitis were gone. The serum phosphatase level had fallen to 8.6 Bodansky units. The sedimentation rate had returned to 12 mm. in one hundred and twenty minutes.

CASE 2.—*Diagnostic value of root pain with localized tenderness to percussion and an elevated sedimentation time.*

T. S., a white woman aged 43, entered the medical clinic in September 1937, complaining of a mass in the left breast. This proved to be an adenocarcinoma with axillary metastases. Roentgenograms of the bones showed no metastases.

After preoperative irradiation a radical mastectomy and removal of the axillary glands was performed in January 1938. This was followed by postoperative irradiation.

In January 1939 the patient complained of pain in the posterior portion of the neck. The pain was constant and severe and continued, with negative results of serial roentgen studies until May 1939, at which time a pain in the left side of the chest became localized anteriorly at the level of the fourth interspace. There was deep percussion tenderness over the first three dorsal vertebrae. The sedimentation rate was 12 mm. in eighteen minutes. In spite of the negative roentgen findings a diagnosis of spinal metastasis was made.

By June 1939 there was pain also in the anterior right portion of the chest at the level of the fourth interspace radiating around to the back. The pain was severe, constant and aggravated by motion and coughing. Roentgen ray studies were again negative.

In August 1939, seven months after the initial appearance of the symptoms, roentgen study revealed a pathologic fracture of the sixth rib on the left side and compression of the third dorsal vertebra.

The patient was placed in an institution and died in November 1939. An autopsy was not done.

CASE 3.—Diagnostic value of an elevated phosphatase level of the blood and a rapid sedimentation time.

R. S., a white woman aged 47, who had a known carcinoma of the breast, came to the clinic Oct. 9, 1939, because of severe dyspnea and increasing weakness of two weeks' duration.

Examination revealed her to be obese, weak and dyspneic. Many petechial and large hemorrhagic areas of the skin were present. The mucous membranes of the mouth bled easily on light pressure.

The patient was admitted to the Cedars of Lebanon Hospital the same day. Laboratory examination revealed severe anemia and thrombopenia. A diagnosis of metastasis to bone marrow was made. The serum phosphatase level was 18.6 Bodansky units; the erythrocyte sedimentation rate was 12 mm. in nineteen minutes. Serial roentgen ray studies of the bones, however, constantly gave negative results. The patient died three weeks after admission.

Autopsy (performed by Dr. M. Pizer) revealed diffuse metastases to the bone marrow, including that of the spine.

CASE 4.—Diagnostic value of root pain with localized tenderness to percussion, an elevated sedimentation time and increasing levels of serum phosphatase.

S. S., a white woman aged 45, came to the clinic because of a mass in the breast. This proved to be a scirrhus carcinoma. A radical mastectomy was performed in July 1936, two weeks after the tumor was first observed at the clinic. The patient was given a complete course of postoperative irradiation.

In January 1937 there was no evidence of recurrence or metastasis. The patient felt well and gained so much weight that a reducing regimen became necessary.

The patient remained well until March 1939, when she complained of severe pain, localized in the right shoulder and most intense at the joint. There was deep tenderness over the biceps and deltoid regions. The usual measures used in treatment of arthritis offered no relief. The pain remained severe and constant. Roentgen studies gave negative or doubtful results. The sedimentation rate was 12 mm. in eighteen minutes. In spite of the negative results of roentgen examinations, a positive diagnosis of metastasis to the head of the humerus was made.

In July 1939 a roentgenogram revealed an osteoclastic type of lesion involving the head of the humerus. The serum phosphatase level was found to be normal (2.3 Bodansky units).

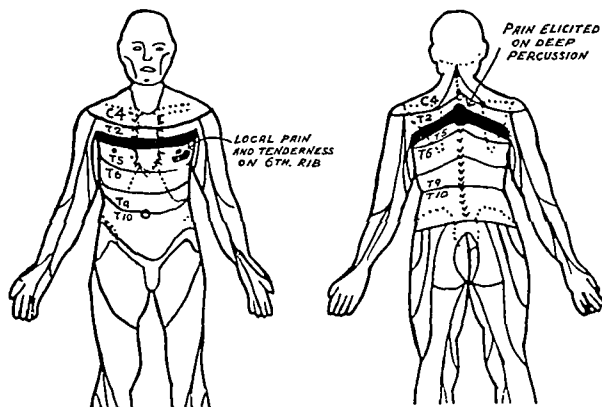


Fig. 2.—Subjective pain distributed in narrow radicular zone of dorsal roots 3 and 4. Localized tenderness to deep percussion was present over the spinous process of the upper three dorsal vertebrae. An area of subjective pain and of local tenderness to pressure was present over the sixth rib seven months before the roentgen examination disclosed a pathologic fracture.

In October 1939 the serum phosphatase level was 3.1 units. The patient was receiving roentgen irradiation, which was followed by relief of the symptoms and regression of the lesion.

Dec. 21, 1939, the patient complained of pain in the lower portion of the back with radiation along the course of the second lumbar nerve. There was deep percussion tenderness over the second lumbar vertebra. The results of roentgen

examination were negative; the sedimentation rate was 12 mm. in twenty-nine minutes; the serum phosphatase level was 4.8 units. A clinical diagnosis of metastasis to the spine was made. The patient received radiation treatment.

The patient was admitted to the hospital because of continuation of symptoms. Roentgenograms revealed metastases to the lower portion of the spine and to the pelvis. The sedimentation rate was 12 mm. in twenty-two minutes, and the serum phosphatase level was 6.0 units.

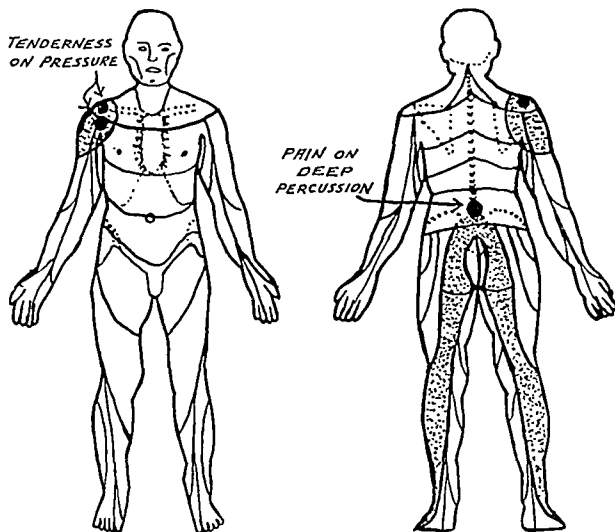


Fig. 3.—Area of subjective pain over shoulder joint and localized points of tenderness to pressure. Subjective pain of radicular distribution was present over the second sacral root and localized tenderness to deep percussion over the lower lumbar vertebrae.

Under roentgen treatment the patient's symptoms improved. However, the sedimentation rate remained elevated at 12 mm. in twenty-nine minutes, while the serum phosphatase level dropped to 4.2 units.

COMMENT

The diagnosis of metastases to bone prior to the appearance of roentgen evidence has been difficult. Too often have spinal lesions had to await positive diagnosis by the roentgenologist or the autopsy surgeon. This has been true even in the presence of a known primary lesion and a clinical picture suggestive of metastases. Early roentgen ray therapy is such an important agent in the relief of symptoms, regression of the lesion and the prolongation of life that a means of early diagnosis of metastases is imperative.

Modification of the hemogram¹⁶ has been used as a diagnostic aid, but modifications of the blood are not sensitive enough for early diagnosis and are only to be seen when metastases are quasitotal.¹⁷

The erythrocyte sedimentation rate is not subject to such limitations. The change in rate appears as a sensitive reaction to the presence of a new growth and reaches a maximum quickly. The rate does not increase further with increasing involvement of the bone marrow.⁵ It is evident that the change in the sedimentation rate is an early, rapidly appearing, constant and dependable sign and is not appreciably influenced by coexisting anemia.¹⁸

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Pain may appear long before positive roentgenologic evidence of a metastatic lesion. This is particularly true in the spine. Involvement of the nerve root itself is not necessary to produce radicular pain. Any part of the vertebral body, its projections or the soft tissue coverings may give rise to root pain.¹⁹ A lesion not detectable in a roentgenogram may cause sufficient irritation to be reflected via the spinal nerve roots as pain months before the roentgen ray evidence of an osseous bone lesion becomes visible.

The presence of an elevated serum phosphatase level is very suggestive of a malignant process in bone. Woodard and Craver²⁰ found elevated serum phosphatase levels in many patients with symptoms referable to bone, although no changes were demonstrable by means of roentgen rays. In some of their patients, lesions were subsequently demonstrated. They concluded that a persistently elevated serum phosphatase level is indicative of invasion of bone.

We feel that whenever a malignant lesion is suspected it is important to perform serial determinations. Phosphatase levels which are within the normal range but ones which are steadily rising are significant. This was demonstrated in our case 4.

SUMMARY AND CONCLUSIONS

From our experience with 7 patients, 4 of whom we have described, we feel that an early and definite diagnosis of spinal metastases can be made in spite of negative roentgenologic evidence. Basing our contention on the reports of alterations of the erythrocyte sedimentation rate, the serum phosphatase levels attending metastatic osseous lesions and our own observations on the character of the radicular pain, we suggest the following triad for an early diagnosis of spinal metastases: (1) the presence of radicular pain, in narrow zones, sharply limited to one or two spinal nerve roots, associated with localized tenderness to deep percussion over the spinous processes of the vertebrae which form the foramina of exit for the nerve roots of the painful dermatomes; (2) an accelerated erythrocyte sedimentation rate, and (3) an increase in the serum phosphatase level.

Two rules governing the early diagnosis of malignant spinal metastases are formulated, as follows:

1. If a patient has an unsuspected primary malignant lesion, the presenting symptom is radicular pain: (a) The pain varies from the usual type of arthritic root pains, as described; (b) the erythrocyte sedimentation rate is greatly accelerated; (c) the serum phosphatase level is increased; (d) there is no obvious clinical explanation or demonstrable cause for these changes.

The possibility of the existence of a malignant lesion with spinal metastases must command serious and diligent attention.

2. If a patient has, or has had, a proved primary malignant lesion, the presenting symptom is radicular pain, as described previously. An elevated sedimentation rate and/or an elevated or rising serum phosphatase level are present. A diagnosis of malignant metastases to the spine may be made irrespective of negative roentgenologic findings.

EARLIER DIAGNOSIS OF SUBACUTE STREPTOCOCCUS VIRIDANS ENDOCARDITIS

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Of 150 consecutive adult patients with subacute Streptococcus viridans endocarditis coming to the medical service of the Peter Bent Brigham Hospital in the period March 31, 1913 to Aug. 31, 1939 the majority arrived at the hospital without a correct diagnosis, or the correct diagnosis had been made by a consultant only shortly prior to hospital admission. It was unusual for the correct diagnosis to have been made by the general practitioner in charge of the patient during an illness which already had lasted for several to many weeks. From a study of the records of 150 patients it would seem that relatively few general practitioners are aware of the usual early clinical picture of bacterial endocarditis caused by Str. viridans; their unawareness leads them to fail to suspect the presence of this disease at a time when the correct diagnosis should have been quite obvious, certainly obvious enough to suggest getting a blood culture as one of the important steps toward obtaining the correct diagnosis and to suggest a special search for the important clinical evidences of such a disease.

Early diagnosis has become all the more important now that there is available chemotherapy which makes cure a possibility, provided Str. viridans vegetations are not too large and are not organized at the time treatment begins, for under the latter circumstances many of the bacteria will be situated away from the blood stream and relatively inaccessible to chemicals circulating in it. If the vegetations are small and unorganized, the chance of cure by chemotherapy will be enhanced greatly. Consequently early diagnosis has become an important adjunct to successful treatment. To accomplish this, it will be necessary for the general practitioner to know the symptoms and signs of developing Str. viridans endocarditis and be on the watch for their appearance in his patients, particularly in those who have the background on which such development should be expected.

What is the clinical picture that should suggest to the practitioner Str. viridans endocarditis in its developing or early stage? It is a composite resultant from the effects of one major constant, two major variables and a varying number of minor variables, the last relatively unimportant in making up the clinical picture. The three major factors appear in almost every case, but the variables, as a rule, come in the later stages of development of subacute Str. viridans endocarditis, while some feature of the major constant, with few exceptions, inaugurates the illness.

The major constant in this type of endocarditis is toxemia of rather low grade as would be expected from the action of a bacterium of slight virulence, as is Str. viridans. It is a toxemia which tends always to make its appearance gradually and to progress slowly, in contrast to what usually happens in other infectious diseases. However, the majority of patients can fix definitely the time at which they noticed that they were no longer in normal health.

19. Kellgren, J. H.: On the Distribution of Pain Arising from Deep Somatic Structures, with Charts of Segmental Pain Areas, Clin. Sc. 4: 35 (June 5) 1939. Gunther and Kerr.

20. Woodard, H. Q., Craver, L. F.: Serum Phosphatase in the Lymphomatoid Diseases, J. Clin. Investigation 19: 1 (Jan.) 1940.

This study was aided by a grant from the Milton Fund of Harvard University for the purpose of examining the accumulated clinical records of the Medical Service of the Peter Bent Brigham Hospital.

Patients expressed themselves variously in regard to what they noticed first, using such terms as malaise, easy fatigue, loss of energy, loss of "pep," unexplained tiredness, loss of strength, "all in" feeling and loss of vigor. Such expressions were used by 70 (46.66 per cent) of the 150 patients to describe their first departure from normal. Many of these, too, said they had felt feverish, had had chilly sensations or actually had had fever as registered by a thermometer during the early days of the illness; 77 (52.66 per cent) of the 150 had noted some form of malaise or some evidence of fever or both at the onset, while 28 more (a total of 71.33 per cent) had had these symptoms in the early days of their illness. Many of these patients spoke of having had, in the beginning, a "cold" that "hung on."

Next in frequency at onset were complaints of joint or muscle pains, one or the other or both, by 41 of the 150 patients, while 23 more had joint or muscle pains early in the course of the disease—a total of 64 patients (42 per cent) with muscle or joint pain at or near the onset of illness; to many patients these joint and muscle pains or aches were part of a "cold" or "grippe," as they termed it. Nausea or loss of appetite was noted at onset or early by numerous patients (24, or 16 per cent), and for most of these loss of weight was spoken of; in an occasional patient rapid loss of weight was striking. This may be, in a rare instance, the only complaint during the earlier days. Headache was complained of by 11 patients as a symptom of onset.

The symptoms so far enumerated can be considered evidences of toxemia, and it is the rare patient who does not comment on some one or several of these as his first symptom or symptoms. It is the toxemia symptomatology which so often leads the physician in charge to make such mistaken diagnoses as typhoid, tuberculosis, influenza, undulant fever or malaria and, when there are joint pains, rheumatic fever. The persistence of these symptoms for more than one week with no positive evidence of other disease certainly should suggest to the physician the possibility of bacterial endocarditis, particularly in the patient with physical signs of chronic valvular heart disease.

Joint or muscle pains in the early stage of subacute *Str. viridans* endocarditis are confusing. There may be in some patients even warmth, redness or swelling about the joints, and often several joints at once or in succession are involved. These disturbances naturally suggest rheumatic fever, all the more so because many of the patients have had past attacks of rheumatic fever. It is uncertain whether to consider this phase of the disturbance as rheumatic fever precipitating or complicating what subsequently is obvious, namely that the patient has bacterial endocarditis, or whether to regard it as part of the aches and pains of a general toxemia caused by the bacterial vegetations. As I have watched patients with subacute *Str. viridans* endocarditis the latter explanation seems to me more appropriate for most of them, particularly since those forms of therapy which usually relieve the arthralgia and arthritis of rheumatic fever generally are not effective, and clinically what is seen is not just typical of rheumatic fever, the fever and malaise being out of proportion to the joint changes. Furthermore, during the course of toxemic manifestations joint and muscle pains may recur, sometimes several times, this suggesting, too, that the condition is part of the toxemia and is not rheumatic. In not a few patients careful study reveals that the disturbance is in the bones and not in the joints. Still, in some instances it may be that the patient has had

a recurrence of rheumatic fever. When in one of these patients the appearances of rheumatic fever come, it is well to apply antirheumatic therapy promptly and thoroughly but to remain skeptical of that being the whole story and continue to make every effort to prove or disprove the presence of bacterial endocarditis. What is going on should be apparent relatively soon.

In an occasional instance, what is termed a "cold" or "head cold," especially if followed by cough, may be an infection antedating the bacterial endocarditis, possibly even serving as the portal of entry of *Str. viridans*, rather than a symptom of the toxemia of the endocarditis. The condition with the diagnosis of influenza, often made by patient or physician at the onset, clearly is, in most cases, only an indication of toxemia; if it persists, toxemia certainly is the situation.

The two major variables in the clinical picture of subacute *Str. viridans* endocarditis are derived from embolic phenomena or from the effects of preexistent or coexistent chronic valvular heart disease or congenital anomaly of the heart. Embolic phenomena may appear at any time, but ordinarily not in the early days of the disease; lesions of the heart valves or congenital heart disease may cause no part in the clinical picture until the later stages, although few patients with these disorders die without evidence of cardiac decompensation; chronic passive congestion of the liver or other organs is found almost always on postmortem examination.

Among the embolic phenomena that may be noted by the patient early in, or even at the onset of the illness are paralyzes from cerebral embolism (these occurred nine times in the 150 cases at Peter Bent Brigham Hospital), abdominal pain from infarction of the spleen or, possibly, kidney (six times), painful finger or toe tips (eleven times) and petechiae (five times). Other embolic phenomena appear less frequently. In some patients such embolic phenomena seem to have been the evidence of onset, although, as a rule, toxemic symptoms antedate the embolic phenomena by a few days at least, and it is rare for them not to accompany the embolic phenomena, although these often are so striking as to divert the patient's attention from toxemic symptoms which he has had. In many instances the physician observes evidence of embolic phenomena not noted by the patient or discovers symptoms of them as the result of questioning the patient.

Dyspnea, especially dyspnea on exertion, is the sign of cardiac insufficiency noted most often by the patients I have studied. Dyspnea is much more frequent than is generally believed in patients with developing subacute *Str. viridans* endocarditis. Among the 150 patients at the Peter Bent Brigham Hospital 22 had a history of dyspnea antedating any evidence of the bacterial endocarditis, 10 gave dyspnea as a symptom of onset and 15 more reported its development in the early days of the disease; thus 47 patients (31.33 per cent) had dyspnea as one of their early symptoms.

Just how early in the development of this form of endocarditis positive blood cultures of *Str. viridans* can be obtained I have no way of knowing. In these 150 cases the etiologic diagnosis was made by finding *Str. viridans*; in 139 in blood cultures during life, in 11 at necropsy; in the latter, blood cultures made during life were negative on one or several occasions. However, in none of these cases were blood cultures made actually early in the course of the disease.

During the same period of time (1913-1939) 16 additional patients with history, physical signs and

course of disease after admission to the hospital in every way analogous to those just enumerated failed to yield positive blood cultures. The clinical diagnosis of subacute bacterial endocarditis seemed fully justified for these, but the causative organism could not be identified. Presumably some of these were cases of subacute Str. viridans endocarditis, but not necessarily so, since in the period covered at the Peter Bent Brigham Hospital there were 11 cases presenting a similar clinical picture in which blood cultures showed the gonococcus three times, Staphylococcus aureus once, staphylococcus not further identified twice, Staphylococcus albus four times and an unidentified pleomorphic bacillus once.

It is noteworthy that of 177 consecutive patients with the clinical diagnosis of subacute bacterial endocarditis the illness of 150 was demonstrated to be caused by Str. viridans, and in only 16 no bacterium could be demonstrated. Staphylococci came next to Str. viridans as causative agents, being found in 7 patients.

If the symptoms as described in previous paragraphs appear in patients who have had a history of rheumatic fever or who have or have shown in the past the physical signs of aortic insufficiency without a positive Wassermann reaction or aortic stenosis or mitral stenosis, or who have signs of congenital heart disease, the probability of subacute bacterial endocarditis is great, and it is likely that the causative organism is Str. viridans.

Whenever early symptoms, as just enumerated, appear, blood cultures should be made and, if not positive, repeated at intervals of a few days. Furthermore, embolic phenomena should be searched for carefully. If the blood culture is positive or embolic phenomena are found, the diagnosis of bacterial endocarditis is justified, and chemotherapy should be commenced. Even if neither of these is present, continuance of symptoms and fever without positive evidence of other disease causing prolonged fever justifies a tentative diagnosis of bacterial endocarditis and inauguration of chemotherapy. It seems wiser to treat early for a mistaken diagnosis than wait for positive evidence of the disease and miss the opportunity to apply chemotherapy in an early stage of vegetation formation, when success in treatment is likely.

SUMMARY

1. Since patients with subacute Str. viridans endocarditis so often come to the hospital without a diagnosis or with a wrong diagnosis, it is apparent that relatively few practitioners are aware of the usual early clinical picture of this disease.

2. The chief early symptoms in the 150 patients I have examined resulted from toxemia; they were complaints indicative of (a) malaise and fever in 52.6 per cent of cases at onset and 71.3 per cent at onset and in the early days of the disease; (b) joint or muscle pains in 42 per cent at or near onset, and (c) nausea or loss of appetite in 16 per cent at onset and in the early days of the disease.

3. If these symptoms appear in a patient known or found to have evidence of chronic valvular or congenital disease of the heart and persist for more than one week without the development of evidence of other definite disease, the probability of bacterial endocarditis is great.

4. If in these patients embolic phenomena appear or a blood culture is positive, a definite diagnosis of bacterial endocarditis should be made.

5. If the condition referred to in either of the foregoing two paragraphs occurs, appropriate chemotherapy should be begun at once.

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FACTORS CONTRIBUTING TO THE DEVELOPMENT OF HYPERTENSION

IN PATIENTS SUFFERING FROM RENAL DISEASE

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Since Goldblatt and others have succeeded in producing hypertension in animals through the mechanism of renal ischemia there has been a revival of interest in the question of the renal factor in essential hypertension. Some writers on the subject have been inclined to disregard previous fundamental work concerning the background of hypertensive disease in human beings and to attribute all essential hypertension primarily to the operation of a renal mechanism. Others have attributed, in cases of essential hypertension, a primary etiologic role to a renal lesion which might have been coincidental. Hypertension occurs in approximately 15

TABLE 1.—Relationship Between Blood Pressure on Patient's First Visit and That on Patient's Last Visit in Cases of Atrophic Pyelonephritis

Case	Family History, Hypertension	Interval Between First and Last Visit, Years	Duration of Symptoms, Years	Blood Pressure, Mm. of Hg			
				First Visit		Last Visit	
				Systolic	Diastolic	Systolic	Diastolic
1	Negative	11	17	125	75	110	70
2	Positive	12	11	110	78	105	70
3	Negative	15	11	110	78	110	72
4	Negative	20	1	110	60	110	63
5	Negative	20	3	130	80	124	80
6*	Positive	11	6	140	90	210	140
7*	Negative	13	16	145	98	160	110
8*	Positive	15	21	130	94	190	120
9*	Positive	19	1	130	95	195	100

* Hypertension on patient's last visit.

per cent of all persons and in probably a third of all persons more than 50 years of age; consequently, it could be expected that by chance alone there could be found a relatively high incidence of hypertension in any group of persons suffering from renal disease. Furthermore, instances of long-standing renal disease can be encountered in patients who do not have hypertension or who have low blood pressure; also, instances of long-standing severe hypertension are encountered in which there is no evidence of renal disease. The only instances in which there is direct evidence that the renal factor may be primarily responsible for essential hypertension in man are in the group of cases reported by Butler¹ and by Barker and Walters² and others in which the blood pressure of the patients returned to normal or near normal values after the removal of a unilaterally diseased kidney. However, in some of these cases the removal of the diseased kidney did not result in relief of hypertension, and in others the blood pressure subsequently returned to previous high values. Such observations suggest that there are factors of importance other than the diseased kidney in hypertension associated with renal disease.

From the Division of Medicine, the Mayo Clinic (Dr. Hines).

1. Butler, A. M.: Chronic Pyelonephritis and Arterial Hypertension, *J. Clin. Investigation* 16: 889-897 (Nov.) 1937.

2. Barker, N. W., and Walters, Waltman: Hypertension Associated with Unilateral Chronic Atrophic Pyelonephritis: Treatment by Nephrectomy, *Proc. Staff Meet., Mayo Clin.* 13: 118-121 (Feb. 23) 1938

One of us³ has reported on a follow-up study of 1,522 patients who usually had a normal blood pressure and who had returned to the Mayo Clinic ten or twenty years after their first visit. The conclusions derived therefrom were based on a comparison of the original blood pressure as recorded on the patient's first visit to the clinic and the presence or absence of hypertension when the patient was reexamined after ten or twenty years. It was found that the majority (70.4 per cent) of the patients who had an original elevation in systolic and diastolic blood pressures into the upper range of normal (140 to 160 systolic and 85 to 100 diastolic, expressed in millimeters of mercury) had hypertension subsequently (ten or twenty years later), whereas only a small number (3.4 per cent) who originally had blood pressures in the lower range of normal had hypertension subsequently. When the records were being considered for the selection of a group of cases for study it was noted that there were a number of patients with various urologic conditions who had returned to the clinic ten or more years after their first visit. These patients were not included in the group whose histories were originally studied. In view of the confusing situation concerning the importance of the renal factor in essential hypertension, already mentioned, it seemed worth while to make a study of the group of patients who had urologic disease, a study similar to that which had been carried out in the group of patients without urologic disease. The present report concerns the study of 264 patients suffering from various urologic conditions who had returned to the clinic ten or more years after their first visit. The average interval between the first and the last visit was fifteen and three-tenths years. The initial reading of the blood pressure of all these patients was less than 160 mm. of mercury systolic and 100 mm. diastolic. The majority had an initial blood pressure of less than 145 mm. systolic and 90 mm. diastolic. The term "subsequent hypertension" as used in this paper implies that one or several readings of the blood pressure were obtained at the time of the last visit of the patient, at which time the systolic blood pressure was more than 160 and the diastolic pressure was more than 100. In the majority of patients there was also accompanying evidence of hypertension in the changes observed in the ocular fundi.

SUMMARY OF DATA

The total number of patients with urologic disease was 264. The average age (for the series) at the time of the first visit was 38.8 years. The different types of urologic diseases encountered were as follows: chronic pyelonephritis 110 instances, renal stones 38, chronic glomerular nephritis 26, infection of the urinary tract (with normal shadows in the urograms) 26, renal tuberculosis 18, renal neoplasms 16, polycystic kidneys 9, atrophic pyelonephritis 9, hydronephrosis 7 and solitary cyst of the kidney 5 instances. The diagnoses in our series of cases were based on clinical data; consequently, the data on the basis of which the patients were grouped as to the types of urologic disease they had were influenced by personal interpretation. However, all the patients had undergone a thorough examination, and unless there was reasonable certainty and agreement as to the diagnosis they were not included in our series. In 35.5 per cent of the series operation had been performed and the clinical diagnosis had been confirmed. That the group of patients in whom hypertension sub-

sequently developed had a significant degree of hypertension is indicated by the fact that on their last examination approximately 65 per cent had a systolic blood pressure of more than 175 and a diastolic blood pressure of more than 110, expressed in millimeters of mercury.

In table 1 is presented an analysis in detail of the group of patients who had atrophic pyelonephritis. It

TABLE 2.—Relationship Between Blood Pressure on Patient's First Visit and That on Patient's Last Visit, According to Extent of Renal Involvement in Whole Series

First Visit; Blood Pressure, Mm. of Hg	Group 1*			Group 2†			Group 3‡		
	Hypertension, Last Visit			Hypertension, Last Visit			Hypertension, Last Visit		
	Num- ber of Pa- tients	Num- ber	Per- centage	Num- ber of Pa- tients	Num- ber	Per- centage	Num- ber of Pa- tients	Num- ber	Per- centage
Between: 140 and 160 systolic, 85 and 100 diastolic	12	9	75.0	29	21	72.4	41	33	80.4
Less than: 140 sys- tolic, 85 diastolic	20	3	15.0	75	10	13.3	87	16	18.4

* Group 1, patients with infection of the urinary tract; normal urograms.
† Group 2, patients with unilateral renal disease.
‡ Group 3, patients with bilateral renal disease.

will be noted that those patients who originally had a low blood pressure did not suffer from hypertension subsequently, whereas in those who originally had an elevated blood pressure hypertension did develop. The known duration of the disease had no relationship to the subsequent development of hypertension. A similar type of study was made of the series of patients as a whole. In table 2 is shown the relationship between the subsequent development of hypertension and the blood pressure on the patient's first visit, according to the extent of the renal lesion in the whole series, and in table 3 is shown the same relationship, according to the known duration of the disease in the whole series. It is obvious from these tables that in our series of

TABLE 3.—Relationship Between Blood Pressure on Patient's First Visit and That on Patient's Last Visit, According to Known Duration of Disease in Whole Series

First Visit; Blood Pressure, Mm. of Hg	Onset Before First Visit			After First Visit		
	Hypertension, Last Visit			Hypertension, Last Visit		
	Number of Pa- tients	Number	Per Cent	Number of Pa- tients	Number	Per Cent
Between: 140 and 160 systolic, 85 and 100 diastolic....	26	22	84.6	56	41	73.2
Less than: 140 systolic, 85 diastolic	63	11	17.5	119	18	15.1

cases the subsequent development of hypertension is more closely related to the height of the blood pressure on the original examination than to the extent of the renal lesion or the known duration of the urologic disease. This holds true for all the different groups with urologic disease which we encountered, with the exception of that comprising patients who had polycystic kidneys, in which group 2 of 3 patients who originally had a low blood pressure subsequently began to suffer from hypertension.

In addition to the study of the relationship between the type, extent and duration of the urologic disease

3. Hines, E. A., Jr.: The Range of Normal Blood Pressure and the Subsequent Development of Hypertension; Follow-Up Study of 1,522 Patients, J. A. M. A. 115: 271-274 (July 27) 1940.

and the subsequent development of hypertension, an attempt was made to analyze the hereditary factor. Although it was recognized that the series was not large enough for a conclusive study, the incidence of a positive family history of hypertensive cardiovascular disease on the patient's original visit was approximately five times as great among the group who had subsequent hypertension as it was among the group who did

TABLE 4.—*Relationship Between Blood Pressure on Patient's First Visit and That on Patient's Last Visit: Comparison of Patients Having Urologic Disease with Those of the Control Series*

First Visit; Diastolic Blood Pressure, Mm. of Hg	Series with Urologic Disease, 264 Cases			Control Series, 790 Cases		
	Number of Pa- tients	Hypertension, Last Visit		Number of Pa- tients	Hypertension, Last Visit	
		Number	Per Cent		Number	Per Cent
Less than 70.....	30	2	6.6	110	0	0
70 to 74.....	34	4	11.7	144	2	1.4
75 to 79.....	32	2	6.5	93	4	4.3
80 to 84.....	63	12	19.0	187	13	7.0
85 to 89.....	24	13	54.1	110	61	57.3
90 to 94.....	29	19	65.5	103	67	65.0
95 to 100.....	52	40	76.9	43	37	86.0

not have subsequent hypertension. This incidence is similar to the observations concerning the same subject of other investigators working with larger series of patients suffering from essential hypertension.

A comparison was made, in regard to the blood pressure on the patient's original examination and the subsequent development of hypertension, between the series of patients who had urologic disease and the series of patients who did not have urologic disease previously studied. There was a striking coincidence of data in the two series (tables 4 and 5). Furthermore, when the age factor was considered there was found no significant difference in the incidence of subsequent hypertension between the series of patients who had urologic disease and the control series.

TABLE 5.—*Relationship Between Blood Pressure on Patient's First Visit and That on Patient's Last Visit: Comparison of Patients Having Urologic Disease with Those of the Control Series*

First Visit; Blood Pressure, Mm. of Hg	Series with Urologic Disease, 264 Cases			Control Series, 790 Cases		
	Number of Pa- tients	Hypertension, Last Visit		Number of Pa- tients	Hypertension, Last Visit	
		Number	Per Cent		Number	Per Cent
Between: 140 and 160 systolic, 85 and 100 diastolic....	82	63	76.8	120	99	82.5
Less than: 140 systolic, 85 diastolic	182	29	15.9	670	87	12.9

COMMENT AND SUMMARY

The results of our study show that in a series of 264 patients who had various types of urologic diseases those patients who had a high normal blood pressure on their original visit were four to five times as likely to have hypertension subsequently as were those who had a low normal blood pressure, regardless of the type or extent of the urologic or renal lesion and regardless of whether the onset of symptoms of the disease of the urinary tract occurred before or after the original blood pressure reading. In respect to the correlation between

the original blood pressure and the subsequent development of hypertension there was little difference between the series of patients suffering from urologic disease and a control series of persons who had no renal or urologic disease. Furthermore, as far as could be determined on the basis of a study of the family histories of our patients, heredity plays a similar role in the development of hypertension associated with renal disease and in many instances of essential hypertension. We do not interpret our data as constituting a denial that renal disease may have been a contributing factor to the development of hypertension in some of our patients. However, these data do seem to cast some doubt on the importance of renal disease in producing hypertension in the series as a whole and call attention to the importance of exercising caution in attributing a role of primary importance to a renal lesion simply because it is found in a patient who has hypertension. Our study demonstrates that factors concerning the control of blood pressure which are inherent in each person may be of similar importance in the development of hypertension when there is an associated renal disease as in the development of hypertension when no renal disease is present. The presence or absence of these inherent factors may explain why hypertension develops in some patients who have a certain type of renal disease, whereas in other patients who have a similar type and extent of renal disease hypertension does not develop.

Clinical Notes, Suggestions and New Instruments

CORONARY SCLEROSIS IN HEAD INJURIES

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This case is presented because it is pertinent to industrial medicine. Fishberg¹ states that transient monoplegias may be the result of disturbed circulation of the brain, but White² mentions that vertigo, faintness and syncope are rarely symptoms associated with heart disease. However, Barnes³ states that in these cases death may occur on exertion and that previous electrocardiograms may have failed to reveal evidence of coronary disease. In 1937 Willis⁴ reviewed 700 cases of coronary sclerosis and stated that in only 7 per cent was paroxysmal dyspnea manifested. The relation of heart disease is not commonly associated with injuries to the head, yet in reviewing a medicolegal case Russem⁵ remarks that "the courts were not as much concerned with the pathology present as with the possible relation of the accidental injury to the onset of heart failure regardless of the condition of the heart before the injury." Therefore we feel that this presentation may be of value to physicians who attempt to evaluate disabilities.

REPORT OF CASE

A. S., a white man aged 58, fell from a ladder Feb. 7, 1938, suffering loss of consciousness and a linear fracture in the left temporal area of the skull. He apparently made a recovery after three weeks of bed rest but complained of pain in the temples, shortness of breath, dyspnea and inability to sleep. On April 18 a neurologic examination gave negative results.

1. Fishberg, A. M.: Hypertension and Nephritis, Philadelphia, Lea & Febiger, 1931, p. 538.
2. White, P. D.: Heart Disease, New York, Macmillan Company, 1931, p. 29.
3. Barnes, A. R.: Coronary Sclerosis as an Insurance Problem, in Collected Papers of the Mayo Clinic and the Mayo Foundation, Philadelphia, W. B. Saunders Company, 1934, vol. 26, pp. 581-587.
4. Willis, F. A.: The Protean Manifestations of Disease of the Coronary Artery, New Orleans M. & S. J. 80:143-147 (Sept.) 1937.
5. Russem, B. C.: Some Medical-Legal Aspects of Heart Disease, Nebraska M. J. 24:181-185 (May) 1939.

Examination of the cerebrospinal fluid, electrocardiographic studies and roentgenograms of the skull were negative. However, his symptoms persisted, although he attempted to work, and because of negative examinations he was not considered to be disabled. Jan. 22, 1940, he suddenly lost consciousness while climbing a stairway and was dead on arrival at the hospital ten minutes later. Autopsy revealed no evidence of cerebral injury, and a careful scrutiny of the skull failed to establish evidence of the old fracture. However, it is an accepted fact that fractures of the skull are healed and not discernible within several months after an injury. The examination of the heart revealed coronary sclerosis with occlusion.

SUMMARY

The case of head injury presented here was the result of a cerebral ischemia. In spite of negative neurologic, electrocardiographic and physical examinations, these symptoms were undoubtedly the result of cardiac and not of cerebral disorders.

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TRAUMATIC RUPTURE OF THE SPLEEN: AN
UNUSUAL FOOTBALL INJURY

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Trauma to the abdomen and especially to the left renal region not infrequently produces rupture of the spleen. I have seen a number of cases and in some the severity of the injury was out of all proportion to the mildness of the trauma. In a review of the literature I could find only one case in which rupture of the spleen followed a football injury. This case was reported by George Armitage in the *British Journal of Surgery*.¹

REPORT OF CASE

R. B., a white youth aged 17, was admitted to the hospital the night of Oct. 10, 1939, because of abdominal discomfort. He gave a history of having had malaria five years previously.

The onset of his present condition dated to the night of October 6, when he was struck in the left upper quadrant of the abdomen while playing football. He was completely knocked out, his color was pale and his pulse was thready; he was carried from the field. On the following day he made the trip home with the team, a distance of 250 miles. He had no complaints but lacked his usual energy. During the next day, Sunday, he remained quietly at home, and the family noticed that he had lost his appetite. On Monday he returned to school as usual and that afternoon reported for football practice. He went through the routine signal drill, being apparently perfectly well. The following afternoon while in scrimmage he was again struck in the abdomen and suffered agonizing pain on the left side and pain in the left shoulder. He was sent to the hospital, where he was given a hypodermic injection of morphine and an ice bag was applied to the abdomen. Because of the pain in the left shoulder an injury to the shoulder or chest was suspected and a roentgen ray examination was made. This failed to reveal any evidence of injury to the bones or to the chest. There was no evidence of air beneath the diaphragm, and the diaphragms were normal in position. I was called in consultation the following morning on account of his continued abdominal discomfort.

On physical examination the patient was apparently healthy with good muscular development; he was lying quietly in bed. He complained of some, though not extreme, abdominal discomfort. He also complained of pain in the left shoulder. Examination of the shoulder girdle gave negative results. The abdomen was slightly rigid and there was slight general abdominal tenderness. There was definite point tenderness in the left costovertebral angle. There was some tenderness along the left costal margin. There was no evidence on physical examination of any fluid in the abdomen. The spleen could not be palpated nor could the liver be felt. A tentative diagnosis of intra-abdominal hemorrhage probably due to a ruptured spleen was made.

1. Armitage, George: Traumatic Rupture of the Spleen Involving the Pedicle—Complete Recovery: A Rare Rugby Football Injury, *Brit. J. Surg.* 17: 335 (Oct.) 1929.

The pulse rate on admission was 80 a minute and when I first saw him it was 94. The temperature was normal. The blood count made at the time of my examination showed a hemoglobin content of 83 per cent, 4,040,000 red cells and 16,900 white cells, of which 89 per cent were neutrophils. The Schilling count of the leukocytes was 3 per cent juveniles, 8 per cent stab cells and 78 per cent segmented cells. The urine, except for a faint trace of albumin and acetone, was normal. During the afternoon his pulse rate varied from 82 to 86 a minute and the rectal temperature had risen to 100 F. A blood count made the same afternoon revealed 80 per cent hemoglobin, 4,300,000 red cells and 13,350 white cells, of which 84 per cent were neutrophils. The Schilling count was practically unchanged. The patient was given 1,000 cc. of 5 per cent dextrose solution intravenously by the drip method and the abdomen prepared for operation should it become necessary.

The following morning (the second hospital day) his pulse varied from 80 to 90 a minute and the rectal temperature remained 100 F. His blood count, however, had fallen. The hemoglobin content was now 70 per cent, red blood cells 3,880,000 and white cells 12,800. At noon he showed definite evidences of intraperitoneal hemorrhage. The hemoglobin content was now 66 per cent, red cells numbered 3,670,000 and immediate operation was advised. This was done through a high left rectus incision. The abdomen was full of blood. When the spleen was delivered it was apparent that it had been torn completely through and the tear extended into the splenic pedicle. The pedicle was hastily clamped and ligated and the



Complete tear through the spleen and the organized clot fixed to the torn surface of the larger fragment. Other tears in the splenic capsule are evident.

spleen removed. The clotted blood was removed from the abdomen and the incision closed.

Immediately after the operation the patient was given 1,000 cc. of blood by the citrate method. He reacted well and made a nice recovery, leaving the hospital fourteen days after the operation. His blood count at the time of dismissal showed a hemoglobin content of 77 per cent, 4,530,000 red cells and 9,900 leukocytes with a normal differential count. At present he is perfectly well.

COMMENT

The question naturally arises as to what part if any the previous malarial infection played in predisposing to splenic rupture. The size of the spleen was normal for a boy of his physical development. Pathologic examination of the spleen revealed nothing except the tears.

This case is interesting for two reasons: first, that the injury was sustained while the boy was playing football and, second, because of the length of time which elapsed from the moment of injury until definite signs of internal hemorrhage appeared. The latter can be explained, I think, on the following basis: At the time he was first hurt the spleen was torn, but the blood coagulated and sealed off the bleeding surfaces. (Examination of the removed spleen showed an old organized blood clot covering the splenic pulp.) This clot was so adherent to the torn surface of the spleen that it could not be easily dissected away. Following his second traumatism I think that the tear in the spleen was reopened and at this time the pedicle was torn.

614 Heyburn Building.

Council on Pharmacy and Chemistry**REPORTS OF THE COUNCIL**

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING
STATEMENT AND REPORT. OFFICE OF THE COUNCIL.

**MENADIONE, NONPROPRIETARY TERM
FOR THE SUBSTANCE 2-METHYL-1,
4-NAPHTHOQUINONE**

Following the work of a number of distinguished investigators on the identity and synthesis of a vitamin K preparation, there was offered to the medical profession by many firms the synthetic 2-methyl-1, 4-naphthoquinone, which possesses vitamin K-like actions. Three firms have asked the Council to coin a nonproprietary name for the substance.

In canvassing possible acceptable terms, it was found that a number of them either conflicted with the rules of scientific nomenclature or were trademarked names. The Committee on Nomenclature submitted informally to Dr. E. J. Crane, chairman of the Committee on Nomenclature of the American Chemical Society, the possibility of the term "methnaphone." Dr. Crane replied that his committee was of the opinion that it would be better to avoid the ending "-phone" or "-quinone," as the latter was preempted by many trade names. As a counter suggestion, Dr. Crane and his associates offered the term "menadione."

On recommendation of the Committee on Nomenclature, the Council has adopted the term "menadione" (pronounced mē-nā-dī-one) and has authorized its use as a nonproprietary name to describe the substance 2-methyl-1, 4-naphthoquinone.

**PREGNENINOLONE AND PRANONE
(Schering Corporation)**

Pregneninolone, a derivative of testosterone, possesses the ability to induce progestational changes in the uterus of animals and human beings when administered by mouth. Progesterone itself has but little activity by the oral route; by injection it is three to six times as potent as pregnenolone by mouth. Owing to the ease of administration, it appears that pregnenolone, in the appropriate doses, would have a significant advantage over progesterone for therapeutic purposes when sufficient clinical evidence will indicate that progesterone therapy is reliable and worth while. The properties of pregnenolone are, however, not identical with those of progesterone. For example, unlike progesterone, it is slightly estrogenic.¹ One is therefore not entitled to assume, without adequate proof, that the therapeutic results obtained with progesterone can be expected from pregnenolone because one of its several activities simulates progesterone. The clinical reports on treatment with this substance are few. Hamblen and his co-workers² have claimed some success in treating menometrorrhagia with estrogens followed by pregnenolone. Frank³ has recently reported the use of pregnenolone in the treatment of various ovarian dysfunctions. He has obtained results in the treatment of dysmenorrhea which are moderately satisfactory, but this investigator admits that therapy in dysmenorrhea is difficult to evaluate, since patients respond to a certain extent to most forms of endocrine therapy. The number of cases of habitual abortion treated by Frank are too few to afford a basis on which to draw conclusions.

The Council has received copies of unpublished reports on the use of pregnenolone in habitual abortion in which gratifying results were reported. The information on these patients

is, indeed, interesting; but the evidence presented seems to be of the same type reported for progesterone several years ago, which, in the opinion of the Council, is still inconclusive in demonstrating that progesterone is of proved effectiveness in treating threatened and habitual abortion. There was no evidence of objective nature such as has been reported by Browne and his co-workers and Buxton on the pregnandiol determinations in spontaneous abortion. While these results are indications of promise in this therapy, considerable further evidence is required before pregnenolone can be assumed to be of value in the treatment of spontaneous abortion. There is a definite lack of investigation on the action of pregnenolone on the human uterus or its fate in the body and the proper dosages in therapy.

The Council is of the opinion, therefore, that therapy with pregnenolone is still in its preliminary phases and that its effectiveness has not been established as yet in such a manner that physicians can depend on the preparation to produce satisfactory results in the appropriate conditions. It must be pointed out that this substance was placed on the market over a year ago and that physicians were induced to use this substance on the advertising claims of the firm, as there was a distinct lack of evidence in the scientific literature. In view of this fact, the Council believes that it is obliged to inform the physician of the need for further investigations with this preparation. It should be used, for the present, only by specialists in this field. Schering Corporation markets a preparation of pregnenolone, termed Pranone, and recommends its use for all conditions which are claimed to respond to progesterone administration. These advertising claims of Schering Corporation for Pranone are considered unwarranted at the present time.

As the available evidence on the clinical use of pregnenolone, an "oral progesterone," is inconclusive, pregnenolone, which is marketed in this country as Pranone (Schering Corporation), is not acceptable for inclusion in New and Nonofficial Remedies.

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS conforming TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

OFFICE OF THE COUNCIL.

LIVER EXTRACT U. S. P. SUBCUTANEOUS (STEARNS).—A purified aqueous concentrate of the antipernicious anemia factor from fresh, edible mammalian (equine) livers to which has been added 0.4 per cent phenol as a preservative. The daily subcutaneous or intramuscular administration of 2.5 cc. (one ampule) has been found to produce the standard reticulocyte response defined as 1 U. S. P. unit (injectable) when assayed in cases of pernicious anemia as required by the Council.

Actions and Uses.—Liver extract U. S. P. subcutaneous (Stearns) is used in the treatment of pernicious anemia during relapse and for the maintenance of normal health in patients with pernicious anemia. See general article Liver and Stomach Preparations, New and Nonofficial Remedies, 1940, p. 320.

Dosage.—For the average adult patient in relapse, one or more injectable units daily. The maintenance dose should not be less than 2.5 cc. (1 U. S. P. injectable unit) daily.

Manufactured by Frederick Stearns & Co., Detroit. No U. S. patent or trademark.

Ampoules Liver Extract, U. S. P. (Subcutaneous)-Stearns, 2.5 cc.
Vials Liver Extract, U. S. P. (Subcutaneous)-Stearns, 10 cc.

Liver Extract U. S. P. is prepared from healthy livers selected from healthy animals, inspected, and as free from fat as possible, and extracted and several times with water, and partial coagulation of the proteins is accomplished by heating to 85-90° C. The filtrate is concentrated in vacuo at a low temperature. Elimination of much of the protein material is obtained by the addition of alcohol and filtration at low temperature and pressure. After filtration, precipitation of the potent fraction is obtained by the addition of large volumes of alcohol. This potent material is taken up in water, the alcohol removed in vacuo and the pH adjusted to 6.5. The volume of each lot of extract is determined by clinical results obtained in the use of that lot in suitable patients with pernicious anemia. After the addition of 0.4 per cent phenol, the extract is filtered in a Berkefeld filter and filled into ampoules and vials and sterilized.

1. In the human being it is claimed that its action is exclusively progestational.

2. Hamblen, E. C.; Powell, N. B.; Cuyler, W. K., and Pattee, C. J.: Oral Use of Pregnenolone in Functional Menometrorrhagia, *Endocrinology* 26: 201 (Feb.) 1940.

3. Frank, R. T.; Goldberger, M. A., and Felshin, Gertrude: Clinical and Laboratory Investigations of Some of the Newer Sex Hormone Preparations, *Endocrinology* 27: 381 (Sept.) 1940.

HOSPITAL SERVICE IN THE UNITED STATES

TWENTIETH ANNUAL PRESENTATION OF HOSPITAL DATA BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

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The total number of beds now available in registered hospitals is 1,226,245, an increase of 31,219 beds, which is the equivalent of an 85 bed hospital for each day of last year, Sundays and holidays included, not forgetting it was leap year.

The amount of hospital facilities per unit of population continues its steady increase; the demand per unit of population likewise is growing.

The capacity of registered hospitals has practically doubled since 1918 and trebled since 1909.

The hospitals that are approved for internships, residencies and fellowships have greater capacity than all of the hospitals that were in existence in 1909.

In response to the annual census form which was mailed to all the hospitals that appear in the Register, reports were received from all but fifty-six institutions, a record of 99.1 per cent. The response on the basis of bed capacity was 99.8 per cent.

The average number of beds idle throughout the year was 200,074, as compared with 198,543 for the year 1939.

General hospitals were occupied to 70.3 per cent of capacity as compared with 69.2 per cent the preceding year. The average number of idle beds in general hospitals in 1940 was 137,200. In 1939 it was 136,956. The types or groups of hospitals in which there was

SUMMARY OF HOSPITAL DATA				Patients Admitted in 1940
	Number	Beds	Bassinets	
1. Registered hospitals and sanatoriums approved for internships, residencies and fellowships.....	1,039	445,086	28,056	5,317,302
2. Other registered hospitals, sanatoriums and related institutions	5,252	781,159	33,883	4,770,246
Total registered.....	6,291	1,226,245	61,939	10,087,548
Of the foregoing, the American College of Surgeons approves.....	2,261	652,684	41,697	7,495,283
				Number
3. Refused registration after investigation (capacity 16,444).....				545
4. Unclassified emergency stations, clinics, offices, cottages, and so on, with facilities for bed care (capacity unknown).....				2,441
5. Prospective hospitals and sanatoriums:				
a. Opened. Registration pending.....				86
b. Under construction.....				52
c. Planned. Construction pending.....				109

The total number of registered hospitals is 6,291, an increase of 65 during the year.

The average census of patients was 1,026,171.

One person for every three and one-tenth seconds is the rate at which patients entered hospitals during the year 1940.

The total number of patients admitted by all registered hospitals in the United States was 10,087,548. This does not include the 1,214,492 babies that were born in hospitals during the year.

The general hospitals alone reported 1,163,694 births and the maternity hospitals 48,126.

The increase of admissions over the previous year is 208,304. The nonprofit hospitals, including churches, fraternities and other nonprofit associations, contributed 68,600 to this increase.

growth, and those which showed decline, are revealed in the summaries and tables included in this article.

The total patient days of hospital service for the year 1940 was 375,578,586, an increase over 1939 of 11,862,291. The number of patient days is obtained by multiplying the average daily census by 366.

During the year 1940 the Council on Medical Education and Hospitals at its three business meetings admitted to the Register 229 hospitals having an aggregate capacity of 9,629 beds and 1,120 bassinets. Included in the 229 were 174 general hospitals, 14 tuberculosis, 11 nervous and mental, 6 convalescent, 4 maternity, 3 cancer, 3 orthopedic, 3 for drug addiction, 3 children's, 3 hospital departments of institutions, 2 eye, ear, nose and throat, 2 for cardiac children, 1 proctology.

Of the net gain of 65 hospitals during the year, 27 are to be credited to governmental hospitals and 38 to nongovernmental. As to bed capacity, the former increased 28,543 and the latter 2,676. As to number of patients admitted, governmental hospitals increased from 2,734,375 to 2,869,004. Total nongovernmental increased in patients admitted from 7,144,869 to 7,218,544. In average census the net increase of governmental hospitals was 20,624, and the net increase in nongovernmental hospitals was 9,064.

In general, the number of hospitals, beds, bassinets, patients admitted and average census all increased in the groups of federal, state, county and city hospitals. There was a decline in these respects, however, in the city-county hospitals—that is, institutions operated jointly by the city and county.

Nonprofit hospitals increased in number from 2,840 to 2,901 and in bed capacity from 293,505 to 298,490. The nonprofit hospitals admitted 6,254,850 patients as against 6,186,250 for the previous year. The average census increased from 201,326 to 210,764.

Church related institutions lost three in number of hospitals but registered gains in beds and average census.

Proprietary institutions declined in number from 1,646 to 1,623 and showed a decline also in number of beds but a slight increase in the number of patients admitted. Corporations not restricted as to profit (proprietary) declined in number and in bed capacity but showed a slight increase in number of patients admitted. The number of individual and partnership hospitals dropped from 1,190 to 1,174.

ANNUAL CENSUS OF HOSPITALS

This is the twentieth annual census of hospitals by the Council on Medical Education and Hospitals. The first census that rendered information complete enough for practical use was in 1909, and that was followed by an occasional canvass of all hospitals, becoming annual in 1920.

In each annual census are certain standard questions such as number of beds, bassinets, births, patients admitted, average census of patients, also lists of staff doctors and interns. In addition to these perennial data, each questionnaire includes certain questions that are of importance at the particular time. Each succeeding questionnaire, therefore, is different from the preceding, and the tendency is for them to expand somewhat in length and complexity. The policy of the Council always has been to ask only for data that are important and to make use of all the information that is obtained. Thanks to the cooperation of hospitals, the response always approximates nearly 100 per cent. This year the response to the questionnaire was 99.1 per cent of number of institutions and 99.8 per cent of capacity.

The returns in this census were prepared for punch card tabulation.

The 1,039 hospitals that are approved by the Council for internships and for residencies in specialties received a questionnaire that is more comprehensive than the one used for all the other registered hospitals.

It is not necessarily true in all cases that the approved hospitals have essentially better equipment or give better care to patients, but because a hospital assumes the function of training interns and residents and is approved for that purpose it becomes necessary for the Council to check on the teaching facilities and functions in those hospitals in addition to the general information solicited from all other registered hospitals.

In the list of registered hospitals following this article the hospitals that the Council approves for intern training are marked with a five-point star (*) and those approved for residencies with a plus sign (+). Some detailed information regarding the hospitals approved by the Council are given on a later page under the heading of Internships, Residencies and Fellowships.

AMERICAN COLLEGE OF SURGEONS AND A. M. A. UNITE ON CENSUS BLANK

This year, for the first time, the questionnaires used by the Council represent a combination of the annual census blank of the American Medical

Percentage of Beds Occupied

	1929	1933	1939	1940
According to Ownership or Control:				
Federal.....	76.8	75.0	83.8	79.5
State.....	94.6	94.5	94.2	94.4
County.....	80.7	85.8	85.3	85.0
City.....	74.3	83.0	80.0	80.5
City-county.....	80.2	73.5	74.9	65.5
Total governmental.....	88.9	90.1	90.4	89.8
Church.....	66.7	54.9	67.9	70.4
Fraternal.....	68.7	61.5	72.9	70.8*
Nonprofit associations.....	....	....	69.0	....
Industrial.....	51.4	44.4	....	....
Independent associations.....	65.9	58.5	....	....
Total nonprofit.....	....	....	68.6	70.6
Individual and partnership.....	51.2	41.1	50.0	52.0
Corporations (profit unrestricted).....	....	....	61.0	62.5
Total proprietary.....	....	....	55.2	56.8
Total nongovernmental.....	64.6	55.3	66.4	68.5
According to Type of Service:				
General.....	65.5	59.9	69.2	70.3
Nervous and mental.....	95.7	95.1	95.2	95.1
Tuberculosis.....	82.7	85.3	86.2	85.6
Maternity.....	62.8	60.8	64.0	62.6
Industrial.....	54.0	44.2	50.5	53.9
Eye, ear, nose and throat.....	47.7	45.6	53.9	54.4
....	65.9	65.9	68.4	69.2
....	80.2	76.9	74.6	76.5
....	36.1	41.2	37.4	42.4
Convalescent and rest.....	70.9	69.2	78.8	77.7
Hospital departments of institutions....	63.0	60.1	72.8	70.6
All other hospitals.....	74.6	79.3	83.0	79.9
Total all hospitals.....	80.1	78.8	83.4	83.7

* Fraternal classification discontinued. Transferred to nonprofit associations.

Association and the annual questionnaire of the American College of Surgeons. Cooperation of the College and the Council was effected to reduce work

Hospitals Fully Approved by the American College of Surgeons in the United States

	Hospitals	Beds	Bassinets	Patients Admitted
1940	2,261	652,684	41,697	7,495,283
1939	2,155	549,693	36,805	7,066,593

of filling out questionnaires in the office of hospitals. It also facilitates the gathering of essential data required by the two cooperating organizations for their use and for the nation. Most of all, it reduces the confusion which exists when several organizations are working in the same field. The officials of the A. M. A. and the College, and their office staffs, worked together to design a questionnaire that would elicit more information with fewer questions and achieve greater uniformity and simplification in the use of terms. All the

hospitals that are fully approved as meeting the minimum standards of the American College of Surgeons are designated with a delta (Δ) in the list of registered hospitals published in a later section of this article.

*Supply and Utilization of Beds in General Hospitals Ranked According to Beds per Thousand Population **

State	Beds per Thousand Population	Per Cent of Occupancy	Group Average
Mississippi.....	1.5	65.5	62.4
Arkansas.....	1.8	62.6	
Kentucky.....	1.9	60.2	
Georgia.....	2.1	67.1	66.1
Tennessee.....	2.2	69.1	
South Carolina.....	2.3	70.0	
North Carolina.....	2.3	69.8	
Texas.....	2.4	59.4	
Alabama.....	2.4	67.8	
Indiana.....	2.5	68.4	
Oklahoma.....	2.5	58.6	
West Virginia.....	2.8	63.6	
Iowa.....	2.8	65.0	
Ohio.....	2.8	73.2	
Idaho.....	3.0	66.0	70.6
Virginia.....	3.1	68.7	
Missouri.....	3.2	72.2	
Florida.....	3.3	62.3	
New Jersey.....	3.4	70.7	
Utah.....	3.5	67.3	
Maine.....	3.5	73.4	
Nebraska.....	3.5	60.3	
Pennsylvania.....	3.5	71.4	
Illinois.....	3.6	74.3	
Kansas.....	3.6	63.5	73.8
Louisiana.....	3.7	76.1	
Connecticut.....	3.7	74.9	
Oregon.....	3.8	71.9	
Wisconsin.....	3.8	67.4	
South Dakota.....	3.9	58.2	
North Dakota.....	4.0	61.6	
Minnesota.....	4.0	71.3	
Rhode Island.....	4.2	75.3	
Michigan.....	4.2	71.6	
Delaware.....	4.2	58.9	70.0
Vermont.....	4.2	68.1	
Maryland.....	4.2	73.9	
Washington.....	4.3	66.0	
New Mexico.....	4.4	56.0	
New York.....	4.5	78.3	
New Hampshire.....	4.6	62.8	
Arizona.....	4.9	64.4	
Colorado.....	5.1	64.5	
Massachusetts.....	5.2	71.5	
Wyoming.....	5.2	49.2	67.6
California.....	5.3	71.2	
Montana.....	5.6	64.6	
Nevada.....	6.2	67.6	77.5
District of Columbia.....	10.0	77.5	

* Population—U. S. Bureau of Census—1940.

It should be understood that each organization has its own distinctive separate administration, requirements, inspections and approved lists. Approval of a given institution by one organization does not in any way affect the initiative and the responsibility of the other organization with regard to the approval of that institution. There is cooperation as to the joint questionnaire, correlation of inspection itineraries and mutual courtesy in the use of symbols to designate each other's approvals.

FACILITIES NOT IN THE REGISTER

The hospital facilities that are not printed in the list of registered hospitals might be summed up under two heads: first, those that have definite faults and practices such as are generally recognized as unethical or dangerous and that therefore need complete change of policy, and their number at the present time is 545. Their capacity, according to the latest available information, is 16,444, or less than two thirds of 1 per cent of the facilities furnished by the hospitals recognized in the Register.

A second class of facilities not appearing in the Register includes emergency stations, clinics, offices, and so on, with some facilities for bed care attached or available. The bed facilities in these institutions,

usually spoken of as unclassified, is too variable to be known. They are recognized as ethical and valuable auxiliary facilities to the hospital system. Most of these unclassified facilities have three to ten beds each which are used as occasion demands. Some of them are sickrooms attached to small custodial institutions.

REGISTRATION AND APPROVAL

Registration of hospitals does not mean the same as approval. *Registration* means the inclusion of the hospital in the list published in the Hospital Number of THE JOURNAL and in the American Medical Directory. The Essentials of a Registered Hospital are employed in such a way as to raise the standards of hospitals and to point the way to better service.

Analysis of General Hospitals by Control

	Hospitals	Beds	Basins	Patients Admitted	Average Census
Federal.....	267	61,160	1,079	518,798	41,359
State.....	56	19,902	1,132	316,590	15,673
County.....	237	38,573	2,701	555,299	29,434
City.....	235	49,819	4,355	927,098	39,458
City-county.....	40	8,166	625	120,341	4,938
Total governmental, general....	835	177,620	9,982	2,438,126	133,862
Church.....	872	108,490	17,410	2,629,385	75,424
Nonprofit associations.....	1,466	138,340	23,253	3,264,154	95,884
Total nonprofit, general.....	2,338	246,830	40,663	5,893,539	171,308
Individual and partnership.....	948	21,092	4,487	463,216	9,871
Corporations (profit unrestricted)	311	16,818	2,941	425,615	10,119
Total proprietary, general.....	1,259	37,910	7,428	887,831	10,990
Grand total, general hospitals..	4,432	462,360	58,073	9,219,496	325,160

Approval, on the other hand, means specific endorsement of hospitals for educational purposes, the fitness for which is determined by observation, inspection and comparison with the definite requirements for the approval of hospitals for intern training and residencies.

The term *approved*, as used by the College of Surgeons, may be applied to those registered hospitals that meet the minimum standards of the College.

GROWTH OF HOSPITAL FACILITIES

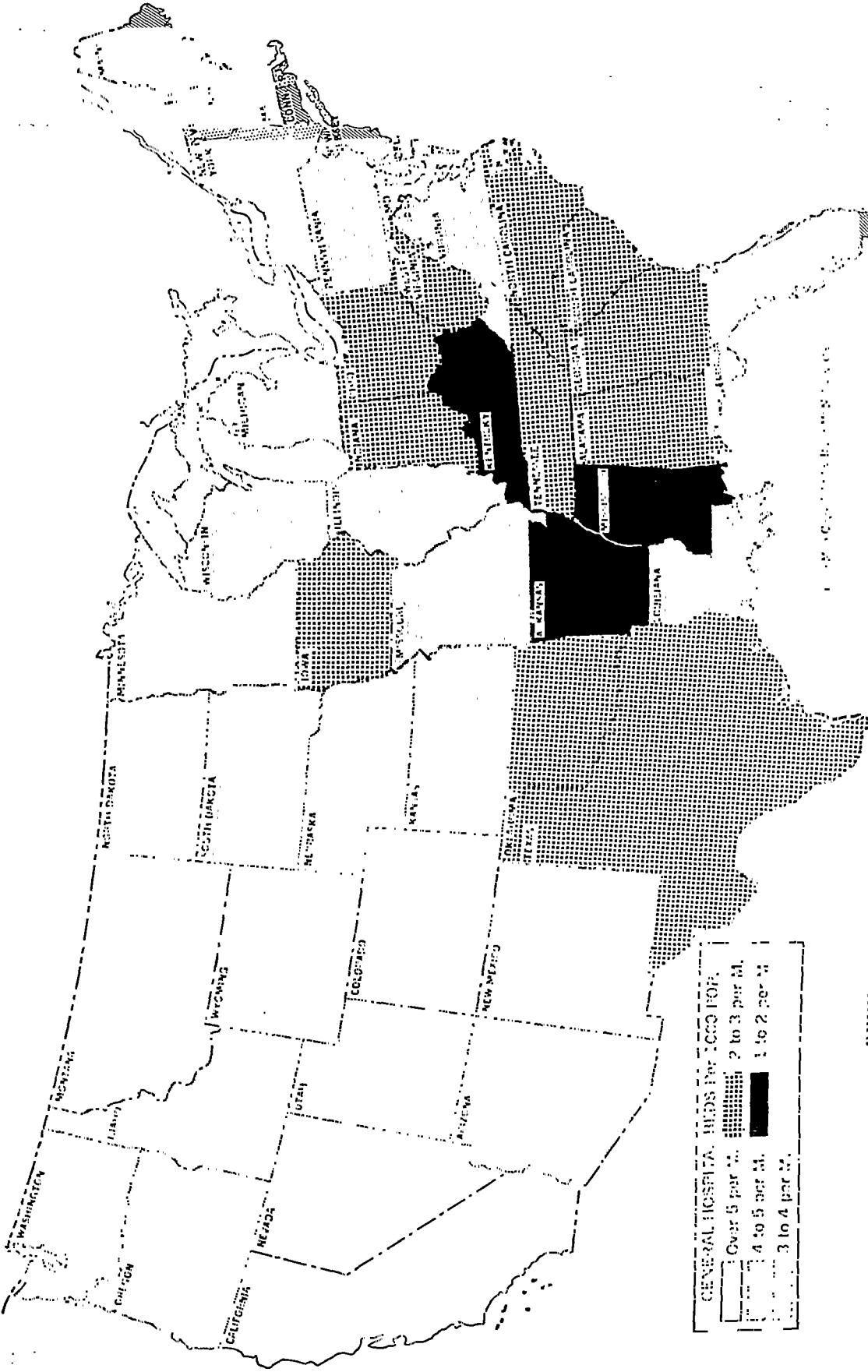
The net increase in all hospital beds of 31,219 was shared by forty-three states and the District of Columbia, all of which showed a net increase. A slight

Summary of Growth of Hospitals, 1909 to 1940

Year	Federal Hospitals		State Hospitals		All Other Hospitals		Total	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity
1909	71	8,827	232	189,049	4,056	223,189	4,359	421,065
1914	93	12,602	294	232,834	4,650	287,045	5,037	532,481
1918	110	18,815	303	262,254	4,910	331,182	5,323	612,251
1923	220	53,869	601	302,208	6,009	399,645	6,830	755,722
1928	294	61,765	595	369,759	5,963	461,410	6,852	892,934
1931	291	69,170	576	419,282	5,746	485,663	6,613	974,115
1932	301	74,151	568	442,601	5,693	497,692	6,562	1,014,354
1933	295	75,635	557	459,646	5,585	491,765	6,437	1,027,046
1934	313	77,865	544	473,035	5,477	497,201	6,334	1,048,101
1935	316	83,353	526	483,994	5,404	507,792	6,246	1,075,139
1936	323	84,234	524	503,306	5,342	509,181	6,189	1,096,721
1937	329	97,951	522	508,913	5,277	517,684	6,128	1,124,548
1938	330	92,248	523	541,279	5,313	527,853	6,166	1,161,280
1939	329	96,338	523	560,575	5,374	538,113	6,226	1,195,026
1940	336	108,928	521	572,079	5,434	545,238	6,291	1,226,245

decrease in the number of beds for the year was apparent in Idaho, Massachusetts, Nevada, North Dakota and Utah. In all these states, however, there was an increase in the number of patients admitted.

Conspicuous among the forty-three states showing an increase was California, which has 5,778 more beds than a year ago, a gain of 7.9 per cent. This increase is generally distributed to many hospitals of different



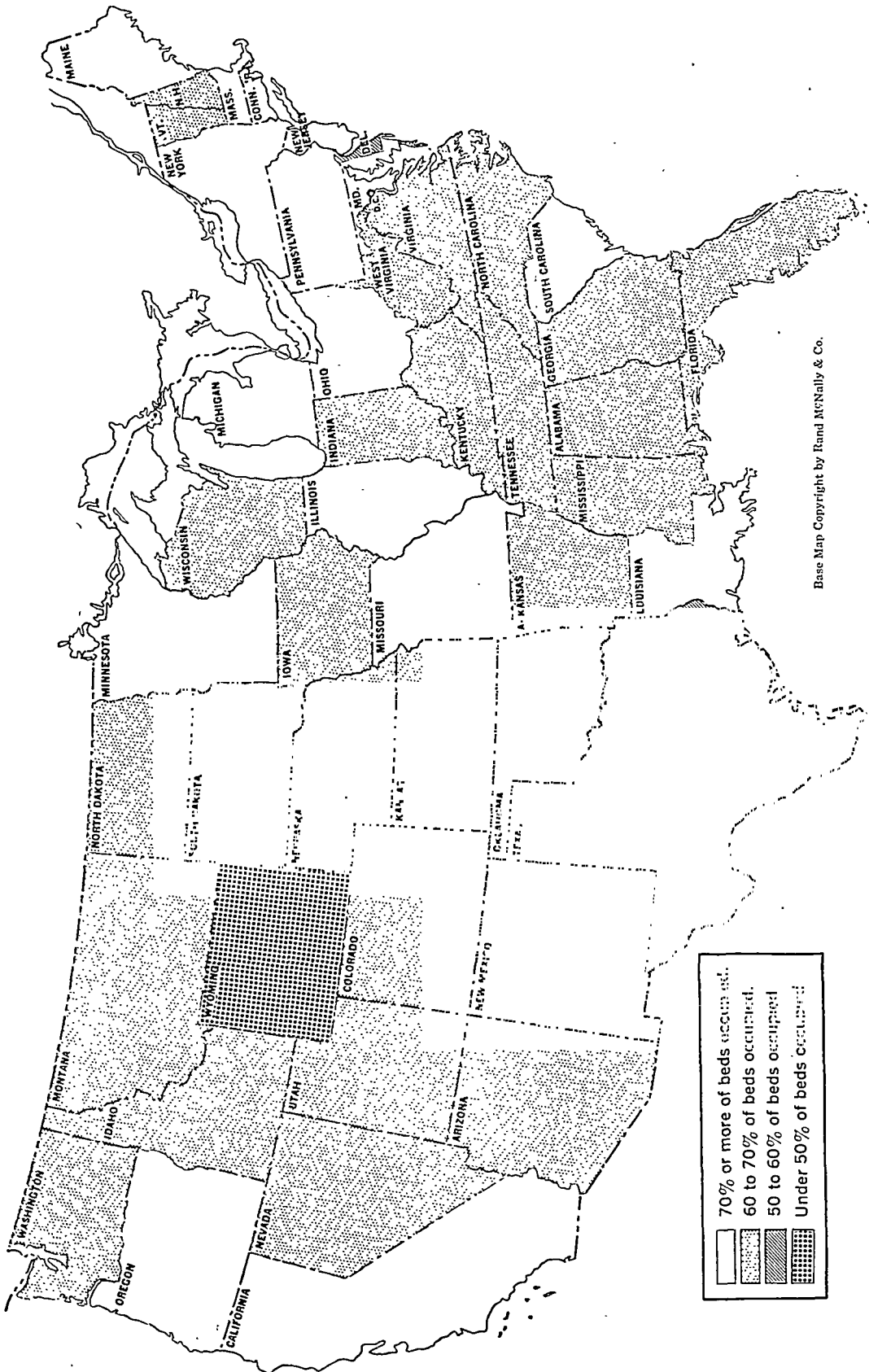
GENERAL HOSPITAL BEDS PER 1,000 POP.

Over 5 per M.	2 to 3 per M.
4 to 5 per M.	1 to 2 per M.
3 to 4 per M.	

GENERAL HOSPITAL BEDS PER THOUSAND POPULATION *—1940

Alabama.....	2.4	Mississippi.....	4.0	New Jersey.....	3.4	Oregon.....	3.8
Arizona.....	4.9	Minnesota.....	3.6	New Mexico.....	1.5	Pennsylvania.....	3.5
Arkansas.....	1.8	Missouri.....	1.9	New York.....	4.4	Rhode Island.....	3.5
California.....	6.3	Montana.....	3.7	North Carolina.....	4.5	South Carolina.....	4.3
Colorado.....	6.1	Nebraska.....	3.5	North Dakota.....	2.3	Tennessee.....	2.8
Connecticut.....	3.7	Nevada.....	6.3	Ohio.....	4.0	Texas.....	2.5
Delaware.....	4.3	New Hampshire.....	4.3	Oklahoma.....	2.5	Utah.....	3.5
						Vermont.....	4.3
						Virginia.....	3.1
						Washington.....	4.3
						West Virginia.....	2.8
						Wisconsin.....	3.6
						Wyoming.....	3.3

* Sixteenth Census of the United States: 1940.



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OCCUPANCY IN GENERAL HOSPITALS

The percentage of beds occupied in general hospitals during the year 1940, by states, were as follows:

Alabama.....	67.8	Alaska.....	67.3
Arizona.....	64.4	Arkansas.....	68.1
California.....	62.6	Connecticut.....	68.7
Colorado.....	71.2	Delaware.....	69.0
Connecticut.....	61.5	District of Columbia.....	63.6
Delaware.....	71.9	Florida.....	67.4
District of Columbia.....	63.9	Georgia.....	62.1
Florida.....	67.8	Idaho.....	60.1
Georgia.....	62.6	Illinois.....	68.2
Idaho.....	71.2	Indiana.....	69.1
Illinois.....	61.5	Iowa.....	62.1
Indiana.....	68.4	Kansas.....	63.5
Iowa.....	62.1	Kentucky.....	62.3
Kansas.....	63.5	Louisiana.....	65.5
Kentucky.....	62.3	Maine.....	71.9
Louisiana.....	65.5	Massachusetts.....	71.4
Maine.....	71.9	Michigan.....	73.3
Massachusetts.....	71.4	Minnesota.....	70.7
Michigan.....	73.3	Mississippi.....	60.2
Minnesota.....	70.7	Missouri.....	65.5
Mississippi.....	60.2	Montana.....	62.3
Missouri.....	65.5	Nebraska.....	61.6
Montana.....	62.3	Nevada.....	60.8
Nebraska.....	61.6	New Hampshire.....	61.6
Nevada.....	60.8	New Jersey.....	68.2
New Hampshire.....	61.6	New Mexico.....	62.1
New Jersey.....	68.2	New York.....	69.4
New Mexico.....	62.1	North Carolina.....	67.8
New York.....	69.4	North Dakota.....	62.1
North Carolina.....	67.8	Ohio.....	62.1
North Dakota.....	62.1	Oklahoma.....	63.2
Ohio.....	62.1	Oregon.....	63.2
Oklahoma.....	63.2	Pennsylvania.....	67.3
Oregon.....	63.2	Rhode Island.....	67.3
Pennsylvania.....	67.3	South Carolina.....	67.3
Rhode Island.....	67.3	South Dakota.....	67.3
South Carolina.....	67.3	Tennessee.....	67.3
South Dakota.....	67.3	Texas.....	67.3
Tennessee.....	67.3	Utah.....	67.3
Texas.....	67.3	Vermont.....	67.3
Utah.....	67.3	Virginia.....	67.3
Vermont.....	67.3	Washington.....	67.3
Virginia.....	67.3	West Virginia.....	67.3
Washington.....	67.3	Wisconsin.....	67.3
West Virginia.....	67.3	Wyoming.....	67.3
Wisconsin.....	67.3		
Wyoming.....	67.3		

types throughout the state. North Carolina gained 1,790 beds in the year as the result, in part, of the opening of the new Veterans Hospital at Fayetteville, 310 beds, and the increase in capacity of Station Hospital, Fort Bragg, from 115 to 530 beds.

Departments of Pathology

	Total Hospitals	Have Departments of Pathology		
		Yes	No	No Answer
Alabama.....	91	82	8	1
Arizona.....	59	47	12	..
Arkansas.....	63	58	5	..
California.....	358	281	77	..
Colorado.....	100	80	19	1
Connecticut.....	83	72	11	..
Delaware.....	17	15	2	..
District of Columbia.....	29	25	4	..
Florida.....	101	88	12	1
Georgia.....	120	111	9	..
Idaho.....	42	39	3	..
Illinois.....	306	283	23	..
Indiana.....	135	119	16	..
Iowa.....	150	131	19	..
Kansas.....	119	107	12	..
Kentucky.....	99	90	9	..
Louisiana.....	74	70	4	..
Maine.....	62	57	5	..
Maryland.....	77	69	8	..
Massachusetts.....	218	223	25	..
Michigan.....	242	213	29	..
Minnesota.....	215	194	20	1
Mississippi.....	94	85	5	1
Missouri.....	147	132	14	1
Montana.....	62	49	13	..
Nebraska.....	96	90	6	..
Nevada.....	17	12	5	..
New Hampshire.....	43	41	2	..
New Jersey.....	167	149	16	2
New Mexico.....	56	51	5	..
New York.....	571	491	80	..
North Carolina.....	166	146	19	1
North Dakota.....	51	45	5	1
Ohio.....	253	222	29	2
Oklahoma.....	130	118	12	..
Oregon.....	72	60	12	..
Pennsylvania.....	354	314	40	..
Rhode Island.....	26	19	7	..
South Carolina.....	62	57	5	..
South Dakota.....	57	49	8	..
Tennessee.....	103	93	10	..
Texas.....	346	315	29	2
Utah.....	33	24	9	..
Vermont.....	31	26	5	..
Virginia.....	110	104	6	..
Washington.....	118	102	16	..
West Virginia.....	81	77	4	..
Wisconsin.....	226	185	41	..
Wyoming.....	29	25	4	..
Totals.....	6,291	5,538	739	14

The rate of gain in number of hospital beds for the thirty-one years from 1909 to 1940 was 25,974 a year. This is equivalent to a net gain of 71 beds for each day of the thirty-one years. The rate of gain has been remarkably steady over the entire period from 1909 to 1940, during which time the figures are available. For the first five years of that period, 1909 to 1914, the gain in hospital beds was at the rate of 22,283 beds a year, or 61 beds a day.

The classification heretofore carried as fraternal hospitals is being discontinued and does not appear in its accustomed column in table 1 B. Reasons for omitting this classification are: (1) The number of institutions and their volume of work have steadily declined to a figure scarcely more than 1 per cent of the total for the nonprofit group; (2) most of the institutions that were designated as fraternal hospitals no longer limit their services to fraternity members, as a rule. Most of them are not supported exclusively by a fraternity. They are, therefore, more correctly classified in the column of nonprofit associations.

Footings of the column headed Nonprofit Associations showing figures for years previous to 1940 are in this issue also augmented by figures formerly shown in the fraternal column for corresponding years.

PATHOLOGY DEPARTMENTS

Although pathologic service is expected as a part of hospital service, its presence as needed cannot be taken for granted.

Hospitals that report having pathology departments number 5,538, compared with 4,873 a year ago. There were 4,384 in 1936. The quality of departments may vary from the highest downward, but the aim of the census is to include in these figures only those owned by hospitals.

Here, as in radiology services, the physician in some regions must furnish his own pathologic service or get it through other than hospital laboratories for his hospitalized patients. Seven hundred and thirty-nine institutions said they have no laboratory facilities of their own, and fourteen gave no answer to the question.

The number of necropsies reported for all registered hospitals in 1940 was 119,902.

RADIOLOGY DEPARTMENTS AND RADIOTHERAPY EQUIPMENT

There are 5,303 affirmative replies to the question whether the hospital has its own x-ray department;

Departments of Radiology

	Total Hospitals	Have Departments of Radiology			Equipped for Roentgen Therapy		
		Yes	No	No Answer	Yes	No	No Answer
Alabama.....	91	81	9	1	23	52	16
Arizona.....	59	48	11	..	9	41	9
Arkansas.....	63	55	8	..	19	32	12
California.....	358	284	74	..	116	197	45
Colorado.....	100	76	23	1	26	61	13
Connecticut.....	83	56	26	1	22	59	2
Delaware.....	17	15	2	..	5	12	..
District of Columbia.....	29	22	7	..	14	14	1
Florida.....	101	86	14	1	32	50	19
Georgia.....	120	107	13	..	33	63	24
Idaho.....	42	37	5	..	4	33	5
Illinois.....	306	265	41	..	129	154	23
Indiana.....	135	111	24	..	53	69	13
Iowa.....	150	129	21	..	50	89	12
Kansas.....	119	104	15	..	44	65	10
Kentucky.....	99	86	13	..	31	58	10
Louisiana.....	74	69	5	..	25	37	12
Maine.....	62	56	6	..	13	40	9
Maryland.....	77	69	7	1	16	52	9
Massachusetts.....	218	202	15	1	79	152	17
Michigan.....	242	203	38	1	70	146	26
Minnesota.....	215	187	26	2	44	144	27
Mississippi.....	94	87	7	..	24	53	17
Missouri.....	147	122	24	1	54	82	11
Montana.....	62	50	12	..	13	42	7
Nebraska.....	96	85	11	..	33	55	8
Nevada.....	17	12	5	..	3	13	1
New Hampshire.....	43	40	3	..	14	26	3
New Jersey.....	167	136	30	1	52	96	19
New Mexico.....	56	48	8	..	10	40	6
New York.....	571	467	101	3	193	337	41
North Carolina.....	166	150	15	1	48	87	31
North Dakota.....	51	43	8	..	11	33	7
Ohio.....	253	204	45	4	80	144	29
Oklahoma.....	130	118	12	..	19	92	19
Oregon.....	72	60	12	..	11	53	8
Pennsylvania.....	354	289	65	..	159	165	30
Rhode Island.....	26	20	6	..	10	14	2
South Carolina.....	62	54	8	..	16	38	8
South Dakota.....	57	49	8	..	33	13	11
Tennessee.....	103	90	13	..	26	63	14
Texas.....	346	319	27	..	113	187	46
Utah.....	33	27	6	..	8	21	4
Vermont.....	31	25	6	..	7	22	2
Virginia.....	110	101	9	..	46	50	14
Washington.....	118	98	20	..	23	75	15
West Virginia.....	81	75	6	..	37	41	3
Wisconsin.....	226	170	55	1	53	151	22
Wyoming.....	29	26	3	..	5	19	5
Totals.....	6,291	5,303	968	20	1,963	3,631	637

968 answered no, and for 20 hospitals the facts are not known. There were 4,890 in 1939 and 4,589 in 1934.

Since the census covers all hospitals of every type and size there is a variety of radiology departments ranging from those fully equipped and adequately staffed to those institutions which do not afford the

best equipment and to which the services of properly qualified radiologists are not yet available for various reasons.

There are of course some hospitals and related institutions rendering acceptably a type of service which requires only occasional radiologic work. Comparison with former years can be observed in the

occupancy in the nongovernmental hospitals rose from 66.4 per cent in 1939 to 68.5 per cent in 1940. The present rate in this group is in strict contrast with its occupancy rate of 64.6 per cent in 1929 and 55.3 per cent in 1933. More details concerning the occupancy rate and its variations from year to year are given in the table referred to; also in the map showing occupancy

TABLE 1.—HOSPITAL FACILITIES BY STATES AND BY CONTROL.
B. NONPROFIT ORGANIZATIONS

Marginal No.		Church Related					Nonprofit Associations					Total Nonprofit					Marginal No.
		Hospitals	Beds	Bassinets	Patients Admitted	Average Census	Hospitals	Beds	Bassinets	Patients Admitted	Average Census	Hospitals	Beds	Bassinets	Patients Admitted	Average Census	
1	Alabama.....	9	930	141	28,144	631	21	1,347	134	27,855	803	30	2,266	275	56,029	1,434	1
2	Arizona.....	7	845	65	20,364	542	14	542	59	7,625	271	21	1,387	143	27,989	813	2
3	Arkansas.....	11	1,089	134	24,675	657	13	784	72	14,012	369	24	1,873	206	38,687	1,026	3
4	California.....	41	5,148	835	131,135	3,746	81	7,300	1,018	156,765	5,190	122	12,448	1,853	287,900	8,936	4
5	Colorado.....	28	2,632	386	50,280	1,700	25	2,084	68	15,869	1,358	53	4,716	474	66,149	3,058	5
6	Connecticut.....	6	1,299	227	33,773	1,037	38	5,357	766	109,137	4,100	44	6,656	1,013	142,010	5,137	6
7	Delaware.....	1	104	31	1,816	65	8	950	144	17,431	573	9	1,054	175	19,247	628	7
8	District of Columbia.....	4	803	157	26,294	601	10	1,688	344	40,744	1,400	14	2,491	501	67,038	2,001	8
9	Florida.....	7	820	133	19,010	508	33	1,734	233	29,353	900	40	2,563	366	48,407	1,408	9
10	Georgia.....	8	667	93	17,650	495	22	1,559	209	40,032	1,065	30	2,226	302	56,791	1,560	10
11	Idaho.....	11	739	171	19,392	529	5	121	16	2,371	53	16	860	189	21,763	587	11
12	Illinois.....	85	11,775	1,914	275,269	8,183	96	9,495	1,636	223,380	6,625	181	21,270	3,550	498,649	14,808	12
13	Indiana.....	29	4,121	689	102,573	2,790	20	1,264	224	29,549	844	49	5,405	913	132,122	3,643	13
14	Iowa.....	41	3,986	621	87,490	2,656	25	1,208	272	23,558	707	66	5,194	893	112,067	3,303	14
15	Kansas.....	37	2,980	472	62,010	1,696	24	916	157	19,178	505	61	3,696	629	81,788	2,401	15
16	Kentucky.....	13	1,826	241	41,969	1,204	29	1,760	179	30,751	947	42	3,566	429	72,740	2,211	16
17	Louisiana.....	10	1,695	165	47,069	1,108	17	1,316	120	28,942	860	27	2,011	315	76,011	1,968	17
18	Maine.....	10	481	87	12,483	373	23	1,579	242	33,041	1,181	33	2,000	329	45,524	1,554	18
19	Maryland.....	9	2,074	199	35,335	1,685	29	4,043	391	61,140	3,154	38	6,117	590	96,475	4,839	19
20	Massachusetts.....	16	2,009	426	51,074	2,079	120	11,480	1,883	234,371	8,356	136	14,739	2,309	285,443	10,435	20
21	Michigan.....	33	4,461	820	106,933	3,163	76	7,020	1,077	160,400	5,111	109	12,051	1,897	257,335	8,279	21
22	Minnesota.....	38	3,672	591	95,633	2,803	55	2,985	500	71,624	2,039	93	6,657	1,071	167,257	4,862	22
23	Mississippi.....	2	235	35	8,736	162	36	1,382	189	33,776	1,112	38	1,617	227	42,512	1,274	23
24	Missouri.....	41	5,864	735	122,322	4,358	33	2,753	313	47,413	1,728	74	8,692	1,048	169,735	6,086	24
25	Montana.....	23	1,605	311	33,881	1,014	11	589	110	10,795	334	34	2,155	421	44,676	1,348	25
26	Nebraska.....	27	2,426	374	47,819	1,356	6	218	43	7,281	126	33	2,644	417	55,050	1,492	26
27	Nevada.....	1	75	15	1,934	69	2	60	10	599	23	3	135	25	2,533	67	27
28	New Hampshire.....	4	384	65	7,686	247	27	1,494	301	29,421	931	31	1,878	366	37,107	1,178	28
29	New Jersey.....	18	3,383	463	67,922	2,407	77	9,532	1,479	189,204	6,949	95	12,015	1,942	257,126	9,356	29
30	New Mexico.....	11	776	99	11,533	427	13	493	50	5,862	226	24	1,269	149	17,415	563	30
31	New York.....	84	13,192	1,741	220,120	10,263	222	31,535	4,142	601,715	23,596	306	44,457	5,883	821,835	33,580	31
32	North Carolina.....	15	1,109	152	26,214	745	77	5,024	694	121,884	3,169	92	6,133	746	148,098	3,934	32
33	North Dakota.....	23	1,747	294	40,318	1,109	9	317	92	7,520	191	32	2,064	386	47,838	1,300	33
34	Ohio.....	42	6,274	1,064	168,085	5,124	99	8,783	1,333	203,833	6,263	141	15,507	2,397	371,918	11,857	34
35	Oklahoma.....	9	927	173	25,719	626	15	707	101	14,405	332	24	1,634	274	40,124	938	35
36	Oregon.....	17	1,930	312	52,212	1,439	11	514	84	8,070	315	28	2,444	396	60,282	1,757	36
37	Pennsylvania.....	41	6,580	954	110,375	4,518	201	27,226	3,550	501,206	20,638	242	33,506	4,504	611,581	25,056	37
38	Rhode Island.....	3	451	43	5,671	333	13	1,744	356	31,379	1,322	16	2,195	399	37,050	1,635	38
39	South Carolina.....	6	391	58	11,419	312	27	1,810	219	42,389	1,160	32	2,201	263	53,808	1,472	39
40	South Dakota.....	15	1,175	183	24,779	608	13	478	90	11,368	288	28	1,653	278	36,147	956	40
41	Tennessee.....	7	1,288	163	37,012	912	28	2,017	242	33,719	1,355	35	2,805	405	70,781	2,267	41
42	Texas.....	48	3,980	644	100,863	2,456	51	2,731	278	63,280	1,893	99	6,711	922	172,149	4,049	42
43	Utah.....	6	969	190	23,994	709	9	319	88	8,891	183	15	1,288	218	32,865	892	43
44	Vermont.....	3	225	34	5,129	177	19	1,932	176	23,997	1,489	22	2,157	270	29,126	1,606	44
45	Virginia.....	3	346	39	6,950	181	42	3,356	389	79,930	2,330	45	3,702	428	86,880	2,520	45
46	Washington.....	21	2,453	466	58,724	1,578	26	1,883	365	45,284	1,374	47	4,336	831	104,008	2,952	46
47	West Virginia.....	9	972	127	19,986	547	17	1,452	180	33,549	1,044	26	2,424	307	53,535	1,691	47
48	Wisconsin.....	61	6,703	1,165	140,459	4,044	31	2,078	347	48,253	1,264	95	8,671	1,512	188,712	5,908	48
49	Wyoming.....	2	45	11	934	21	4	106	21	1,832	49	6	151	32	2,766	70	49
50	Totals (1940).....	998	120,809	18,561	2,679,876	85,007	1,903	177,681	24,978	3,574,974	125,757	2,901	298,490	43,539	6,254,850	210,764	50
51	(1939).....	1,001	120,740	18,044	2,662,762	81,984	1,839	172,765	23,371	3,603,458	119,342	2,840	293,505	41,415	6,186,250	201,326	51
52	(1938).....	981	119,521	17,920	2,531,796	80,576	1,776	169,980	22,523	3,316,510	117,558	2,757	289,501	39,843	5,848,106	198,134	52
53	(1937).....	975	115,283	16,851	2,495,114	79,113	1,718	162,474	21,511	3,201,042	114,508	2,693	277,757	38,362	5,696,156	193,621	53
54	(1936).....	969	113,268	16,360	2,286,064	74,037	1,742	162,566	21,238	2,972,708	107,510	2,711	275,874	37,598	5,258,772	181,547	54
55	(1935).....	970	113,268	16,033	1,950,308	69,592	1,670	155,300	20,119	2,527,207	98,083	2,640	268,568	36,152	4,477,515	167,680	55
56	(1934).....	970	113,263	16,067	1,786,522	63,851	1,676	154,449	20,184	2,377,213	93,216	2,646	267,712	36,251	4,103,735	157,067	56
57	(1933).....	984	115,840	16,100	1,753,565	63,621											
58	(1932).....	1,001	117,555	16,123	1,918,214	70,119											
59	(1931).....	1,011	116,935	15,861	2,013,352	73,911											
60	(1930).....	1,017	116,846	15,615	.....	75,162											
61	(1929).....	1,024	113,555	15,037	.....	75,770											
62	(1928).....	1,056	114,013	13,190	.....	.....									
63	(1927).....	1,069	108,582	.....	.....	73,813											

accompanying table. A total of 1,963 hospitals say they are equipped for roentgen therapy compared with 2,039 in 1937.

OCCUPANCY OF HOSPITAL BEDS

The table on percentage of beds occupied shows in general a larger percentage of beds occupied in 1940 than in the preceding year. The total of governmental facilities, federal, state, county and city, shows a slight decrease from 90.4 per cent last year to 89.8 per cent occupancy this year. On the other hand, the rate of

in general hospitals and in other data contained in these pages.

The groups of hospitals that show a considerable increase in occupancy rate over one year ago are general hospitals with a present rate of 70.3 per cent, industrial hospitals 53.9, orthopedic hospitals 76.5, and isolation hospitals 42.4 per cent.

A somewhat greater than the usual number of general hospitals reported overcrowding. Such reports come mainly from general hospitals that are supported by taxation, and it is rather usual in good sized cities for

public general hospitals to report overcrowding while private general hospitals in the same locality are wishing for more patronage.

To any one who examines the returns from a census of hospitals such as this and who receives inquiries from communities interested in readjusting the quantity of hospital facilities, it becomes apparent

facilities in a community has been met by some church centered organization or by some other type of non-profit association. Hospitals have been provided, as required, by the federal government for Army, Navy, Public Health Service, Veterans Administration, Indian Service and possibly other departments. Also, where occasion required, by state governments, cities, counties

TABLE 1.—HOSPITAL FACILITIES BY STATES AND BY CONTROL
C. PROPRIETARY

Marginal No.	Individual and Partnership										Corporations (Profit unrestricted)				Total Proprietary				Total of Tables 1B and 1C					Marginal No.
	Hospitals					Hospitals					Hospitals				Hospitals				Hospitals					
	Beds	Bassinets	Patients Admitted	Average Census		Beds	Bassinets	Patients Admitted	Average Census		Beds	Bassinets	Patients Admitted	Average Census		Beds	Bassinets	Patients Admitted	Average Census					
1	Alabama.....	31	1,038	148	20,328	491	6	324	50	9,027	220	37	1,442	198	29,355	714	67	3,728	473	85,384	2,148	1		
2	Arizona.....	8	157	9	798	82	1	33	5	422	12	9	190	14	1,220	94	30	1,577	157	29,209	907	2		
3	Arkansas.....	21	540	72	10,994	238	4	134	20	1,984	30	25	674	92	12,978	268	49	2,547	298	51,665	1,294	3		
4	California.....	102	3,399	497	52,607	2,185	41	2,487	346	50,630	1,699	143	5,886	843	103,237	3,884	265	18,334	2,636	391,137	12,820	4		
5	Colorado.....	23	552	84	7,428	332	5	278	10	1,748	33	28	830	94	9,176	465	81	5,516	568	75,325	3,523	5		
6	Connecticut.....	9	290	..	1,850	190	10	574	..	872	402	19	864	..	2,222	592	63	7,520	1,013	145,132	5,729	6		
7	Delaware.....	1	20	10	100	6	1	15	6	235	7	2	35	16	335	13	11	1,089	191	19,582	641	7		
8	Dist. Columbia..	1	22	..	50	10	1	250	65	5,046	176	2	62	65	5,096	156	16	2,763	566	72,134	2,277	8		
9	Florida.....	23	610	123	12,026	231	5	211	31	3,684	79	28	821	154	15,710	310	68	3,384	520	64,117	1,718	9		
10	Georgia.....	49	1,312	170	28,007	663	8	324	41	9,804	164	57	1,636	211	37,811	832	87	3,862	513	94,602	2,392	10		
11	Idaho.....	12	260	50	6,008	124	3	58	22	1,203	33	15	318	72	7,211	157	31	1,178	261	28,974	744	11		
12	Illinois.....	37	875	101	9,338	509	16	1,244	130	16,521	757	53	2,119	231	25,679	1,266	234	23,389	3,781	524,528	16,074	12		
13	Indiana.....	15	262	64	5,619	127	10	643	43	9,938	329	25	905	107	15,557	456	74	6,310	1,020	147,709	4,099	13		
14	Iowa.....	37	582	141	11,187	255	6	193	29	3,267	117	43	775	170	14,454	402	109	5,969	1,063	127,421	3,765	14		
15	Kansas.....	18	324	58	5,547	158	5	181	19	2,342	100	23	505	77	7,889	238	84	4,401	706	89,677	2,659	15		
16	Kentucky.....	18	464	43	4,180	163	13	519	65	12,645	299	31	983	108	16,825	462	73	4,569	628	89,565	2,673	16		
17	Louisiana.....	21	433	61	8,436	179	11	515	82	15,175	305	32	948	143	23,611	484	59	3,859	458	99,622	2,432	17		
18	Maine.....	10	185	57	2,661	84	6	214	43	3,889	139	16	399	100	6,550	233	49	2,459	429	52,074	1,777	18		
19	Maryland.....	11	402	10	2,021	305	2	172	35	3,924	124	13	574	45	5,945	429	51	6,691	635	102,420	2,668	19		
20	Massachusetts....	17	339	65	2,698	187	23	1,228	200	18,182	746	40	1,567	265	20,880	933	176	15,746	2,574	360,325	11,368	20		
21	Michigan.....	33	821	152	13,995	439	8	391	5	2,101	283	41	1,212	157	16,096	722	150	13,293	2,054	273,431	9,091	21		
22	Minnesota.....	52	876	234	17,376	434	9	800	39	22,010	536	61	1,676	273	39,386	970	154	8,393	1,424	206,643	5,832	22		
23	Mississippi.....	30	881	117	17,706	356	3	117	11	1,603	45	33	998	128	19,309	401	71	2,615	355	61,821	1,675	23		
24	Missouri.....	24	622	169	8,570	299	9	335	46	3,551	188	33	957	215	12,521	487	107	9,579	1,293	182,256	6,753	24		
25	Montana.....	8	157	45	3,508	80	3	150	31	3,354	95	11	307	76	6,862	175	45	2,492	497	51,538	1,523	25		
26	Nebraska.....	42	649	192	12,252	273	3	159	17	1,219	118	45	898	209	13,471	391	78	3,452	626	68,521	1,883	26		
27	Nevada.....	..	..	..	..	..	1	31	11	1,167	25	1	31	11	1,167	25	4	166	36	3,700	112	27
28	New Hampshire....	..	..	..	..	..	1	100	..	100	78	1	100	..	100	78	32	1,978	366	37,207	1,256	28
29	New Jersey.....	9	193	21	1,465	133	10	483	..	1,162	299	19	676	21	2,627	432	114	13,591	1,963	259,753	9,788	29		
30	New Mexico.....	8	123	32	3,030	53	1	24	3	265	6	9	152	35	3,295	59	33	1,421	184	20,710	712	30		
31	New York.....	63	1,948	389	21,746	1,127	40	3,852	615	64,757	2,609	103	5,800	1,004	86,503	3,727	409	50,527	6,887	908,338	37,586	31		
32	North Carolina..	25	687	67	14,082	326	13	655	58	11,766	354	38	1,342	125	25,848	680	130	7,475	871	173,946	4,614	32		
33	North Dakota....	6	94	33	1,766	41	..	..	..	..	..	6	94	33	1,766	41	38	2,158	419	49,604	1,341	33
34	Ohio.....	19	561	47	6,770	324	17	1,023	39	4,460	738	36	1,584	86	11,230	1,062	177	17,091	2,483	383,148	12,449	34		
35	Oklahoma.....	52	1,436	220	28,877	594	18	612	91	14,156	330	70	2,048	311	43,033	924	94	3,682	585	82,157	1,882	35		
36	Oregon.....	14	417	78	8,708	222	12	512	72	12,890	310	26	929	150	21,607	532	54	3,373	546	81,889	2,289	36		
37	Pennsylvania.....	32	994	119	7,795	618	11	576	82	8,392	372	43	1,570	201	10,187	990	285	35,376	4,705	627,768	26,046	37		
38	Rhode Island....	2	34	..	27	22	..	..	..	..	..	2	34	..	27	22	18	2,299	399	37,077	1,677	38
39	South Carolina..	8	177	18	4,348	85	1	25	..	304	16	9	202	18	4,652	101	41	2,403	286	58,460	1,573	39		
40	South Dakota....	10	185	51	3,606	89	..	..	..	..	..	10	185	51	3,606	89	38	1,838	324	39,753	1,045	40
41	Tennessee.....	35	809	95	17,276	360	8	287	46	5,628	126	43	1,096	141	22,904	486	78	4,401	546	93,635	2,753	41		
42	Texas.....	130	2,490	515	60,257	1,135	42	1,720	238	47,432	992	172	4,210	753	107,689	2,127	271	10,921	1,675	270,838	6,176	42		
43	Utah.....	6	115	33	1,817	49	..	..	..	..	..	6	115	33	1,817	49	21	1,403	311	34,702	941	43
44	Vermont.....	1	14	..	112	5	1	25	..	41	8	2	39	..	153	13	24	2,196	210	29,279	1,679	44		
45	Virginia.....	19	659	72	13,322	408	17	1,096	132	29,650	750	36	1,755	204	42,972	1,158	81	5,457	632	129,852	3,678	45		
46	Washington.....	26	637	112	12,763	348	8	266	49	5,873	150	34	903	161	18,636	498	81	5,239	992	122,614	3,450	46		
47	West Virginia....	14	610	68	14,937	358	23	1,671	148	45,681	1,023	37	2,281	216	60,618	1,381	63	4,795	523	114,153	2,972	47		
48	Wisconsin.....	33	532	139	10,319	255	11	493	33	4,211	358	44	1,025	172	14,530	613	139	9,896	1,684	203,242	6,521	48		
49	Wyoming.....	9	146	39	2,177	50	2	48	13	934	15	11	194	52	3,111	74	17	345	84	5,877	144	49		
50	Totals (1940)....	1,174	28,938	4,820	500,040	15,049	449	25,108	3,021	463,654	15,686	1,623	54,066	7,841	963,694	30,735	4,524	352,556	51,389	7,218,544	241,499	50		
51	Totals (1939)....	1,190	29,879	4,756	501,869	14,955	456	26,496	2,989	456,759	16,154	1,646	56,375	7,745	958,619	31,109	4,486	340,880	49,169	7,144,869	232,435	51		
52	Totals (1938)....	1,188	30,193	4,537	493,583	15,255	493	26,559	3,236	470,136	16,630	1,681	56,743	7,793	965,689	30,885	4,438	346,244	47,636	6,813,795	229,019	52		
53	Totals (1937)....	1,183	29,937	4,766	508,350	15,458	530	28,085	3,516	507,077	16,477	1,713	58,042	8,282	1,015,436	31,935	4,406	335,799	46,644	6,711,592	225,556	53		
54	Totals (1936)....	1,204	28,496	4,356	487,797	13,672	550	28,511	3,629	497,457	16,462	1,754	57,007	7,985	935,254	30,134	4,465	332,881	45,583	6,194,026	211,681	54		
55	Totals (1935)....	1,255	29,913	4,384	413,997	14,212	627	34,946	4,357	532,590	18,697	1,882	64,859	8,741	946,587	32,909	4,522	333,427	44,893	5,424,102	200,589	55		
56	Totals (1934)....	1,310	29,429	4,291	391,366	13,142	627	34,946	4,357	532,590	18,697	1,882	64,859	8,741	946,587	32,909	4,522	333,427	44,893	5,424,102	200,589	56		
57	Totals (1933)....	1,435	33,385	4,962	381,661	13,746	629	33,072	4,033	458,303	15,983	1,939	62,501	8,429	824,616	28,031	4,553	332,673	44,649	4,8				

TABLE 2.—HOSPITAL FACILITIES BY STATES AND BY TYPE OF SERVICE

Marginal No.	General				Nervous and Mental				Tuberculosis				Maternity				Industrial				Eye, Ear, Nose and Throat				Marginal No.		
	Hospitals	Beds	Patients	Average	Hospitals	Beds	Patients	Average	Hospitals	Beds	Patients	Average	Hospitals	Beds	Patients	Average	Hospitals	Beds	Patients	Average	Hospitals	Beds	Patients	Average			
1 Alabama.....	70	6,854	528	117,816	4,068	4	4	2,682	3,436	480	1,079	269	2	70	50	525	40	2	250	6,004	1	6	740	2	1		
2 Arizona.....	40	2,441	275	46,297	1,571	2	2	336	902	17	1,623	2	1	24	13	58	2	1	250	4,041	1	6	740	2	2		
3 Arkansas.....	52	3,451	331	59,461	2,161	2	2	336	902	17	1,623	2	1	24	13	58	2	1	250	4,041	1	6	740	2	3		
4 California.....	27	36,851	3,274	605,429	26,240	35	31,421	12,365	5,512	37	5,202	1	10	34	218	4,041	390	2	3	610	9,637	2	54	2,601	5		
5 Colorado.....	67	5,601	639	93,621	3,669	6	6,108	2,406	5,574	14	1,445	1	1	21	9	66	20	1	36	441	1	1	105	6,230	6		
6 Connecticut.....	38	6,362	1,032	145,655	4,769	19	9,783	4,034	2,908	3	222	187	103	2	177	143	383	12	1	105	6,230	1	105	6,230	7		
7 Delaware.....	10	1,119	185	20,834	639	2	1,759	411	1,612	3	222	187	103	2	177	143	383	12	1	105	6,230	1	105	6,230	8		
8 District of Columbia..	80	6,277	720	123,297	3,911	2	7,637	1,321	7,112	1	670	571	658	2	177	143	383	12	1	105	6,230	1	105	6,230	9		
9 Florida.....	10	1,119	185	20,834	639	2	1,759	411	1,612	3	222	187	103	2	177	143	383	12	1	105	6,230	1	105	6,230	10		
10 Georgia.....	39	6,437	778	163,348	4,720	5	8,517	5,178	8,653	6	655	862	540	1	26	12	37	18	1	105	6,230	1	105	6,230	11		
11 Idaho.....	20	28,400	4,082	648,914	21,148	2	1,619	1,321	7,112	1	670	571	658	2	177	143	383	12	1	105	6,230	1	105	6,230	12		
12 Illinois.....	91	8,501	1,335	198,036	5,818	23	45,940	13,920	42,969	27	3,770	4,684	3,320	6	343	166	4,112	262	1	105	6,230	1	105	6,230	13		
13 Indiana.....	117	7,126	1,165	164,621	4,432	12	11,409	3,966	11,382	6	889	3,54	753	2	30	30	317	20	1	105	6,230	1	105	6,230	14		
14 Iowa.....	97	6,501	812	116,078	4,120	12	11,409	3,966	11,382	6	889	3,54	753	2	30	30	317	20	1	105	6,230	1	105	6,230	15		
15 Kansas.....	73	5,361	648	114,084	3,929	18	7,433	7	2,044	7,002	3	616	554	460	4	123	84	224	40	1	105	6,230	1	105	6,230	16	
16 Kentucky.....	50	8,638	762	210,672	6,932	6	7,114	1,321	7,112	1	670	571	658	2	177	143	383	12	1	105	6,230	1	105	6,230	17		
17 Louisiana.....	51	2,951	447	57,743	2,107	5	3,931	2,670	7,286	6	411	552	405	1	14	12	407	11	1	105	6,230	1	105	6,230	18		
18 Maine.....	44	7,690	824	128,928	5,085	17	11,065	3,725	10,431	23	3,432	4,601	3,320	7	403	312	6,220	201	1	105	6,230	1	105	6,230	19		
19 Maryland.....	143	22,466	2,637	373,896	10,066	32	31,268	12	11,015	3,725	10,431	23	3,432	7	403	312	6,220	201	1	105	6,230	1	105	6,230	20		
20 Massachusetts.....	22	22,069	2,661	384,949	15,311	20	25,472	6	1,436	23,889	27	4,107	2	4,001	3,390	3	118	47	616	79	1	105	6,230	21			
21 Michigan.....	87	11,103	1,048	249,669	7,221	14	17,111	21	7,745	14,808	15	2,117	6	1,624	1,848	3	108	89	1,299	121	1	105	6,230	22			
22 Minnesota.....	162	3,363	434	81,130	2,902	6	7,114	1,321	7,112	1	670	571	658	2	177	143	383	12	1	105	6,230	1	105	6,230	23		
23 Mississippi.....	98	11,067	1,292	228,036	8,046	17	15,686	1	3,427	14,612	6	2,093	1,897	1,748	8	494	291	3,700	227	1	105	6,230	1	105	6,230	24	
24 Missouri.....	56	3,108	547	58,803	2,060	1	1,920	84	5,906	1	193	207	253	2	19	6	69	43	1	105	6,230	1	105	6,230	25		
25 Montana.....	86	4,662	689	82,728	2,774	4	5,777	94	3,415	2	240	164	186	1	10	30	152	45	1	105	6,230	1	105	6,230	26		
26 Nebraska.....	15	2,233	414	41,883	1,403	1	340	712	94	345	2	240	164	186	1	10	30	152	45	1	105	6,230	1	105	6,230	27	
27 Nevada.....	35	2,233	414	41,883	1,403	24	25,323	4	6,296	23,617	17	3,638	1	731	3,008	1	310	236	6,292	212	1	105	6,230	1	105	6,230	28
28 New Hampshire.....	39	14,160	1,984	289,620	10,007	24	25,323	4	6,296	23,617	17	3,638	1	731	3,008	1	310	236	6,292	212	1	105	6,230	1	105	6,230	29
29 New Jersey.....	33	2,351	267	32,751	1,316	2	980	234	3,016	6	613	1	731	3,008	1	310	236	6,292	212	1	105	6,230	1	105	6,230	30	
30 New Mexico.....	32	6,414	770	169,580	47,219	63	103,293	60	29,706	98,292	57	11,530	12	12,441	10,282	15	737	522	12,763	434	1	105	6,230	1	105	6,230	31
31 New York.....	120	8,712	1,002	199,350	5,693	9	8,615	3,081	7,777	3	363	3,480	2,365	1	25	5	73	33	90	32	1	105	6,230	1	105	6,230	32
32 North Carolina.....	122	6,414	770	169,580	47,219	63	103,293	60	29,706	98,292	57	11,530	12	12,441	10,282	15	737	522	12,763	434	1	105	6,230	1	105	6,230	33
33 North Dakota.....	153	10,858	2,843	442,898	14,372	33	29,829	3	8,410	28,829	23	3,631	3,736	3,165	8	292	241	4,003	175	1	105	6,230	1	105	6,230	34	
34 Ohio.....	106	5,892	729	110,218	3,448	5	8,726	3,478	8,573	16	4,001	572	534	1	153	135	3,685	117	1	105	6,230	1	105	6,230	35		
35 Oklahoma.....	54	4,091	508	95,137	2,941	4	5,139	1,757	5,751	16	4,001	572	534	1	153	135	3,685	117	1	105	6,230	1	105	6,230	36		
36 Oregon.....	227	32,986	4,000	609,051	25,034	47	45,984	4	10,787	41,368	6	630	4,102	3,808	10	491	187	4,010	383	3	326	8,264	179	37	37		
37 Pennsylvania.....	13	2,986	961	54,700	2,218	4	4,118	922	3,688	16	4,001	572	534	1	153	135	3,685	117	1	105	6,230	1	105	6,230	38		
38 Rhode Island.....	50	2,351	267	32,751	1,316	2	980	234	3,016	6	613	1	731	3,008	1	310	236	6,292	212	1	105	6,230	1	105	6,230	39	
39 South Dakota.....	60	6,278	733	136,826	4,707	3	5,369	1,761	5,311	6	781	1,035	694	2	26	26	751	20	1	105	6,230	1	105	6,230	40		
40 South Carolina.....	287	15,445	2,098	371,610	12,836	10	8,042	4,393	7,627	17	2,565	6,362	2,169	3	31	32	445	11	1	105	6,230	1	105	6,230	41		
41 Texas.....	23	1,913	362	43,293	1,388	18	19,080	3	6,515	18,258	17	2,565	6,362	2,169	3	31	32	445	11	1	105	6,230	1	105	6,230	42	
42 Utah.....	23	1,913	362	43,293	1,388	18	19,080	3	6,515	18,258	17	2,565	6,362	2,169	3	31	32	445	11	1	105	6,230	1	105	6,230	43	
43 Vermont.....	81	8,293	772	164,480	5,674	11	12,270	5,097	11,070	3	260	1,872	1,390	2	26	26	751	20	1	105	6,230	1	105	6,230	44		
44 Virginia.....	83	7,488	1,065	155,952	4,944	5	6,132	2,710	8,721	12	1,345	2,285	1,249	4	106	65	295	68	1	105	6,230	1	105	6,230	45		
45 West Virginia.....	142	12,000	1,870	254,243	8,964	51	10,818	6	6,085	15,795	21	2,307	2,493	2	106	44	876	66	1	105	6,230	1	105	6,230	46		
46 Wisconsin.....	25	1,297	177	21,171	638	3	1,641	1	432	1	33	52	27	2	106	44	876	66	1	105	6,230	1	105	6,230	47		
47 Wyoming.....	4,432	1	1	38,073	9,219	602	601,284	101	100,376	590,712	479	78,246	44	90,696	67,007	116	5,617	3,820	60,518	3,334	33	2,792	3	41,858	1,301	48	
Totals (1910)	4,432	1	1	38,073	9,219	602	601,284	101	100,376	590,712	479	78,246	44	90,696	67,007	116	5,617	3,820	60,518	3,334	33	2,792	3	41,858	1,301	49	
1 Alabama.....	4,432	1	1	38,073	9,219	602	601,284	101	100,376	590,712	479	78,246	44	90,696	67,007	116	5,617	3,820	60,518	3,334	33	2,792	3	41,858	1,301	50	
2 Arizona.....	4,432	1	1	38,073	9,219	602	601,284	101	100,376	590,712	479	78,246	44	90,696	67,007	116	5,617	3,820	60,518	3,334	33	2,792	3	41,858	1,301	51	
3 Arkansas.....	4,432	1	1	38,073	9,219	602	601,284	101	100,376	590,712	479	78,246	44	90,696	67,007	116	5,617	3,820	60,518	3,334	33	2,792	3	41,858	1,301	52	
4 California.....	4,432	1	1	38,073	9,219	602	601,284	101	100,376	590,712	479	78,246	44	90,696	67,007	116	5,617</										

TABLE 2.—HOSPITAL FACILITIES BY STATES AND BY TYPE OF SERVICE—(Continued)

Marginal No.	Children's				Orthopedic				Isolation				Convalescent and Rest				Hospital Departments of Institutions				All Other Hospitals				Totals				Marginal No.	
	Hospitals	Beds	Patients Admitted	Average	Hospitals	Beds	Patients Admitted	Average	Hospitals	Beds	Patients Admitted	Average	Hospitals	Beds	Patients Admitted	Average	Hospitals	Beds	Patients Admitted	Average	Hospitals	Beds	Patients Admitted	Average	Hospitals	Beds	Patients Admitted	Average		
1	Alabama.....	1	50	1,226	33	1	50	229	37	1	1	1	1	12	223	8	4	208	3,600	99	16	14,410	578	127,496	11,697	1	1	1	1	
2	Alaska.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
3	Arizona.....	3	280	10,776	101	2	135	2,363	132	1	16	1	1	1	551	2,301	446	3	5,508	3,179	22	63	10,722	277	49,989	3,599	2	2	2	3
4	Arkansas.....	3	280	10,776	101	2	135	2,363	132	1	16	1	1	1	551	2,301	446	3	5,508	3,179	22	63	10,722	277	49,989	3,599	2	2	2	4
5	California.....	5	2,827	107,827	119	2	1,800	707	25	1	25	1	1	1	106	1,693	138	10	641	5,883	302	338	70,381	3,504	605,043	64,699	4	4	4	5
6	Colorado.....	6	2,827	107,827	119	2	1,800	707	25	1	25	1	1	1	106	1,693	138	10	641	5,883	302	338	70,381	3,504	605,043	64,699	4	4	4	6
7	Connecticut.....	7	2,827	107,827	119	2	1,800	707	25	1	25	1	1	1	106	1,693	138	10	641	5,883	302	338	70,381	3,504	605,043	64,699	4	4	4	7
8	Delaware.....	7	2,827	107,827	119	2	1,800	707	25	1	25	1	1	1	106	1,693	138	10	641	5,883	302	338	70,381	3,504	605,043	64,699	4	4	4	8
9	District of Columbia.....	1	200	6,385	142	2	110	380	63	1	44	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	9
10	Florida.....	1	44	1,215	33	2	173	643	140	1	80	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	10
11	Georgia.....	1	252	4,162	165	4	475	1,621	334	1	49	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	11
12	Idaho.....	1	75	1,146	50	2	149	992	124	1	49	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	12
13	Illinois.....	1	100	430	78	2	223	638	173	1	110	2	2	2	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	13
14	Indiana.....	6	585	8,181	421	4	516	640	436	1	7	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	14
15	Iowa.....	2	105	1,671	62	2	310	975	277	1	19	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	15
16	Kansas.....	2	310	6,080	234	2	160	616	129	1	25	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	16
17	Kentucky.....	1	100	430	78	2	223	638	173	1	110	2	2	2	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	17
18	Louisiana.....	1	100	430	78	2	223	638	173	1	110	2	2	2	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	18
19	Maine.....	1	100	430	78	2	223	638	173	1	110	2	2	2	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	19
20	Maryland.....	6	585	8,181	421	4	516	640	436	1	7	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	20
21	Massachusetts.....	2	105	1,671	62	2	310	975	277	1	19	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	21
22	Michigan.....	2	105	1,671	62	2	310	975	277	1	19	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	22
23	Minnesota.....	2	310	6,080	234	2	160	616	129	1	25	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	23
24	Mississippi.....	2	310	6,080	234	2	160	616	129	1	25	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	24
25	Missouri.....	2	310	6,080	234	2	160	616	129	1	25	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	25
26	Montana.....	2	310	6,080	234	2	160	616	129	1	25	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	26
27	Nebraska.....	2	310	6,080	234	2	160	616	129	1	25	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	27
28	Nevada.....	2	310	6,080	234	2	160	616	129	1	25	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	28
29	New Hampshire.....	2	310	6,080	234	2	160	616	129	1	25	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	29
30	New Jersey.....	2	310	6,080	234	2	160	616	129	1	25	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	30
31	New Mexico.....	2	310	6,080	234	2	160	616	129	1	25	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	31
32	New York.....	5	677	105,123	547	12	1,892	12,621	1,171	8	1,230	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	32
33	North Carolina.....	3	125	3,633	57	2	180	493	177	1	15	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	33
34	North Dakota.....	4	483	8,12,020	327	3	197	37	210	87	1	15	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	34
35	Ohio.....	3	161	1,843	68	1	50	277	53	1	100	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	35
36	Oklahoma.....	3	161	1,843	68	1	50	277	53	1	100	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	36
37	Oregon.....	5	474	8,982	321	7	685	869	543	1	137	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	37
38	Pennsylvania.....	5	474	8,982	321	7	685	869	543	1	137	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	38
39	Rhode Island.....	3	161	1,843	68	1	50	277	53	1	100	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	39
40	South Carolina.....	2	81	1,146	50	6	243	2,076	198	1	75	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	40
41	South Dakota.....	1	84	1,146	50	6	243	2,076	198	1	75	1	1	1	134	333	3	3	3,204	106	12	42	3,374	311	38,235	2,703	11	11	11	41
42	Tennessee.....	3	161	1,843	68	1	50	277	53	1	100	1	1	1	134	333	3	3	3,204	106	12	42								

FACILITIES FOR NEGRO PATIENTS

To the question "Are Negro patients admitted?" the governmental hospitals responded as follows: yes, 1,391; no, 273; no answer, 102.

Of the nongovernmental hospitals, 2,839 replied yes; 1,304 no, and 382 gave no answer.

This makes a total of 4,230 reporting that they accept Negro patients, 1,577 that they do not and 484 that did not supply the answer.

A considerable number of hospitals say they make no distinction and, therefore, keep no separate records for Negro patients, so that a separate census of Negro patients for all hospitals seems impossible.

The question "How many Negro patients were admitted?" was asked, but the response on that question has not as yet been tabulated. The figures given here include the 111 hospitals which are reported exclusively for Negroes. Included among those that answered yes were 3,144 general hospitals, 324 nervous and mental, 301 tuberculosis and 55 orthopedic, as well as some in each classification of other special hospitals. Some hospitals reported that there were no Negroes among their population, and others said that they supplied outpatient service.

The further tabulations which are possible from the questionnaires and the punched cards will afford additional data which may be published at a later date.

The attention of those interested in Negro hospital facilities is especially directed to a special survey

How Hospitals Answered the Question "Are Negro Patients Admitted?"

	Yes	No	No Answer
According to Ownership or Control:			
Federal.....	205	120	11
State.....	439	67	15
County.....	423	43	48
City.....	274	36	21
City-county.....	50	7	7
Total governmental.....	1,391	273	102
Church related.....	754	195	48
Nonprofit associations.....	1,341	412	152
Total nonprofit.....	2,095	607	200
Individual and partnership.....	542	488	144
Corporations (profit unrestricted).....	202	209	38
Total proprietary.....	744	697	182
Total nongovernmental.....	2,839	1,304	382
According to Type of Service:			
General.....	3,144	952	334
Nervous and mental.....	324	238	38
Tuberculosis.....	301	141	41
Maternity.....	55	52	9
Industrial.....	31	3	2
Eye, ear, nose and throat.....	26	14	1
Children's.....	35	8	3
Orthopedic.....	55	23	6
.....	48	1	4
.....	38	85	18
.....	152	51	23
.....	21	9	5
Total all hospitals.....	4,230	1,577	484

financed by the American Medical Association and directed by the Council on Medical Education and Hospitals. The report of that survey was published in *THE JOURNAL of the American Medical Association* April 20, 1929, Volume 92, pages 1375 and 1376.

Each locality has its own peculiar conditions which are to be understood and met in providing hospital facilities for its population. Careful study and consideration in the interests of the whole population in each community should be the basis of action. Due account should be taken of existing facilities.

BIRTHS IN HOSPITALS

The number of births reported in all registered hospitals for the year 1940 is 1,214,492, or a gain of 114,779 over the previous year. This is the largest gain registered in any period since 1929, when the census first asked for the number of births in hospitals.

Births in Hospitals

According to Ownership or Control:			
	1929	1939	1940
Federal.....	2,296	8,506	9,423
State.....	9,125	25,724	28,943
County.....	17,527	55,709	61,963
City.....	45,787	91,444	98,433
City-county.....	8,806	14,079	14,449
Total governmental.....	83,541	195,552	213,211
Church.....	269,726	360,293	334,765
Fraternals.....	1,730	.....	.....
Nonprofit associations.....	.....	434,443	485,236
Industrial.....	4,327	.....	.....
Independent associations.....	283,136	.....	.....
Total nonprofit.....	.....	794,736	880,001
Individual and partnership.....	39,436	61,069	67,899
Corporations (profit unrestricted).....	.....	48,356	53,681
Total proprietary.....	.....	109,425	121,580
Total nongovernmental.....	538,355	904,161	1,001,281
According to Type of Service:			
General.....	563,177	1,051,286	1,163,694
Maternity.....	53,019	45,664	48,126
Children's.....	862	2,300	1,984
Hospital departments of institutions..	277	128	172
All other hospitals.....	1,561	326	516
Total births in all hospitals.....	621,896	1,099,713	1,214,492

How the births in hospitals compared with births outside of hospitals for the year 1940 is not known, since the United States Census figures on all births have not been received. However, the figure given by the United States Census Bureau for all births inside and outside of hospitals for the year 1939 was 2,265,588. It seems apparent, therefore, that appreciably over one half of the births are taking place in hospitals. Ninety-five and eight-tenths per cent of all the hospital births for 1940 were in general hospitals; 4 per cent were in maternity hospitals. In 1929 there were 621,896 births in hospitals, and the average increase in hospital births during the eleven years since that time has been at the rate of 53,872 a year.

OUTPATIENT DEPARTMENTS

The annual census of hospitals for a number of years requested the hospitals to state whether or not they had an outpatient department and, if so, to give the number of patients admitted and the number of visits made by those patients. There was no definition of outpatient department. These questions were continued up to and including the annual census for 1936. The returns indicated that there were about as many persons making use of outpatient departments as were accommodated in inpatient facilities. The total number of outpatient visits reported for the year 1936 was 35,588,640.

The recognized importance of the outpatient department fully justifies a definition of outpatient service and a classification of the different kinds of outpatient service. Such a definition and classification have been undertaken and were commented on in the *Hospital Number of THE JOURNAL* for March 30, 1940. In that issue, as well as at the present time, we have found it apparently most convenient to include under "outpatient" all ambulatory services connected with hospitals. This would include not only the general

outpatient department, organized and departmentalized and affording service for all types of ailments as they come, but it would include also ambulatory facilities in specialized hospitals, such as for tuberculosis, for mental diseases, for venereal diseases and all other types of ambulatory facilities maintained in connection with hospitals. It would seem logical also that the term "outpatient department" might be applied to the facilities maintained by many physicians in their private hospitals who see part or all of their ambulatory patients at their hospital offices.

Obviously the questions necessary for adequate investigation and classification of all outpatient services would be too elaborate for a simple questionnaire such as is used in the annual census of all hospitals. However, a beginning was made on the classification of outpatient services by including the questions whether the "Hospital maintains an outpatient department exclusive of emergency service and private practice of physicians with office in hospital. . . . Number of outpatients admitted (first admissions, exclusive of emergencies and private patients). . . . Total visits (first visits plus revisits). . . . Number of emergency (first aid) cases treated during the year."

These questions were rather completely answered and have been tabulated only for the group commonly known as general outpatient departments. The number of such outpatient departments reporting is 761, to which 4,420,406 outpatients were admitted. These made a total of 27,221,530 visits.

This total does not include the outpatient visits in clinics conducted by specialized hospitals nor does it embrace the general hospitals that limit their outpatient service to only one or two specialized clinics.

It includes only the data from general outpatient departments.

Considerable additional data regarding all types of hospital outpatient services were obtained but were not sufficiently complete to be included without further follow up and analysis.

INTERNSHIPS, RESIDENCIES AND FELLOWSHIPS

INTERNSHIPS

On March 1, 1941 the number of hospitals approved by the Council on Medical Education and Hospitals for training interns stood at 730. Of this number five institutions are located in Puerto Rico, the Philippine Islands, Hawaii and the Canal Zone. There has been a net decrease of six hospitals since March 1940.

According to reports recently received, the approved hospitals in the states provide a total of 8,182 intern positions. However, this figure does not indicate the number of appointments available each year and therefore cannot properly be compared with the annual number of students completing the four year course in approved medical schools. It must be kept in mind that there are a considerable number of hospitals in which the internship is longer than twelve months in duration. In these cases some of the intern positions are held by graduates in the second year of training. A hospital which has ten interns on a twenty-four month rotation plan, for example, will ordinarily appoint only five new interns each year.

In table A is shown the number of hospitals approved for intern training and the number of graduates of approved medical schools in the United States from 1920 to 1940 inclusive. It will be noted

HOSPITALS IN ALASKA, CANAL ZONE, GUAM, HAWAII, PHILIPPINES, PUERTO RICO AND VIRGIN ISLANDS

Hospitals in these lands have increased steadily in numbers and capacity. They now number 277, with 29,829 beds and 1,520 bassinets. The increases for last year, and other years since 1934, are shown in the accompanying table. Individual hospitals are named and the usual data concerning each are given in the special list at the end of the list of registered hospitals

Hospitals in Alaska, Canal Zone, Guam, Hawaii, Philippines, Puerto Rico and Virgin Islands

	Hospitals	Beds	Bassinets
Alaska.....	23	687	94
Canal Zone.....	9	2,149	64
Guam.....	1	171	10
Hawaii.....	56	5,984	320
Philippines.....	122	13,921	663
Puerto Rico.....	61	6,565	338
Virgin Islands.....	5	352	31
Totals (1940).....	277	29,829	1,520
(1939).....	258	25,488	1,415
(1938).....	259	24,232	1,457
(1937).....	243	22,464	1,382
(1936).....	230	20,710	1,289
(1935).....	233	19,416	1,150
(1934).....	221	18,430	1,020

for the states. A majority of these hospitals are general. The distribution as to ownership or control is not so different from that in the states, a good share of the hospitalization being carried by the government and by nonprofit organizations, including a considerable number of church related institutions.

Progress that is evident in both quantity and quality speaks for enterprise and professional ideals.

The long distance that must be traveled by annual census questionnaires that are sent beyond the borders of the United States makes it impossible to receive complete returns in time for the publication of the Hospital Number.

that the hospitals have steadily increased, while the size of graduating classes has been fairly constant since 1935. The proportion of graduates serving internships,

TABLE A.—Hospitals Approved for Training Interns and Graduates of Approved Medical Schools

Year	Number of Hospitals	Medical Graduates (U. S.)
1920.....	469	3,047
1921.....	482	3,186
1922.....	492	2,520
1923.....	500	3,120
1924.....	518	3,562
1925.....	528	3,974
1926.....	554	3,962
1927.....	578	4,035
1928.....	611	4,262
1929.....	624	4,446
1930.....	634	4,565
1931.....	674	4,735
1932.....	696	4,936
1933.....	689	4,805
1934.....	676	5,035
1935.....	697	5,101
1936.....	705	5,183
1937.....	712	5,377
1938.....	729	5,194
1939.....	734	5,089
1940.....	730	5,097

however, has slightly increased in recent years. According to reports received from medical schools, 95.5 per cent of the class of 1935 secured internship appoint-

ments. From 1938 on the proportion has been practically 99 per cent.

Comparable data on the number of internship appointments offered each year are not immediately available. However, the figures for total internships (including those more than a year in duration) are

TABLE B.—*Growth of Internships*

Year	Number of Hospitals	Total Internships
1914.....	508	2,667
1916.....	519	2,700
1920.....	469	2,960
1921.....	482	2,962
1922.....	492	3,065
1923.....	500	3,119
1924.....	518	3,260
1925.....	528	3,832
1926.....	554	4,727
1927.....	578	4,952
1928.....	611	5,169
1929.....	624	5,409
1930.....	654	5,531
1931.....	674	6,154
1932.....	686	6,261
1933.....	680	6,201
1934.....	676	6,204
1935.....	697	6,443
1936.....	705	6,759
1937.....	712	7,167
1938.....	729	7,354
1939.....	734	7,833
1940.....	730	8,182

shown by table B.¹ The steady increase is obvious. Some of the increase has been produced by qualification of additional hospitals. Enlargement of the intern staff, resulting in many cases from an expansion of bed capacity or rising admission rate and average daily census, however, has also been a significant factor.

It is interesting to note that as late as 1925 the total number of internships did not equal the number of graduates of approved schools. As already mentioned, the data in the table do not indicate the annual appointments. However, it is equally true that not all graduates sought intern training until comparatively recent years. On the other hand there is reason to believe that it was not until 1934 or 1935 that all senior students applying for internships were able to secure places in approved hospitals.

In supplying data on the annual report form, a considerable number of hospitals apparently included residency positions in answering the question "Number of appointments each year." As nearly as this error can be corrected, pending correspondence with these hospitals, it is estimated that approximately 6,700 internship appointments are offered annually. Contrasted with the annual number of graduates of approved schools in the United States, there would appear to be a surplus of approximately 1,600 appointments. However, a large number of these surplus appointments are filled by graduates of approved schools repeating the intern year in a second hospital and by graduates of Canadian and of foreign schools.

UNFILLED INTERNSHIP APPOINTMENTS

On the annual report forms sent to approved intern hospitals a space was provided for "Number of vacancies at present." Practically all the hospitals returned the form and supplied this information. Two hundred and seventy hospitals reported a total of 615 vacancies. The distribution by states is shown in table C, which also gives the same data for Dec. 31, 1939. It will be noted that there has been an increase of 271 in the number of unfilled appointments.

1. "Special internships," later classified as residencies and fellowships, are not included.

Although statistics are not yet available on the number of approved internships held by graduates of approved schools repeating the intern year, and by graduates of schools in foreign countries, it is probable that both groups have diminished. As will be noted later, residency and fellowship appointments have greatly increased. It seems reasonable to assume that a graduate who has completed his intern year prefers to take a residency appointment rather than to serve a second internship. The war situation, of course, has undoubtedly reduced the flow of graduates of European schools.

During the year 1940 the Council on Medical Education and Hospitals admitted thirteen hospitals to the approved intern list. Twenty-five hospitals either withdrew or were removed. In February 1941 four additional hospitals were approved, and applications for approval are still being received.

TABLE C.—*Hospitals Reporting Unfilled Internship Appointments*

	Dec. 31, 1939		Dec. 31, 1940	
	Number of Hospitals	Number of Vacancies	Number of Hospitals	Number of Vacancies
Alabama.....	2	2	3	4
Arizona.....	..	..	2	4
Arkansas.....	..	..	1	2
California.....	7	8	8	37
Colorado.....	3	4	4	4
Connecticut.....	2	2	5	8
Delaware.....	1	1	3	4
District of Columbia..	..	..	2	2
Florida.....	1	2	1	4
Georgia.....	4	6	3	8
Illinois.....	26	60	30	79
Indiana.....	5	11	9	23
Iowa.....	7	16	6	13
Kansas.....	2	4	2	4
Kentucky.....	3	9	5	11
Louisiana.....	2	4	3	8
Maine.....	1	1	1	2
Maryland.....	4	6	4	12
Massachusetts.....	5	7	10	15
Michigan.....	11	23	12	30
Minnesota.....	4	8	5	14
Missouri.....	4	20	11	36
Montana.....	1	1	1	1
Nebraska.....	4	5	5	13
New Hampshire.....	..	..	1	1
New Jersey.....	10	19	5	11
New York.....	15	26	31	68
North Carolina.....	1	1	5	9
North Dakota.....	2	4	1	..
Ohio.....	9	19	17	31
Oklahoma.....	..	..	1	1
Oregon.....	..	..	3	4
Pennsylvania.....	14	24	38	93
Rhode Island.....	2	4	2	2
South Carolina.....	1	3	1	4
Tennessee.....	1	7	2	8
Texas.....	4	7	7	16
Utah.....	2	2	3	6
Vermont.....	..	..	1	2
Virginia.....	..	..	2	2
Washington.....	3	5	5	7
West Virginia.....	1	1	2	3
Wisconsin.....	12	19	6	9
Totals.....	176	344	270	615

Additional information concerning hospitals approved for training interns and approved residencies and fellowships appears each year in the Educational Number of THE JOURNAL, which is usually published in August.

NECROPSY PERFORMANCE IN INTERN HOSPITAL

Tentative data indicate that forty-one hospitals may have achieved the laudable record of postmortem studies on 70 per cent or more of their deaths (excluding stillbirths and medicolegal cases released without a necropsy being performed by the attending pathologist). In each instance the data will be confirmed and a list of these hospitals will be published in THE JOURNAL at a later date.

In table D is shown the trend of necropsy rates in approved intern hospitals. It will be noted that the

upward trend continues. This is further borne out by calculating the ratio of the total necropsies in approved hospitals to the number of death cases available for post-mortem study. In 1938 there was a total of 77,277 necropsies representing 37.6 per cent of the deaths. In 1939 the figures were 79,262 necropsies and 37.8 per cent. In 1940 the necropsies increased to 81,849 and the ratio to 38.9 per cent.

The attention of all hospitals is again called to the minimal necropsy requirements in approved intern hospitals. The old requirement of 15 per cent of deaths other than stillbirths is still in effect. In addition a

TABLE D.—*Necropsy Performance in Approved Intern Hospitals*

Percentage	Number of Hospitals					
	1926	1930	1937	1938	1939	1940
70 or over.....	14	19	27	27	29	41
50-69	21	56	68	100	115	106
30-49	68	164	263	327	319	334
15-29	146	354	348	260	251	229
Below 15	329	71	26	13	7	8
Hospitals reporting	578	664	732	727	721	718

new requirement of not fewer than thirty-six necropsies, not counting stillbirths, became effective starting with the calendar year 1940. This change in the "Essentials in a Hospital Approved for Training Interns" was announced in a letter accompanying the "Annual Census Blank and Report on Internships and Residencies" sent to approved hospitals on Dec. 31, 1938. It was also published in the *THE JOURNAL*, Aug. 26, 1939, pages 792 and 793.

RESIDENCIES AND FELLOWSHIPS

At the annual meeting of the American Medical Association in Philadelphia in 1931 a resolution was introduced in the House of Delegates requesting the appointment of a Commission on Qualifications for Specialists. It was to be the function of this commission to consider the type of educational training, clinical experience and other qualifications necessary for those who might wish to be recognized as proficient in any of the special fields of medicine. Examining and certifying boards had already been established in ophthalmology, otolaryngology, obstetrics-gynecology and dermatology-syphilology, but there was need for a national and uniform standard governing all fields of medical practice in order that properly qualified physicians might readily be differentiated from the self-appointed specialists.

It was only natural that the Council on Medical Education and Hospitals should take an active part in this program, since it had long been concerned with the preparation of standards in connection with medical schools, internships and residencies and in the recognition of qualified physicians specializing in pathology and radiology. Recognizing the need of centralized coordination and control, the House of Delegates in 1933 authorized the Council to formulate standards and officially approve such boards as would meet these requirements. It was also urged that the machinery of the American Medical Association, including the publication of its Directory, be used in furthering the work of boards accredited under this plan. Cooperating with the Council is the Advisory Board for Medical Specialties, organized in 1934 to "act in an advisory capacity to such organizations as may seek its advice concerning the coordination of the education and certification of medical specialists."

Standards governing the approval of specialty boards were adopted by the Council in June 1934 and approved by the House of Delegates. At that time similar regulations were established by the Advisory Board. These standards relating to the organization and operation of the boards contain also the minimum qualifications required for certification as a specialist. The latter include graduation from an approved medical school, an internship of not less than one year in a hospital acceptable to the Council, and a period of specialized training of at least three years in a selected field.

Sixteen specialty boards voluntarily organized in accordance with these standards are now fully approved by the Council:

American Board of Anesthesiology,
Paul M. Wood, M.D., Secretary-Treasurer,
745 Fifth Avenue, New York City.

American Board of Dermatology and Syphilology,
C. Guy Lane, M.D., Secretary-Treasurer,
416 Marlboro Street, Boston.

American Board of Internal Medicine,
William S. Middleton, M.D., Secretary-Treasurer,
1301 University Avenue, Madison, Wis.

American Board of Neurological Surgery,
R. Glen Spurling, M.D., Secretary-Treasurer,
404 Brown Building, Louisville, Ky.

American Board of Obstetrics and Gynecology,
Paul Titus, M.D., Secretary-Treasurer,
121 South Highland Avenue, Pittsburgh.

American Board of Ophthalmology,
John Green, M.D., Secretary-Treasurer,
6830 Waterman Avenue, St. Louis.

American Board of Orthopaedic Surgery,
Fremont A. Chandler, M.D., Secretary-Treasurer,
6 North Michigan Avenue, Chicago.

American Board of Otolaryngology,
William P. Wherry, M.D., Secretary-Treasurer,
107 South Seventeenth Street, Omaha.

American Board of Pathology,
Frank W. Hartman, M.D., Secretary-Treasurer,
2799 West Grand Boulevard, Detroit.

American Board of Pediatrics,
C. Anderson Aldrich, M.D., Secretary-Treasurer,
707 Fullerton Avenue, Chicago.

American Board of Plastic Surgery,
Vilray P. Blair, M.D., Secretary-Treasurer,
400 Metropolitan Building, St. Louis.

American Board of Proctology,
(subsidiary of American Board of Surgery),
Louis J. Hirschman, M.D., Chairman,
7815 East Jefferson Avenue, Detroit.

American Board of Psychiatry and Neurology,
Walter Freeman, M.D., Secretary-Treasurer,
1028 Connecticut Avenue N.W., Washington, D. C.

American Board of Radiology,
Byrl R. Kirklín, M.D., Secretary-Treasurer,
102 Second Avenue S.W., Rochester, Minn.

American Board of Surgery,
J. Stewart Rodman, M.D., Secretary-Treasurer,
225 South Fifteenth Street, Philadelphia.

American Board of Urology,
Gilbert J. Thomas, M.D., Secretary-Treasurer,
1009 Nicollet Avenue, Minneapolis.

The Council has undertaken a program of collaboration with the specialty boards aimed at uniformity in the investigation and appraisal of educational opportunities and at the elimination of unnecessary effort in the inspection of hospitals training resident physicians. Formal agreements have already been entered into with

TABLE E.—Classification of Residencies and Fellowships

Specialty	1927	1934	1941				Number of Hospitals Approved
	Total Residencies	Total Residencies	Residencies	Assistant Residencies	Fellowships	Total	
Anesthesiology.....	19	6	80	27	14	121	39
"	1	2	5	0	1	6	6
"	26	34	41	6	1	48	17
"	27	22	25	18	35	78	32
Fractures.....	1	7	1	0	0	1	1
"	1	2	4	2	0	6	4
Gynecology.....	7	32	20	19	1	40	23
Malignant diseases.....	7	34	43	15	13	71	17
Medicine.....	220	326	306	301	196	803	192
Mixed.....	45	23	163	17	0	183	62
Neurology.....	2	38	30	29	14	73	26
Neurosurgery.....	1	0	13	9	14	36	20
Obstetrics.....	1	70	68	33	0	101	55
Obstetrics and gynecology.....	111	129	154	110	37	301	89
Ophthalmology.....	75	83	102	37	12	151	51
Ophthalmology-otolaryngology.....	..	88	65	35	14	114	41
Orthopedic surgery.....	37	85	122	52	20	194	79
Otolaryngology.....	64	88	111	58	7	176	65
Pathology.....	93	110	210	60	62	332	167
Pediatrics.....	145	255	191	178	24	393	112
Physical therapy.....	2	..	2	0	3	5	3
Plastic surgery.....	..	..	4	1	3	8	4
Psychiatry.....	362	230	335	56	32	423	112
Radiology.....	49	66	135	69	40	250	122
Surgery.....	263	404	377	382	141	900	234
Thoracic surgery.....	..	4	10	6	8	33	17
Traumatic surgery.....	..	..	2	1	0	3	2
Tuberculosis.....	159	143	227	37	5	269	86
Urology.....	34	58	71	41	25	137	60
Other.....	35	16	..	..	..	..	..
	1,776	2,373	2,929	1,599	728	5,256	*

* Number of hospitals approved for residencies and fellowships, 610.

ten of the boards, and three others have indicated their desire to work with the Council in the evaluation of residencies, fellowships and other forms of graduate training. Under this plan, official information is first secured from hospitals on blanks printed in triplicate so that one copy may be retained by the hospital, one will be available to the Council and one to the specialty board. If it appears that the hospital is in position to offer a residency program in accordance with present standards, a visit of inspection is carried out by a member of the Council's staff. A copy of the inspection report is then forwarded to the examining board to supplement the information supplied in the original application blank. When the recommendation of the board is at hand, the application for residency approval is submitted for Council action. In this manner it is expected that the final conclusions of the Council and the boards will be identical, so that residencies and fellowships approved by the Council will be equally acceptable to the certifying boards.

This cooperative plan was outlined in THE JOURNAL, March 30, 1940, pages 1172-1173. Reference should also be made to page 978 of the March 26, 1938 issue, which gives more detailed information concerning the inspection and evaluation of residencies in specialties. The new "Essentials of Approved Residencies and Fellowships," formulated with the assistance of the various specialty boards, were published in THE JOURNAL, Aug. 26, 1939, pages 794-799.

At present there are 610 hospitals regarded as capable of furnishing acceptable training in the various specialties indicated in table E. These approved institutions

report 1,599 positions as assistant residencies, 2,929 as residencies and 728 as fellowships with appointments usually of one, two or three years' duration, although assignments of six and even seven years have also been noted. Detailed information concerning these services is published annually in the Educational Number of THE JOURNAL.

Table F shows the increase in number of residencies since 1927, when the first list was published by the Council. Prior to that time a classification of special internships was included in the regular intern list. Thus in 1914 there were 428 special internships listed, while ten years later 595 were so designated. During that ten year period the hospitals offering specialized training increased from 95 to 150. Since 1927 the opportunities for residency training have tripled in number. This indicates not only a growing professional interest in specialization but also an evident desire on the part of hospitals to foster and promote the advanced training of young physicians.

The rapid increase in recent years is attributable mainly to the certifying program of the American boards and the resulting emphasis on specialization in private and hospital practice. Many institutions have been stimulated by the growing demands for graduate training to develop residencies in specialties or to expand services already in operation. In some instances the assignments have also been lengthened to provide the full range of clinical and basic training required for certification. Certain tendencies have been noted that may presage a further spread of residency training in the hospital field. Possibly as a result of economic conditions or the uncertainties of the present era an increasing number of graduates are remaining in hospital service beyond the regular one or two year internship. Usually they are anxious that the additional training shall count toward certification and thus new applications for residency approval will ordinarily result unless their service is already recognized. It has also been observed that institutions that have been unable to secure the desired number of interns will frequently supplement their house staff by the appointment of general or special residents. Then too there is the general desire on the part of hospitals to utilize their

TABLE F.—Residencies in Specialties, 1927-1941

Year	Hospitals Approved	Number of Residencies
1927.....	278	1,776
1929.....	318	1,903
1930.....	338	2,028
1931.....	363	2,139
1932.....	356	2,111
1934.....	377	2,373
1935.....	392	2,564
1936.....	410	2,840
1937.....	438	3,202
1938.....	451	3,409
1939.....	518	4,563
1940.....	533	4,882
1941.....	610	5,256

educational facilities to the fullest extent. It should be realized, however, that Council approval for residency training places on the medical staff a major obligation to furnish educational opportunities in accordance with current standards. The continuation of approval depends not merely on the adequacy of equipment and flow of clinical material but more especially on the cooperation of the staff in amply fulfilling the obligations of a residency training program.

HOSPITAL SERVICE ACCORDING TO TYPES OF SERVICE AND AGENCIES CONCERNED

ALABAMA

	Hospitals	Beds	Average Census	Basins	Births	Patients Admitted
General						
Federal.....	6	2,743	2,232	6	50	14,074
County.....	2	518	380	48	2,277	12,634
City.....	2	104	50	11	304	3,047
City-county.....	3	230	142	40	757	5,818
Church related.....	7	869	591	91	2,353	27,619
Nonprofit associations.....	15	1,040	551	134	2,767	25,925
Individual and partnership.....	29	996	400	145	1,718	19,672
Corporations (profit unrestricted)	6	384	220	50	1,019	9,027
Total.....	70	6,884	4,608	528	11,275	117,816
Nervous and mental						
State.....	3	6,606	6,417	..	4	2,249
Individual and partnership.....	1	50	26	..	..	433
Total.....	4	6,656	6,443	..	4	2,682
Tuberculosis						
County.....	5	291	218	..	3	706
Nonprofit associations.....	3	189	161	..	1	373
Total.....	8	480	369	..	4	1,079
Maternity						
Church related.....	2	70	40	50	485	525
Children's						
Nonprofit associations.....	1	50	33	..	..	1,236
Orthopedic						
Nonprofit associations.....	1	50	37	..	..	230
Convalescent and rest						
Individual and partnership.....	1	12	8	..	..	223
Hospital departments of institutions						
State.....	3	190	98	..	..	3,584
Nonprofit associations.....	1	18	1	..	..	112
Total.....	4	208	99	..	..	3,696
Grand total.....	91	14,410	11,697	578	11,768	127,496

ARIZONA

	Hospitals	Beds	Average Census	Basins	Births	Patients Admitted
General						
Federal.....	14	743	551	74	628	11,379
County.....	5	457	328	44	676	6,240
City.....	11	753	494	85	2,021	20,224
Church related.....	11	400	181	58	1,193	7,472
Nonprofit associations.....	3	55	25	9	60	660
Individual and partnership.....	1	33	12	5	102	422
Corporations (profit unrestricted)	1	33	12	5	102	422
Total.....	40	2,441	1,571	275	4,689	46,297
Nervous and mental						
State.....	1	900	897	..	..	342
Individual and partnership.....	1	8	5	..	..	14
Total.....	2	908	902	..	..	356
Tuberculosis						
Federal.....	6	1,061	720	2	1	2,582
State.....	1	104	91	..	..	137
County.....	1	130	125	..	..	200
Church related.....	2	92	48	..	..	140
Nonprofit associations.....	3	142	90	..	..	153
Individual and partnership.....	4	94	52	..	..	124
Total.....	17	1,623	1,126	2	1	3,336
Grand total.....	59	4,972	3,599	277	4,690	49,980

ARKANSAS

	Hospitals	Beds	Average Census	Basins	Births	Patients Admitted
General						
Federal.....	12	670	603	3	10	5,314
State.....	1	205	156	19	339	3,976
County.....	1	200	184	8	146	1,384
City.....	3	109	47	16	328	2,524
Church related.....	11	1,089	657	134	2,647	24,675
Nonprofit associations.....	10	510	248	69	835	9,350
Individual and partnership.....	20	534	236	72	854	10,254
Corporations (profit unrestricted)	4	134	30	20	199	1,984
Total.....	62	3,451	2,161	331	5,358	59,461
Nervous and mental						
Federal.....	1	1,360	1,207	..	..	686
State.....	1	4,200	4,303	..	..	1,699
Total.....	2	5,560	5,512	..	0	2,385

ARKANSAS—Continued

	Hospitals	Beds	Average Census	Basins	Births	Patients Admitted
Tuberculosis						
State.....	2	1,354	928	9	..	1,423
Maternity						
Nonprofit associations.....	1	24	2	13	32	58
Industrial						
Nonprofit associations.....	2	250	119	..	2	4,604
Eye, ear, nose and throat						
Individual and partnership.....	1	6	2	..	..	740
Isolation						
Federal.....	1	90	52	4	18	908
Hospital departments of institutions						
State.....	2	58	22	..	..	566
Grand total.....	63	10,793	8,798	357	5,416	70,145

CALIFORNIA

	Hospitals	Beds	Average Census	Basins	Births	Patients Admitted
General						
Federal.....	16	7,230	5,551	30	363	53,252
State.....	2	645	428	30	592	9,263
County.....	41	12,648	9,732	659	15,569	167,772
City.....	1	32	21	8	300	1,316
City-county.....	2	3,430	1,822	50	691	17,409
Church related.....	36	4,806	3,448	817	19,900	130,624
Nonprofit associations.....	49	4,827	3,257	849	17,112	132,155
Individual and partnership.....	70	1,858	1,013	456	8,691	47,768
Corporations (profit unrestricted)	26	1,475	968	345	8,398	45,870
Total.....	243	36,851	26,240	3,274	71,616	605,420
Nervous and mental						
Federal.....	1	1,218	1,152	..	..	375
State.....	9	28,619	26,701	..	5	8,093
Nonprofit associations.....	1	45	35	..	..	201
Individual and partnership.....	17	983	864	..	..	1,577
Corporations (profit unrestricted)	7	556	379	1	..	2,119
Total.....	35	31,421	29,131	1	5	12,365
Tuberculosis						
Federal.....	2	699	627	..	..	1,168
County.....	11	2,817	2,624	..	..	2,574
City-county.....	1	314	96	..	..	164
Church related.....	2	170	163	..	..	80
Nonprofit associations.....	8	558	488	..	..	453
Individual and partnership.....	8	360	211	..	..	367
Corporations (profit unrestricted)	5	384	315	..	..	790
Total.....	37	5,302	4,524	..	..	5,696
Maternity						
Church related.....	2	157	124	18	208	303
Nonprofit associations.....	6	339	245	159	2,572	2,842
Individual and partnership.....	2	48	21	41	904	899
Total.....	10	544	390	218	3,684	4,044
Industrial						
Nonprofit associations.....	3	619	453	..	..	9,637
Eye, ear, nose and throat						
Individual and partnership.....	1	33	5	..	..	1,006
Corporations (profit unrestricted)	1	21	5	..	..	1,655
Total.....	2	54	10	..	..	2,661
Children's						
Nonprofit associations.....	3	280	191	10	37	7,676
Orthopedic						
Nonprofit associations.....	2	135	132	..	..	2,363
Isolation						
County.....	1	16	3	..	..	96
Convalescent and rest						
Church related.....	1	15	11	..	..	128
Nonprofit associations.....	7	363	332	..	..	1,047
Individual and partnership.....	4	117	71	..	..	990
Corporations (profit unrestricted)	2	51	32	..	..	196
Total.....	14	551	446	..	..	2,261
Hospital departments of institutions						
Federal.....	1	41	35	..	..	518
State.....	3	394	249	1	1	4,802
County.....	2	2,944	2,838	..	..	7,104
Nonprofit associations.....	2	129	67	..	..	391
Total.....	8	3,508	3,179	1	1	12,815
Grand total.....	358	79,281	64,699	3,504	75,343	665,913

† Figures for "average census" and "patients admitted" are exclusive of newborn infants.

COLORADO

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	4	1,320	957	13	122	9,080
State.....	1	245	133	20	620	3,678
County.....	2	143	113	36	628	4,135
.....	1	521	300	51	403	7,416
.....	23	2,298	1,488	366	6,919	49,960
.....	13	736	485	70	1,002	10,776
Individual and partnership.....	20	227	153	84	949	7,041
Corporations (profit unrestricted)	3	92	35	10	140	1,235
Total.....	67	5,091	3,669	659	10,882	93,521
Nervous and mental						
Federal.....	1	805	676	..	..	124
State.....	4	4,967	4,670	..	5	1,624
Individual and partnership.....	1	150	130	..	..	235
Corporations (profit unrestricted)	2	186	98	..	..	513
Total.....	8	6,103	5,574	..	5	2,496
Tuberculosis						
Church related.....	4	294	185	..	..	222
Nonprofit associations.....	9	1,101	729	..	..	713
Individual and partnership.....	1	50	20	..	..	27
Total.....	14	1,445	934	..	..	962
Maternity						
Church related.....	1	40	27	20	85	98
Nonprofit associations.....	1	11	3	9	99	112
Total.....	2	51	30	29	184	210
Industrial						
Nonprofit associations.....	1	36	22	..	..	441
Children's						
Nonprofit associations.....	1	200	119	..	..	3,827
Isolation						
City-county.....	1	80	25	..	..	707
Convalescent and rest						
Individual and partnership.....	1	25	24	..	..	125
Hospital departments of institutions						
Federal.....	1	25	3	..	..	47
State.....	3	105	70	..	..	2,463
County.....	1	66	53	..	..	228
Total.....	5	196	126	..	..	2,738
Grand total.....	100	13,832	10,523	688	11,071	105,027

CONNECTICUT

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	2	335	212	..	..	2,313
City.....	1	315	197	25	207	4,467
Church related.....	4	1,180	944	221	4,789	32,798
Nonprofit associations.....	20	4,493	3,392	786	16,912	105,382
Individual and partnership.....	2	34	23	..	..	993
Total.....	38	6,362	4,768	1,032	21,993	145,955
Nervous and mental						
State.....	4	8,489	8,334	..	1	1,744
City.....	1	275	251	..	..	575
Nonprofit associations.....	1	270	270	..	..	615
Individual and partnership.....	3	175	111	..	..	228
Corporations (profit unrestricted)	10	574	402	..	..	872
Total.....	19	9,783	9,368	..	1	4,034
Tuberculosis						
State.....	5	1,601	1,255	..	1	1,118
Nonprofit associations.....	1	145	135	..	..	203
Total.....	6	1,746	1,390	..	1	1,321
Maternity						
Church related.....	1	9	2	6	66	66
Orthopedic						
Nonprofit associations.....	1	200	174	..	..	124
Isolation						
City.....	2	222	75	2	1	570
Convalescent and rest						
Church related.....	1	110	91	..	..	900
Individual and partnership.....	1	40	11	..	..	57
Corporations (profit unrestricted)	4	81	56	..	..	127
Total.....	6	231	158	..	..	1,093
Hospital departments of institutions						
State.....	5	437	184	7	66	3,127
County.....	5	204	118	..	..	2,756
Nonprofit associations.....	10	641	302	7	66	5,883
Total.....	20	1,282	604	14	138	11,770
Grand total.....	83	19,194	16,227	1,047	22,133	150,946

DELAWARE

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	1	46	8	..	..	367
State.....	1	111	76	4	50	1,072
County.....	1	104	55	31	319	1,816
.....	6	843	513	144	2,733	17,344
.....	1	15	7	6	62	235
Total.....	10	1,119	659	185	3,154	20,834
Nervous and mental						
State.....	2	1,750	1,612	..	4	411
Tuberculosis						
State.....	2	200	173	..	..	155
Nonprofit associations.....	1	22	20	..	..	32
Total.....	3	222	193	..	..	187
Maternity						
Individual and partnership.....	1	20	6	10	110	100
Orthopedic						
Nonprofit associations.....	1	85	40	..	..	53
Grand total.....	17	3,196	2,510	195	3,268	21,587

DISTRICT OF COLUMBIA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	6	3,174	2,516	77	1,222	26,059
.....	1	1,392	963	54	1,920	15,881
.....	3	698	620	157	3,842	20,064
.....	6	1,131	936	201	4,100	30,382
.....	1	250	176	65	653	5,046
Total.....	17	6,645	5,151	554	11,748	97,412
Nervous and mental						
Federal.....	1	7,017	6,524	..	..	1,256
City.....	1	620	588	..	1	65
Total.....	2	7,637	7,112	..	1	1,321
Tuberculosis						
City.....	1	670	638	..	..	571
Maternity						
Nonprofit associations.....	2	177	152	143	2,297	3,883
Eye, ear, nose and throat						
Church related.....	1	105	71	..	..	6,220
Children's						
Nonprofit associations.....	1	200	142	..	..	6,355
Convalescent and rest						
Nonprofit associations.....	1	180	170	..	..	94
Individual and partnership.....	1	22	10	..	..	50
Total.....	2	202	180	..	..	144
Hospital departments of institutions						
Federal.....	1	30	13	..	..	1,146
City.....	2	257	204	..	..	3,248
Total.....	3	287	217	..	..	4,394
Grand total.....	29	15,923	13,683	697	14,046	120,340

FLORIDA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	5	1,094	922	..	..	9,712
County.....	7	846	637	65	1,570	13,518
City.....	10	1,284	793	143	3,395	35,985
City-county.....	1	85	30	10	163	1,613
.....	7	829	508	133	2,379	19,049
.....	26	1,463	737	215	3,555	28,356
.....	20	540	200	123	1,632	11,724
.....	4	136	60	31	404	3,440
Total.....	80	6,277	3,911	720	13,400	123,297
Nervous and mental						
State.....	2	5,426	5,122	5	3	1,111
Nonprofit associations.....	1	80	45	..	..	453
Individual and partnership.....	2	30	9	..	..	161
Total.....	5	5,536	5,176	5	3	1,723
Tuberculosis						
State.....	1	392	386	..	2	333
County.....	1	80	70	..	..	76
City-county.....	2	90	84	..	..	116
Nonprofit associations.....	2	23	24	..	..	118
Total.....	6	595	564	..	2	643

FLORIDA—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
Maternity						
Nonprofit associations.....	1	23	18	18	22	37
Orthopedic						
Nonprofit associations.....	2	110	60	..	..	320
Convalescent and rest						
Individual and partnership.....	1	40	13	..	..	138
Corporations (profit unrestricted)	1	75	19	..	..	244
Total.....	2	115	32	..	..	382
Hospital departments of institutions						
State.....	3	148	50	2	18	3,117
County.....	1	110	99	..	..	110
Nonprofit associations.....	1	25	16	..	..	74
Total.....	5	283	165	2	18	3,301
Grand total.....	101	12,939	9,926	745	13,445	129,708

GEORGIA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	6	1,394	1,186	25	250	24,438
County.....	6	295	125	38	416	6,413
City.....	5	1,219	843	166	5,532	35,293
..	6	384	255	48	1,121	9,334
..	6	555	431	93	1,980	16,528
..	16	1,173	792	197	4,464	34,919
..	47	1,109	534	173	2,840	27,091
..	7	308	154	38	871	9,302
Total.....	99	6,437	4,320	778	17,492	163,348
Nervous and mental						
Federal.....	1	1,120	1,075	..	..	692
State.....	2	7,207	7,444	..	..	1,497
Individual and partnership.....	2	190	136	..	..	667
Total.....	5	8,517	8,655	..	..	2,856
Tuberculosis						
State.....	1	395	284	..	..	613
County.....	1	48	19	..	..	54
City.....	1	256	237	..	..	195
Total.....	3	699	540	..	..	862
Maternity						
Nonprofit associations.....	1	26	22	12	51	51
Industrial						
Nonprofit associations.....	2	143	78	..	..	3,174
Eye, ear, nose and throat						
Individual and partnership.....	1	29	8	..	..	751
Children's						
Nonprofit associations.....	1	44	33	..	..	1,215
Orthopedic						
Nonprofit associations.....	2	173	140	..	..	643
Convalescent and rest						
Church related.....	1	80	33	..	..	134
Hospital departments of institutions						
Federal.....	1	148	74	..	..	2,732
State.....	1	26	1	..	..	465
Church related.....	1	32	31	..	..	97
Total.....	3	206	106	..	..	3,294
All other hospitals						
City.....	2	94	51	..	..	3,524
Grand total.....	120	16,448	13,986	790	17,543	179,882

IDAHO

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	2	218	152	4	30	1,594
County.....	5	214	159	46	1,108	7,004
..	10	709	509	154	2,945	19,110
..	4	91	46	18	221	1,364
..	12	260	124	50	666	6,008
..	3	58	33	22	316	1,203
Total.....	36	1,550	1,023	294	5,295	36,283
Nervous and mental						
State.....	3	1,619	1,531	..	1	451
Tuberculosis						
Federal.....	1	145	117	..	..	212
Maternity						
Church related.....	1	30	20	17	226	282
Hospital departments of institutions						
Nonprofit associations.....	1	50	12	..	..	1,067
Grand total.....	42	3,374	2,703	311	5,532	38,255

ILLINOIS

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	6	2,859	2,293	10	38	24,491
State.....	1	433	359	34	473	5,475
County.....	7	4,708	4,363	265	5,311	91,131
City.....	12	694	561	158	3,121	21,402
..	78	10,798	7,557	1,755	39,708	269,824
..	76	7,901	5,488	1,632	31,457	213,706
..	23	457	201	98	1,071	8,671
..	7	619	321	130	1,693	14,814
Total.....	210	28,460	21,148	4,082	82,782	648,914
Nervous and mental						
Federal.....	2	3,273	3,040	..	..	1,125
State.....	12	41,894	39,343	13	46	11,191
Church related.....	1	150	135	..	..	260
..	1	40	28	..	..	264
..	8	295	217	..	..	643
..	5	297	208	..	..	437
Corporations (profit unrestricted)						
Total.....	29	45,949	42,909	13	46	13,920
Tuberculosis						
County.....	17	1,547	1,260	3	..	1,496
City.....	4	1,706	1,613	1	6	2,350
Nonprofit associations.....	4	309	232	..	..	567
Corporations (profit unrestricted)	2	208	184	..	..	271
Total.....	27	3,770	3,320	4	6	4,684
Maternity						
Church related.....	4	485	235	159	2,747	3,719
Nonprofit associations.....	1	70	25	4	77	90
Individual and partnership.....	1	8	2	3	40	306
Total.....	6	563	262	166	2,864	4,115
Industrial						
Nonprofit associations.....	1	75	43	..	..	1,219
Eye, ear, nose and throat						
State.....	1	200	168	..	..	5,522
Corporations (profit unrestricted)	1	45	11	..	..	756
Total.....	2	245	179	..	..	6,278
Children's						
Nonprofit associations.....	1	232	165	..	..	4,162
Orthopedic						
Church related.....	1	270	210	..	..	517
Nonprofit associations.....	3	205	144	..	..	514
Total.....	4	475	354	..	..	1,031
Isolation						
City.....	2	454	229	..	..	3,697
Convalescent and rest						
City.....	1	270	168	..	..	781
..	1	72	46	..	..	949
..	5	387	340	..	..	707
..	5	115	89	..	..	338
..	1	75	33	..	..	243
Total.....	13	919	676	..	..	3,018
Hospital departments of institutions						
State.....	6	523	208	15	..	8,607
City.....	1	75	17	..	..	1,062
Nonprofit associations.....	3	156	101	..	..	2,017
Total.....	10	754	326	15	..	11,696
All other hospitals						
Nonprofit associations.....	1	100	60	..	..	134
Grand total.....	306	82,025	69,731	4,280	85,698	702,838

INDIANA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	3	600	401	4	27	5,640
State.....	1	566	464	38	937	9,359
County.....	26	1,146	744	238	4,769	50,031
City.....	4	763	565	65	1,282	13,677
..	27	3,880	2,692	689	10,839	100,831
..	15	1,124	727	204	4,536	28,487
..	12	220	104	64	896	4,997
..	3	193	121	33	230	5,014
Total.....	91	8,501	5,818	1,335	29,556	198,036
Nervous and mental						
Federal.....	1	1,509	1,521	..	..	283
State.....	9	12,848	12,359	..	1	2,359
..	1	32	22	..	..	170
..	2	80	39	..	..	295
Total.....	13	14,469	13,981	..	1	3,112
Tuberculosis						
State.....	2	402	369	..	..	434
County.....	8	1,166	912	..	..	1,206
City-county.....	1	230	216	..	..	495
Total.....	11	1,758	1,488	..	..	2,135

INDIANA—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
Maternity						
Nonprofit associations.....	1	20	16	20	53	50
Corporations (profit unrestricted)	1	10	7	10	108	258
Total.....	2	30	23	30	251	317
Industrial						
Nonprofit associations.....	1	50	29	..	...	482
Eye, ear, nose and throat						
Individual and partnership.....	1	7	1	..	...	370
Convalescent and rest						
Church related.....	1	200	85	..	...	1,572
Individual and partnership.....	1	20	14	..	...	62
Corporations (profit unrestricted)	4	360	102	..	...	4,371
Total.....	6	580	216	..	...	6,005
Hospital departments of institutions						
State.....	6	489	238	..	...	5,920
Nonprofit associations.....	2	81	68	..	...	284
Total.....	8	573	306	..	...	6,204
All other hospitals						
Nonprofit associations.....	1	6	4	..	...	237
Individual and partnership.....	1	15	8	..	...	220
Total.....	2	21	12	..	...	457
Grand total.....	135	25,959	21,919	1,365	29,898	217,118

IOWA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	2	383	336	51	35	3,817
State.....	1	900	697	54	1,799	18,551
County.....	6	279	203	55	1,232	9,312
City.....	9	304	168	73	1,247	6,957
..	38	3,516	2,281	591	12,767	86,523
..	21	1,079	636	222	3,776	25,077
Individual and partnership.....	35	522	239	137	1,689	11,133
Corporations (profit unrestricted)	5	143	82	29	609	3,161
Total.....	117	7,126	4,632	1,165	23,034	164,521
Nervous and mental						
Federal.....	1	1,268	1,143	..	...	531
State.....	7	10,203	9,812	..	...	2,605
Church related.....	2	420	347	..	...	805
Individual and partnership.....	1	56	45	..	...	6
Corporations (profit unrestricted)	1	50	35	..	...	116
Total.....	12	11,907	11,382	..	...	3,966
Tuberculosis						
Federal.....	1	74	47	3	...	146
State.....	1	428	397	..	...	322
County.....	4	387	309	..	...	386
Total.....	6	889	753	3	...	854
Maternity						
Church related.....	1	50	28	30	76	81
Nonprofit associations.....	2	69	41	50	78	95
Individual and partnership.....	1	4	1	4	48	48
Total.....	4	123	70	84	202	224
Industrial						
Nonprofit associations.....	1	40	10	..	...	300
Isolation						
County.....	1	49	15	..	...	395
Convalescent and rest						
Nonprofit associations.....	1	20	14	..	...	86
Hospital departments of institutions						
State.....	8	490	225	..	41	6,615
Grand total.....	150	20,731	17,107	1,252	23,297	176,661

KANSAS

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	6	1,689	1,205	13	132	13,018
State.....	1	325	254	25	455	6,015
County.....	6	292	157	51	819	6,914
City.....	8	254	116	48	798	4,854
Church related.....	36	2,907	1,809	453	8,008	62,518
Nonprofit associations.....	20	656	341	145	2,688	16,288
Individual and partnership.....	16	257	126	58	762	5,245
Corporations (profit unrestricted)	4	121	62	19	259	2,226
Total.....	97	6,501	4,130	812	13,901	116,078
Nervous and mental						
State.....	5	7,306	6,932	7	1	1,626
Individual and partnership.....	2	67	32	..	...	302
Corporations (profit unrestricted)	1	60	38	..	...	116
Total.....	8	7,433	7,002	7	1	2,044

KANSAS—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
Tuberculosis						
State.....	1	486	370	..	2	351
County.....	1	60	40	..	...	40
City-county.....	1	70	50	..	...	163
Total.....	3	616	460	..	2	554
Maternity						
Church related.....	1	73	27	19	87	92
Nonprofit associations.....	1	20	13	12	23	32
Total.....	2	93	40	31	116	124
Industrial						
Nonprofit associations.....	3	240	151	..	...	2,838
Hospital departments of institutions						
Federal.....	1	40	7	..	...	378
State.....	5	221	82	..	1	3,724
Total.....	6	261	89	..	1	4,102
Grand total.....	119	15,144	11,872	850	14,020	125,760

KENTUCKY

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	4	585	321	15	62	6,633
County.....	1	100	61	15	286	2,656
City.....	5	732	515	87	2,186	17,249
..	3	125	79	24	466	3,441
..	12	1,783	1,236	222	5,453	41,910
..	24	1,341	653	177	2,180	27,115
..	13	217	90	43	422	3,790
..	11	478	274	65	566	12,100
Total.....	73	5,361	3,229	648	11,621	114,984
Nervous and mental						
Federal.....	2	1,559	1,475	..	...	1,031
State.....	4	7,327	7,087	1	7	1,997
..	5	247	73	..	...	390
..	2	41	25	..	...	455
Total.....	13	9,174	8,600	1	7	3,873
Tuberculosis						
Federal.....	1	375	322	..	...	878
State.....	1	130	99	2	...	295
County.....	2	122	115	..	...	182
City-county.....	1	520	488	..	...	416
Total.....	5	1,147	1,024	2	...	1,774
Maternity						
Church related.....	1	43	28	19	74	79
Industrial						
Nonprofit associations.....	1	95	33	2	4	1,479
Eye, ear, nose and throat						
State.....	1	38	26	..	...	312
Children's						
Nonprofit associations.....	1	75	50	..	...	1,146
Orthopedic						
Nonprofit associations.....	2	149	123	..	...	992
Convalescent and rest						
Nonprofit associations.....	1	100	88	..	...	19
Hospital departments of institutions						
State.....	1	104	42	..	...	1,247
Grand total.....	99	16,286	13,303	672	11,766	125,905

LOUISIANA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	3	1,353	1,109	8	66	11,831
State.....	5	4,393	3,666	286	10,441	105,200
Church related.....	9	1,245	828	195	4,440	46,723
Nonprofit associations.....	9	801	533	120	2,769	23,554
Individual and partnership.....	19	351	151	61	1,237	8,180
Corporations (profit unrestricted)	11	515	305	82	1,450	15,175
Total.....	56	8,658	6,592	752	20,403	210,672
Nervous and mental						
State.....	3	7,477	6,940	..	3	1,628
City.....	1	100	50	..	...	507
Church related.....	1	350	280	..	...	346
Individual and partnership.....	1	64	16	..	...	189
Total.....	6	7,991	7,286	..	3	2,670
Tuberculosis						
State.....	1	110	109	..	...	112
..	4	283	184	..	...	382
..	1	18	12	..	...	58
Total.....	6	411	305	..	...	552

LOUISIANA—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
Industrial						
Nonprofit associations.....	1	60	23	..	...	750
Eye, ear, nose and throat						
Nonprofit associations.....	1	80	40	..	...	3,824
Orthopedic						
Nonprofit associations.....	1	60	60	..	...	194
Convalescent and rest						
Nonprofit associations.....	1	32	20	..	...	238
Hospital departments of institutions						
State.....	1	21	10	..	...	250
All other hospitals						
Federal.....	1	454	366	..	...	64
Grand total.....	74	17,767	14,702	752	20,406	219,214

MAINE

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	4	440	351	1	2	3,803
City.....	3	244	167	29	250	2,864
Church related.....	10	481	373	87	1,111	12,483
Nonprofit associations.....	21	1,449	1,085	242	3,892	32,587
Individual and partnership.....	8	153	63	45	395	2,122
Corporations (profit unrestricted)	5	184	128	43	466	3,884
Total.....	51	2,951	2,167	447	6,116	57,743
Nervous and mental						
State.....	3	3,887	3,757	..	...	540
Individual and partnership.....	1	18	10	..	...	132
Corporations (profit unrestricted)	1	30	11	..	...	5
Total.....	5	3,935	3,778	..	...	677
Tuberculosis						
State.....	3	483	450	..	...	499
Nonprofit associations.....	1	30	18	..	...	24
Total.....	4	513	468	..	...	523
Maternity						
Individual and partnership.....	1	14	11	12	81	407
Children's						
Nonprofit associations.....	1	100	78	..	...	430
Grand total.....	62	7,513	6,502	459	6,197	59,780

MARYLAND

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	5	904	595	5	27	9,860
State.....	4	571	421	60	1,516	10,459
County.....	3	115	65	22	423	1,626
City.....	1	1,379	1,102	80	2,293	8,269
City-county.....	1	160	119	26	505	3,860
Church related.....	7	1,434	1,101	199	4,268	33,423
Nonprofit associations.....	19	2,929	2,154	387	7,007	56,623
Individual and partnership.....	3	58	26	10	85	1,129
Corporations (profit unrestricted)	1	134	102	35	603	3,739
Total.....	44	7,690	5,685	824	16,727	128,928
Nervous and mental						
Federal.....	1	1,390	1,317	..	...	313
State.....	5	8,409	7,947	..	2	1,843
Church related.....	1	600	576	..	...	107
Nonprofit associations.....	1	285	290	..	...	385
Individual and partnership.....	8	344	279	..	...	892
Corporations (profit unrestricted)	1	38	22	..	...	185
Total.....	17	11,066	10,431	..	2	3,725
Tuberculosis						
State.....	4	1,149	1,085	..	...	1,349
Nonprofit associations.....	2	256	242	..	...	252
Total.....	6	1,405	1,327	..	...	1,601
Industrial						
Nonprofit associations.....	1	24	5	..	...	52
Eye, ear, nose and throat						
Church related.....	1	40	8	..	...	1,805
Nonprofit associations.....	1	60	40	4	...	2,823
Total.....	2	100	48	4	...	4,628
Orthopedic						
Nonprofit associations.....	2	233	173	..	...	538
Isolation						
City.....	1	110	54	2	...	1,211
Convalescent and rest						
Nonprofit associations.....	3	256	250	..	...	467
Hospital departments of institutions						
City.....	1	28	10	..	...	486
Grand total.....	77	20,912	17,983	830	16,729	141,636

MASSACHUSETTS

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	6	1,497	1,047	15	121	9,275
State.....	2	3,761	2,987	40	101	5,191
City.....	15	4,839	3,233	377	8,430	83,396
Church related.....	13	2,352	1,788	354	6,758	50,658
Nonprofit associations.....	83	8,944	6,429	1,616	28,859	204,562
Individual and partnership.....	8	167	77	55	378	1,933
Corporations (profit unrestricted)	16	906	505	200	3,214	17,421
Total.....	143	22,466	16,066	2,657	47,861	373,896
Nervous and mental						
Federal.....	2	2,282	2,030	..	...	465
State.....	17	28,395	28,475	12	15	8,571
Nonprofit associations.....	4	332	255	..	...	1,079
Individual and partnership.....	3	67	34	..	...	176
Corporations (profit unrestricted)	6	292	221	..	...	724
Total.....	32	31,368	31,015	12	15	11,015
Tuberculosis						
State.....	4	1,208	1,001	..	...	1,496
County.....	8	1,363	1,154	..	2	1,343
City.....	4	1,041	757	2	3	1,385
Nonprofit associations.....	7	320	245	..	...	493
Total.....	23	3,932	3,157	2	5	4,717
Maternity						
Church related.....	2	132	83	72	582	869
Nonprofit associations.....	4	261	205	261	4,289	5,441
Individual and partnership.....	1	10	6	9	222	219
Total.....	7	403	294	342	5,093	6,229
Eye, ear, nose and throat						
Nonprofit associations.....	1	228	143	..	...	7,042
Children's						
Nonprofit associations.....	6	585	421	..	...	8,181
Orthopedic						
State.....	1	316	253	..	...	255
Nonprofit associations.....	3	200	173	..	...	385
Total.....	4	516	426	..	...	640
Isolation						
City.....	7	390	163	4	1	921
Convalescent and rest						
Church related.....	1	215	208	..	...	147
Nonprofit associations.....	5	295	271	..	...	680
Individual and partnership.....	5	95	70	1	...	310
Corporations (profit unrestricted)	1	30	20	..	...	37
Total.....	12	635	569	1	...	1,174
Hospital departments of institutions						
State.....	2	167	40	..	...	1,859
City.....	2	196	160	..	...	532
City-county.....	1	30	14	..	...	427
Nonprofit associations.....	4	111	48	6	...	2,530
Total.....	9	444	262	6	...	5,354
All other hospitals						
State.....	1	147	127	..	...	1,510
Nonprofit associations.....	3	204	166	..	...	4,272
Total.....	4	351	293	..	...	5,782
Grand total.....	248	61,318	52,809	3,024	52,975	424,951

MICHIGAN

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	5	839	635	5	32	7,076
State.....	2	1,435	851	52	845	18,415
County.....	10	5,885	4,675	81	1,092	22,167
City.....	33	3,741	2,920	420	9,033	77,278
City-county.....	1	23	11	6	176	661
Church related.....	29	3,967	2,736	785	19,961	105,583
Nonprofit associations.....	58	5,521	3,673	1,055	23,315	139,821
Individual and partnership.....	30	663	303	152	1,617	13,690
Corporations (profit unrestricted)	1	15	7	5	87	258
Total.....	169	22,089	15,811	2,561	56,158	384,949
Nervous and mental						
Federal.....	1	1,538	1,038	..	...	293
State.....	10	18,545	17,858	6	11	3,292
County.....	3	4,550	4,275	..	...	1,691
Church related.....	2	401	370	..	...	787
Nonprofit associations.....	1	330	270	..	...	234
Corporations (profit unrestricted)	3	108	58	..	...	326
Total.....	20	23,472	23,889	6	11	6,136
Tuberculosis						
State.....	2	606	508	2	2	233
County.....	11	1,212	986	..	...	1,561
City.....	2	969	918	..	...	826
Nonprofit associations.....	8	957	692	..	1	624
Individual and partnership.....	2	118	106	..	...	211
Corporations (profit unrestricted)	2	215	189	..	1	129
Total.....	27	4,107	3,599	2	4	4,091

MICHIGAN—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
Maternity						
Church related.....	2	93	62	35	506	565
Nonprofit associations.....	1	25	17	12	53	51
Total.....	3	118	79	47	559	616
Industrial						
Nonprofit associations.....	2	63	24	..	...	1,048
Children's						
State.....	1	26	11	..	...	330
Nonprofit associations.....	1	239	184	..	...	7,117
Total.....	2	265	195	..	...	7,447
Orthopedic						
Nonprofit associations.....	2	140	118	10	...	537
Isolation						
County.....	2	120	40	..	1	886
City.....	2	48	17	6	...	306
City-county.....	1	48	13	..	...	380
Total.....	5	216	70	6	1	1,572
Convalescent and rest						
Nonprofit associations.....	2	270	107	..	...	448
Individual and partnership.....	1	40	30	..	...	94
Total.....	3	310	137	..	...	542
Hospital departments of institutions						
Federal.....	1	21	12	..	...	375
State.....	4	206	129	..	...	4,287
County.....	1	225	164	..	...	973
Nonprofit associations.....	1	45	26	..	...	150
Total.....	7	587	331	..	...	5,785
All other hospitals						
Corporations (profit unrestricted).....	2	53	29	..	...	1,371
Grand total.....	242	53,420	44,082	2,632	56,733	414,091

MINNESOTA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	7	983	797	30	423	8,657
State.....	2	450	368	23	446	8,783
County.....	2	103	84	15	434	2,524
City.....	14	1,088	729	177	3,037	22,302
City-county.....	2	942	671	66	1,374	13,441
Church related.....	37	3,597	2,758	680	13,273	95,425
Nonprofit associations.....	47	2,682	1,747	482	9,966	67,823
Individual and partnership.....	49	821	387	234	2,871	17,157
Corporations (profit unrestricted).....	7	537	380	39	494	13,572
Total.....	167	11,103	7,921	1,648	32,318	249,609
Nervous and mental						
Federal.....	1	1,059	1,053	..	...	282
State.....	9	14,539	13,737	21	27	2,985
County.....	1	68	31	..	...	239
Nonprofit associations.....	3	55	47	..	...	239
Total.....	14	15,711	14,868	21	27	3,745
Tuberculosis						
State.....	1	480	401	..	...	480
County.....	13	1,557	1,367	6	9	1,126
City-county.....	1	80	80	..	...	18
Total.....	15	2,117	1,848	6	9	1,624
Maternity						
Church related.....	1	75	45	11	142	208
Nonprofit associations.....	2	93	76	78	910	1,091
Total.....	3	168	121	89	1,052	1,299
Eye, ear, nose and throat						
Corporations (profit unrestricted).....	1	188	132	..	1	7,362
Children's						
City.....	1	40	29	..	...	82
Nonprofit associations.....	1	65	33	..	...	1,580
Total.....	2	105	62	..	...	1,662
Orthopedic						
State.....	1	250	216	..	...	815
Nonprofit associations.....	1	60	61	..	...	160
Total.....	2	310	277	..	...	975
Isolation						
City.....	1	19	1	..	...	27
Convalescent and rest						
State.....	1	175	153	..	...	606
County.....	3	127	111	..	...	722
City.....	1	75	24	..	...	1,076
Total.....	5	377	288	..	...	2,404
Hospital departments of institutions						
State.....	5	283	161	..	...	3,716
Grand total.....	215	30,381	25,679	1,764	33,407	272,492

MISSISSIPPI

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	2	242	211	7	62	2,615
State.....	5	393	271	45	1,008	12,164
County.....	3	86	31	10	160	2,045
City.....	2	40	15	7	65	779
Nonprofit associations.....	2	80	42	10	194	2,091
Individual and partnership.....	34	235	162	38	801	8,736
Corporations (profit unrestricted).....	30	1,306	1,077	189	2,801	33,527
Total.....	82	3,263	2,202	434	6,730	81,136
Nervous and mental						
Federal.....	1	788	793	..	...	500
State.....	3	4,722	4,466	1	12	2,444
County.....	1	26	12	..	...	223
Nonprofit associations.....	1	22	8	..	...	130
Total.....	6	5,538	5,279	1	12	3,306
Tuberculosis						
State.....	1	425	328	..	4	435
County.....	1	54	30	..	...	32
Nonprofit associations.....	1	50	23	..	...	26
Total.....	3	509	381	..	4	493
Hospital departments of institutions						
State.....	3	119	61	..	...	999
Grand total.....	94	9,549	7,923	435	6,746	85,934

MISSOURI

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	5	1,777	1,523	6	19	9,109
State.....	1	150	54	8	78	2,993
County.....	6	392	258	74	1,200	8,291
City.....	10	2,798	2,030	222	5,466	45,501
Church related.....	33	4,961	3,649	655	14,080	120,727
Nonprofit associations.....	19	1,277	813	201	3,068	29,775
Individual and partnership.....	19	442	223	94	792	8,087
Corporations (profit unrestricted).....	6	167	91	22	189	3,663
Total.....	95	11,907	8,646	1,282	24,902	223,056
Nervous and mental						
State.....	5	10,914	9,993	..	4	2,636
County.....	2	4,025	3,926	1	1	260
City.....	3	500	459	..	...	223
Nonprofit associations.....	1	49	38	..	...	330
Individual and partnership.....	3	80	34	..	...	288
Corporations (profit unrestricted).....	5	118	67	..	...	140
Total.....	17	15,686	14,512	1	5	3,927
Tuberculosis						
State.....	1	740	723	..	2	774
County.....	1	115	113	..	...	159
City.....	2	970	723	..	...	722
Church related.....	1	135	124	..	...	172
Nonprofit associations.....	1	108	65	..	...	70
Total.....	6	2,068	1,748	..	2	1,897
Maternity						
State.....	3	197	66	80	905	1,151
County.....	3	172	102	112	1,916	2,256
City.....	1	75	29	75	142	145
Nonprofit associations.....	1	50	30	24	149	148
Total.....	8	494	227	291	3,112	3,700
Industrial						
Nonprofit associations.....	2	400	172	..	...	5,509
Eye, ear, nose and throat						
State.....	1	65	14	..	...	159
Children's						
Nonprofit associations.....	2	340	254	..	...	6,636
Orthopedic						
Nonprofit associations.....	2	160	129	..	...	616
Isolation						
City.....	1	200	100	..	...	1,081
Convalescent and rest						
Church related.....	1	68	60	..	...	49
Individual and partnership.....	1	25	13	..	...	50
Total.....	2	93	73	..	...	99
Hospital departments of institutions						
State.....	3	314	116	..	...	3,320
County.....	1	95	85	..	...	400
City.....	2	203	127	..	...	997
Nonprofit associations.....	2	203	127	..	...	997
Total.....	6	617	328	..	...	4,796
All other hospitals						
State.....	1	65	64	..	...	491
County.....	1	44	38	..	...	1,174
Nonprofit associations.....	2	129	102	..	...	1,655
Total.....	4	338	264	..	...	3,320
Grand total.....	147	32,219	26,305	1,574	23,021	253,121

MONTANA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	8	436	316	35	462	6,790
County.....	6	300	224	27	344	2,226
Church related.....	23	1,603	1,014	311	5,329	33,881
Nonprofit associations.....	8	460	280	98	1,123	9,044
Individual and partnership.....	8	157	80	45	593	3,508
Corporations (profit unrestricted)	3	150	95	31	418	3,354
Total.....	56	3,108	2,009	547	8,269	58,803
Nervous and mental						
State.....	1	1,920	1,907	..	1	459
Tuberculosis						
State.....	1	268	235	..	..	207
Maternity						
Nonprofit associations.....	1	19	2	6	37	69
Industrial						
Nonprofit associations.....	1	76	40	1	..	1,558
Orthopedic						
Nonprofit associations.....	1	25	12	5	..	124
Isolation						
City-county.....	1	25	7	..	..	87
Grand total.....	62	5,441	4,212	539	8,307	61,307

NEBRASKA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	4	370	298	9	85	3,785
State.....	1	210	171	20	491	3,448
County.....	1	400	343	15	68	2,646
City.....	3	241	116	37	498	4,426
Church related.....	26	2,355	1,329	356	6,006	47,721
Nonprofit associations.....	6	218	126	43	662	7,231
Individual and partnership.....	42	649	273	192	1,927	12,252
Corporations (profit unrestricted)	3	159	118	17	200	1,219
Total.....	86	4,602	2,774	689	10,537	82,728
Nervous and mental						
State.....	4	5,777	5,506	..	..	840
Tuberculosis						
State.....	1	195	155	..	..	163
Maternity						
State.....	1	9	6	12	53	54
Church related.....	1	71	43	18	97	98
Total.....	2	80	43	30	150	152
Orthopedic						
State.....	1	110	92	..	..	871
Isolation						
City.....	1	40	5	..	..	95
Hospital departments of institutions						
State.....	1	24	5	..	..	720
Grand total.....	96	10,828	8,580	719	10,687	85,574

NEVADA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	4	110	75	12	93	1,620
County.....	7	393	269	48	673	5,577
Church related.....	1	75	50	15	231	1,934
Nonprofit associations.....	2	60	28	10	119	599
Corporations (profit unrestricted)	1	31	25	11	147	1,167
Total.....	15	680	460	96	1,255	10,797
Nervous and mental						
State.....	1	310	345	..	..	94
Hospital departments of institutions						
Federal.....	1	34	10	..	..	341
Grand total.....	17	1,034	815	96	1,255	11,232

NEW HAMPSHIRE

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	1	152	43	..	..	578
County.....	4	240	193	33	501	3,328
City.....	1	69	44	15	242	1,460
Church related.....	4	384	247	65	1,064	7,686
Nonprofit associations.....	25	1,390	874	301	4,399	28,831
Total.....	35	2,235	1,403	414	6,206	41,883
Nervous and mental						
State.....	2	2,939	2,847	..	1	712
Tuberculosis						
State.....	1	140	108	..	..	64
Corporations (profit unrestricted)	1	100	78	..	..	100
Total.....	2	240	186	..	..	164

NEW HAMPSHIRE—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
Isolation						
City.....	1	67	5	..	..	66
Convalescent and rest						
Nonprofit association.....	1	51	49	..	..	14
Hospital departments of institutions						
County.....	1	67	47	..	..	82
Nonprofit associations.....	1	53	8	..	..	576
Total.....	2	120	56	..	..	658
Grand total.....	43	5,672	4,546	414	6,207	43,497

NEW JERSEY

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	3	679	92	..	..	2,218
County.....	3	854	510	..	..	1,787
City.....	3	1,679	1,547	57	2,105	36,203
Church related.....	16	3,369	2,386	456	10,071	67,813
Nonprofit associations.....	59	7,420	5,410	1,444	30,120	178,868
Individual and partnership.....	4	68	39	21	189	1,295
Corporations (profit unrestricted)	1	90	32	..	..	429
Total.....	89	14,150	10,007	1,984	42,507	289,620
Nervous and mental						
Federal.....	1	1,750	1,326	..	..	575
State.....	8	16,306	15,854	..	..	3,438
County.....	6	6,056	5,729	..	1	1,337
Nonprofit associations.....	5	740	707	..	..	330
Individual and partnership.....	5	41	35	..	..	74
Corporations (profit unrestricted)	5	230	164	..	..	504
Total.....	24	25,123	23,815	4	9	6,208
Tuberculosis						
State.....	1	475	443	..	..	342
County.....	10	2,393	2,106	..	2	2,337
Nonprofit associations.....	2	320	243	..	..	694
Individual and partnership.....	2	74	62	..	..	66
Corporations (profit unrestricted)	2	106	64	..	..	73
Total.....	17	3,368	3,008	..	2	3,712
Maternity						
County.....	1	275	181	284	5,180	6,100
Church related.....	1	8	6	7	56	85
Nonprofit associations.....	1	27	25	35	62	107
Total.....	3	310	212	326	5,298	6,292
Eye, ear, nose and throat						
Nonprofit associations.....	1	65	27	..	..	2,141
Children's						
Nonprofit associations.....	1	60	30	..	..	1,250
Orthopedic						
Nonprofit associations.....	7	770	435	..	..	4,044
Isolation						
County.....	3	1,216	559	..	4	5,013
City.....	5	644	316	2	..	1,409
Total.....	8	1,860	875	2	4	7,322
Convalescent and rest						
City.....	1	145	142	..	..	70
Nonprofit associations.....	1	40	30	..	..	337
Individual and partnership.....	1	10	6	..	..	30
Corporations (profit unrestricted)	2	57	39	..	..	150
Total.....	5	252	217	..	..	593
Hospital departments of institutions						
State.....	7	242	168	3	24	2,515
City.....	1	100	96	..	..	289
Church related.....	1	15	15	..	..	22
Nonprofit associations.....	2	66	22	..	..	1,407
Total.....	11	423	241	3	24	4,232
All other hospitals						
Nonprofit associations.....	1	24	20	..	..	26
Grand total.....	167	46,405	38,887	2,319	47,814	325,530

NEW MEXICO

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	13	1,090	732	62	410	10,978
State.....	1	88	12	5	82	589
City.....	2	67	34	14	433	1,782
Church related.....	10	711	382	99	1,703	11,479
Nonprofit associations.....	8	243	97	49	754	4,628
Individual and partnership.....	8	128	53	32	377	3,079
Corporations (profit unrestricted)	1	24	6	3	18	265
Total.....	43	2,231	1,316	267	3,777	32,751

NEW MEXICO—Continued

	Hospitals	Beds	Average Census	Basinsets	Births	Patients Admitted
Nervous and mental						
State.....	2	980	939	..	...	234
Tuberculosis						
Federal.....	2	341	264	..	...	355
State.....	1	86	85	..	...	150
Church related.....	1	65	45	..	...	74
Nonprofit associations.....	2	121	72	1	...	152
Total.....	6	613	466	1	...	731
Industrial						
Nonprofit associations.....	2	59	42	..	...	787
Orthopedic						
State.....	1	125	78	..	...	262
Nonprofit associations.....	1	30	15	..	...	295
Total.....	2	155	93	..	...	557
Hospital departments of institutions						
State.....	1	48	16	..	...	294
Grand total.....	56	4,216	2,872	263	3,777	35,354

NEW YORK

	Hospitals	Beds	Average Census	Basinsets	Births	Patients Admitted
General						
Federal.....	19	5,402	3,538	44	373	41,110
State.....	1	36	14	..	...	576
County.....	9	2,037	1,755	112	1,869	21,531
City.....	31	15,107	14,440	1,160	24,151	299,435
Nonprofit associations.....	56	9,664	7,156	1,519	30,171	299,070
Individual and partnership.....	164	24,601	18,137	3,897	79,509	619,067
Corporations (profit unrestricted).....	31	938	465	253	3,746	16,627
Total.....	28	2,606	1,714	591	12,928	62,134
Nervous and mental						
Federal.....	2	3,430	3,303	..	...	730
State.....	31	97,114	92,975	60	90	21,650
County.....	2	400	351	..	...	183
City.....	4	636	470	..	...	3,989
Nonprofit associations.....	15	535	353	..	...	1,178
Individual and partnership.....	9	1,178	840	..	...	1,976
Total.....	63	103,293	98,292	60	90	29,766
Tuberculosis						
Federal.....	2	937	876	..	...	1,299
State.....	4	1,129	1,016	..	5	1,131
County.....	25	3,125	2,715	2	...	2,381
City.....	6	3,335	3,178	10	20	4,240
City-county.....	1	131	127	..	...	104
Church related.....	7	1,448	1,308	..	...	2,011
Nonprofit associations.....	10	1,180	957	..	...	1,173
Individual and partnership.....	2	45	36	..	...	76
Corporations (profit unrestricted).....	1	20	19	..	...	23
Total.....	57	11,350	10,232	12	25	12,441
Maternity						
Church related.....	4	207	111	165	2,745	3,154
Nonprofit associations.....	4	351	227	197	3,579	6,079
Individual and partnership.....	6	155	81	136	2,798	2,979
Corporations (profit unrestricted).....	1	24	15	24	621	533
Total.....	15	737	434	522	9,643	12,765
Industrial						
Nonprofit associations.....	1	28	12	..	...	247
Eye, ear, nose and throat						
Nonprofit associations.....	6	643	361	..	...	34,809
Children's						
Church related.....	2	227	173	57	643	2,233
Nonprofit associations.....	3	450	374	48	1,234	10,328
Total.....	5	677	547	105	1,877	12,561
Orthopedic						
State.....	1	310	90	..	...	65
City-county.....	1	120	114	..	...	137
Church related.....	3	310	268	..	...	462
Nonprofit associations.....	7	1,152	939	..	...	11,947
Total.....	12	1,892	1,411	..	...	12,611
Isolation						
County.....	1	18	1	..	...	25
City.....	7	1,212	799	..	4	13,030
Total.....	8	1,230	800	..	4	13,055
Convalescent and rest						
Church related.....	4	186	148	..	...	1,341
Nonprofit associations.....	15	1,331	1,209	..	...	9,149
Individual and partnership.....	9	275	192	..	...	886
Corporations (profit unrestricted).....	1	24	12	..	...	71
Total.....	29	1,816	1,561	..	...	11,447

NEW YORK—Continued

	Hospitals	Beds	Average Census	Basinsets	Births	Patients Admitted
Hospital departments of institutions						
State.....	8	523	277	11	...	6,876
County.....	8	1,103	1,025	..	...	1,956
City.....	3	2,051	2,945	..	...	1,454
Church related.....	1	55	44	..	...	77
Nonprofit associations.....	6	913	662	..	...	1,726
Total.....	26	5,544	4,033	11	...	12,089
All other hospitals						
State.....	1	82	40	..	...	1,334
City.....	2	277	261	..	1	1,778
County.....	6	795	704	..	...	1,589
City-county.....	2	307	248	..	...	3,111
Total.....	10	1,461	1,253	..	1	7,812
Grand total.....	571	188,993	167,075	8,286	164,387	1,329,213

NORTH CAROLINA

	Hospitals	Beds	Average Census	Basinsets	Births	Patients Admitted
General						
Federal.....	3	863	303	16	170	7,803
County.....	6	315	235	46	1,027	8,959
City.....	2	343	253	43	1,070	9,159
City-county.....	6	235	140	34	619	5,525
Nonprofit associations.....	14	1,084	739	152	3,357	25,914
Individual and partnership.....	70	4,823	3,058	586	11,086	121,033
Corporations (profit unrestricted).....	14	307	126	67	976	9,846
Total.....	8	397	239	58	708	10,952
Nervous and mental						
State.....	122	8,372	5,093	1,002	10,121	199,250
Individual and partnership.....	4	8,308	7,014	..	5	2,052
Corporations (profit unrestricted).....	2	117	65	..	...	295
Total.....	3	220	92	..	...	734
Tuberculosis						
Federal.....	9	8,615	7,771	..	5	3,081
State.....	1	850	769	..	...	1,348
County.....	2	950	885	..	...	1,165
City-county.....	9	624	541	..	...	660
Nonprofit associations.....	1	66	28	..	...	59
Individual and partnership.....	2	61	53	..	...	68
Corporations (profit unrestricted).....	3	110	66	..	...	100
Total.....	2	38	23	..	...	80
Maternity						
Nonprofit associations.....	20	2,689	2,365	..	...	3,480
Eye, ear, nose and throat						
Individual and partnership.....	1	25	20	5	34	33
Children's						
Nonprofit associations.....	3	62	30	..	...	3,262
Individual and partnership.....	2	70	37	3	...	447
Total.....	1	55	20	..	...	105
Orthopedic						
State.....	3	125	57	3	...	552
Nonprofit associations.....	1	160	160	..	...	382
City-county.....	1	20	17	..	...	113
Total.....	2	180	177	..	...	495
Convalescent and rest						
Individual and partnership.....	2	36	19	..	...	474
Hospital departments of institutions						
State.....	2	169	85	..	...	2,175
County.....	1	25	6	..	...	300
City-county.....	1	25	4	..	...	190
Nonprofit associations.....	4	219	95	..	...	2,665
Grand total.....	166	20,353	15,627	1,010	19,160	213,292

NORTH DAKOTA

	Hospitals	Beds	Average Census	Basinsets	Births	Patients Admitted
General						
Federal.....	6	405	230	27	373	4,772
County.....	1	30	23	4	74	459
City.....	1	26	7	6	54	272
City-county.....	23	1,747	1,109	294	6,095	40,318
Church related.....	8	250	161	62	813	7,411
Nonprofit associations.....	5	79	39	24	287	1,737
Individual and partnership.....	44	2,546	1,569	416	6,726	54,909
Total.....	44	2,546	1,569	416	6,726	54,909

NORTH DAKOTA—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
Nervous and mental						
State.....	2	2,950	2,803	4	...	568
Tuberculosis						
State.....	1	368	307	..	...	224
Maternity						
Nonprofit associations.....	1	58	30	30	74	109
Individual and partnership.....	1	15	2	9	29	29
Total.....	2	73	32	39	103	138
Isolation						
City.....	1	15	1	..	...	18
Hospital departments of institutions						
State.....	1	25	19	..	...	260
Grand total.....	51	5,977	4,731	459	6,829	56,177

OHIO

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	5	1,563	1,317	205	29	11,903
State.....	2	424	308	32	754	9,309
County.....	6	534	308	84	1,871	10,585
City.....	16	3,398	2,421	289	7,712	59,836
Church related.....	34	6,030	4,643	900	24,017	159,569
Nonprofit associations.....	77	7,281	5,132	1,246	29,614	192,281
Individual and partnership.....	9	218	105	39	516	5,361
Corporations (profit unrestricted)	4	187	78	39	528	3,024
Total.....	153	19,635	14,372	2,843	65,041	442,864
Nervous and mental						
Federal.....	1	1,522	1,359	..	...	686
State.....	13	27,267	26,727	2	11	5,457
Nonprofit associations.....	3	330	232	1	3	676
Individual and partnership.....	5	134	78	..	...	373
Corporations (profit unrestricted)	11	576	413	..	...	1,198
Total.....	33	29,829	28,829	3	14	8,410
Tuberculosis						
State.....	1	240	192	..	...	402
County.....	16	2,415	2,135	..	2	2,512
City.....	1	434	425	..	...	360
Nonprofit associations.....	1	40	39	..	...	39
Individual and partnership.....	2	165	127	..	...	165
Corporations (profit unrestricted)	2	260	247	..	...	238
Total.....	23	3,554	3,165	..	2	3,736
Maternity						
Church related.....	5	165	165	155	3,321	3,647
Nonprofit associations.....	3	97	70	86	378	421
Total.....	8	262	175	241	3,699	4,068
Eye, ear, nose and throat						
Individual and partnership.....	1	6	1	..	...	128
Children's						
Church related.....	1	216	133	..	...	4,531
Nonprofit associations.....	2	242	186	..	...	6,936
Individual and partnership.....	1	25	8	8	55	502
Total.....	4	483	327	8	55	12,023
Orthopedic						
Church related.....	1	23	19	..	...	8
Nonprofit associations.....	2	104	68	..	...	202
Total.....	3	127	87	..	...	210
Isolation						
City.....	2	86	11	..	...	263
Convalescent and rest						
County.....	1	112	110	..	...	95
Nonprofit associations.....	4	254	218	..	...	570
Total.....	5	366	328	..	...	665
Hospital departments of institutions						
Federal.....	1	73	38	..	...	1,566
State.....	7	537	228	..	3	8,639
County.....	3	560	510	..	...	1,071
City.....	1	170	164	..	...	230
Nonprofit associations.....	7	435	298	..	...	2,628
Total.....	19	1,775	1,238	3	3	13,094
All other hospitals						
Church related.....	1	290	224	..	...	830
Individual and partnership.....	1	13	5	..	...	221
Total.....	2	303	229	..	...	551
Grand total.....	253	56,426	45,762	3,098	68,814	487,022

OKLAHOMA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	10	1,633	1,136	95	1,038	21,318
State.....	2	545	434	27	567	7,769
County.....	2	141	76	24	573	2,894
City.....	4	138	61	25	620	3,492
Church related.....	1	20	6	3	20	272
Nonprofit associations.....	8	905	617	143	3,831	25,488
Individual and partnership.....	14	672	306	101	1,957	14,355
Corporations (profit unrestricted)	49	1,299	543	220	3,869	27,603
Total.....	15	479	299	91	1,987	13,027
Total.....	106	5,882	3,448	729	14,482	116,218
Nervous and mental						
State.....	6	8,634	8,534	..	4	3,047
Corporations (profit unrestricted)	2	92	39	..	...	431
Total.....	8	8,726	8,573	..	4	3,478
Tuberculosis						
Federal.....	1	150	99	..	...	101
State.....	3	801	744	..	1	1,949
Individual and partnership.....	2	52	31	..	...	179
Total.....	6	1,003	874	..	1	2,229
Maternity						
Church related.....	1	22	9	30	195	231
Orthopedic						
Nonprofit associations.....	1	35	26	..	...	50
Individual and partnership.....	1	85	20	..	...	1,095
Corporations (profit unrestricted)	1	41	22	..	...	638
Total.....	3	161	68	..	...	1,843
Hospital departments of institutions						
Federal.....	3	137	39	1	...	1,244
State.....	3	140	46	..	...	3,394
Total.....	6	277	85	1	...	4,638
Grand total.....	130	16,071	13,037	760	14,682	128,637

OREGON

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	4	506	400	14	83	4,231
State.....	1	435	430	30	771	8,819
County.....	1	51	25	12	202	1,036
City.....	16	1,895	1,412	305	7,338	52,090
Church related.....	7	300	154	64	1,278	7,510
Nonprofit associations.....	13	392	210	78	1,007	8,572
Individual and partnership.....	12	512	310	72	1,537	12,829
Total.....	54	4,091	2,941	575	12,216	95,157
Nervous and mental						
Federal.....	2	886	765	..	...	411
State.....	3	5,233	4,986	..	1	1,346
Total.....	5	6,139	5,751	..	1	1,757
Tuberculosis						
State.....	2	520	494	..	...	388
County.....	1	41	30	..	...	58
Nonprofit associations.....	1	40	30	..	...	126
Total.....	4	601	554	..	...	572
Maternity						
Church related.....	1	35	27	7	91	122
Nonprofit associations.....	2	124	83	20	73	157
Total.....	3	159	110	27	164	279
Orthopedic						
Nonprofit associations.....	1	50	51	..	...	277
Isolation						
City.....	1	100	19	..	1	441
Convalescent and rest						
Individual and partnership.....	1	25	12	..	...	126
Hospital departments of institutions						
State.....	3	80	43	..	...	1,466
Grand total.....	72	11,245	9,481	602	12,382	100,085

PENNSYLVANIA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	4	1,844	1,444	163	26	14,161
State.....	10	1,389	1,005	163	4,325	31,832
County.....	2	3,985	2,883	60	1,474	27,691
City.....	31	5,937	3,999	906	17,629	107,892
Church related.....	159	21,233	15,216	3,411	72,183	474,991
Nonprofit associations.....	13	388	166	91	833	5,610
Individual and partnership.....	6	410	249	64	1,065	7,522
Total.....	227	35,066	25,054	4,696	96,965	661,031

PENNSYLVANIA—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
Nervous and mental						
Federal.....	1	1,617	1,614	..	..	290
State.....	13	28,797	27,826	1	..	4,856
County.....	11	8,928	8,496	3	..	2,251
City.....	1	3,240	3,171	..	..	659
Church related.....	1	139	134	..	..	28
Nonprofit associations.....	8	2,823	2,615	..	..	1,693
Individual and partnership.....	10	486	376	..	..	828
Corporations (profit unrestricted).....	2	54	36	..	..	152
Total.....	47	45,984	44,368	4	10	10,787
Tuberculosis						
State.....	3	2,431	2,290	..	..	1,897
County.....	4	415	405	..	..	425
City.....	1	300	216	..	..	236
City-county.....	1	55	61	..	..	86
Church related.....	1	104	93	..	..	118
Nonprofit associations.....	6	894	744	..	..	1,390
Total.....	16	4,199	3,808	..	..	4,102
Maternity						
Church related.....	3	205	163	44	237	374
Nonprofit associations.....	4	240	174	97	1,681	2,612
Individual and partnership.....	2	28	16	23	390	423
Corporations (profit unrestricted).....	1	18	10	18	349	610
Total.....	10	491	363	187	2,657	4,019
Eye, ear, nose and throat						
Nonprofit associations.....	2	311	174	..	..	7,731
Individual and partnership.....	1	15	6	..	..	530
Total.....	3	326	179	..	..	8,264
Children's						
Church related.....	1	50	22	..	..	937
Nonprofit associations.....	4	424	299	..	..	8,045
Total.....	5	474	321	..	..	8,982
Orthopedic						
State.....	1	150	149	..	..	163
Nonprofit associations.....	5	412	376	..	..	688
Individual and partnership.....	1	23	18	..	..	18
Total.....	7	585	543	..	..	869
Isolation						
City.....	5	1,337	337	5	1	4,638
Convalescent and rest						
Church related.....	4	145	107	4	..	1,026
Nonprofit associations.....	4	399	366	30	..	1,752
Individual and partnership.....	2	39	32	..	..	78
Corporations (profit unrestricted).....	2	91	77	..	..	108
Total.....	12	677	582	34	..	2,964
Hospital departments of institutions						
Federal.....	1	84	49	..	..	1,328
State.....	6	221	91	..	..	4,205
County.....	5	823	558	..	..	1,321
Nonprofit associations.....	5	281	221	12	14	990
Total.....	17	1,409	919	12	14	7,844
All other hospitals						
Nonprofit associations.....	4	209	153	..	..	1,401
Individual and partnership.....	1	15	6	..	..	308
Total.....	5	224	158	..	..	1,709
Grand total.....	354	90,792	76,632	4,938	99,647	723,209

RHODE ISLAND

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	1	377	217	..	..	2,032
State.....	1	982	845	20	69	832
County.....	1	307	230	43	936	5,634
City.....	9	1,320	956	201	3,755	27,312
Total.....	13	2,986	2,248	264	4,750	36,760
Nervous and mental						
State.....	2	3,894	3,483	..	..	684
Nonprofit associations.....	2	224	205	..	..	248
Total.....	4	4,118	3,688	..	..	932
Tuberculosis						
State.....	1	618	556	..	..	368
Church related.....	1	75	37	..	..	21
Total.....	2	693	593	..	..	389
Maternity						
Nonprofit associations.....	1	155	117	155	3,340	3,635
Isolation						
City.....	1	265	184	..	1	2,053
Convalescent and rest						
Church related.....	1	60	66	..	..	16
Nonprofit associations.....	1	45	44	..	..	134
Individual and partnership.....	2	34	22	..	..	27
Total.....	4	148	132	..	..	177

RHODE ISLAND—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
Hospital departments of institutions						
City.....	1	24	4	..	..	406
Grand total.....	26	8,389	6,966	419	8,091	44,402

SOUTH CAROLINA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	4	971	718	14	100	10,021
County.....	9	828	637	92	1,935	19,692
City.....	2	363	256	35	894	10,619
City-county.....	5	391	312	68	1,342	11,419
Church related.....	25	1,075	1,067	210	5,807	42,051
Nonprofit associations.....	5	132	66	18	223	3,843
Individual and partnership.....	..	..	..	..	..	..
Total.....	49	4,365	3,936	427	8,271	97,615
Nervous and mental						
State.....	2	5,344	5,295	1	12	1,457
Corporations (profit unrestricted).....	1	25	16	..	..	304
Total.....	3	5,369	5,311	1	12	1,761
Tuberculosis						
State.....	1	440	418	..	..	618
County.....	3	245	224	..	..	329
City-county.....	1	26	19	..	..	41
Nonprofit associations.....	1	70	33	..	..	47
Total.....	6	781	694	..	..	1,035
Eye, ear, nose and throat						
Individual and partnership.....	1	15	3	..	..	300
Orthopedic						
Nonprofit associations.....	1	65	60	..	..	291
Individual and partnership.....	1	16	10	..	..	53
Total.....	2	81	70	..	..	346
Convalescent and rest						
Individual and partnership.....	1	14	6	..	..	150
Grand total.....	62	10,625	9,140	428	8,283	101,207

SOUTH DAKOTA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	10	693	386	45	515	7,835
County.....	1	20	10	5	63	370
City.....	2	61	27	17	226	1,422
City-county.....	1	13	10	5	62	329
Church related.....	14	1,100	668	183	2,880	24,779
Nonprofit associations.....	12	453	273	90	1,374	10,737
Individual and partnership.....	10	185	89	51	527	3,606
Total.....	50	2,515	1,463	396	5,632	49,681
Nervous and mental						
State.....	2	2,642	2,265	..	..	447
Tuberculosis						
Federal.....	1	134	112	..	..	299
State.....	1	192	123	..	..	192
Total.....	2	326	235	..	..	491
Industrial						
Nonprofit associations.....	1	25	15	..	..	611
Convalescent and rest						
Church related.....	1	75	..	..	..	..
Hospital departments of institutions						
State.....	1	40	19	..	..	197
Grand total.....	57	5,623	3,997	396	5,632	59,757

TENNESSEE

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	3	1,136	969	..	1	9,571
County.....	3	106	41	10	98	1,510
City.....	3	1,043	887	137	3,937	31,123
City-county.....	1	450	278	60	1,753	9,246
Church related.....	7	1,258	912	163	3,889	37,012
Nonprofit associations.....	20	1,479	900	242	3,688	31,095
Individual and partnership.....	25	529	237	95	1,171	11,674
Corporations (profit unrestricted).....	7	247	112	46	515	5,589
Total.....	63	6,278	4,336	753	15,032	136,826

TENNESSEE—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
Nervous and mental						
Federal.....	1	785	291	..	...	778
State.....	4	6,019	6,149	..	...	1,742
County.....	2	1,095	1,041	4	14	705
Individual and partnership.....	3	143	46	..	...	714
Total.....	10	8,042	7,527	4	14	3,939
Tuberculosis						
County.....	1	300	245	1	...	394
City-county.....	2	500	450	..	...	410
Nonprofit associations.....	2	290	285	..	...	305
Corporations (profit unrestricted)	1	40	14	..	...	40
Total.....	6	1,130	994	1	...	1,149
Industrial						
Nonprofit associations.....	1	10	1	..	15	40
Eye, ear, nose and throat						
Nonprofit associations.....	1	65	23	..	...	1,500
Individual and partnership.....	5	67	25	..	...	3,589
Total.....	6	132	48	..	...	5,089
Children's						
City-county.....	1	84	50	11	15	1,450
Orthopedic						
Nonprofit associations.....	4	173	146	..	...	776
Individual and partnership.....	2	70	52	..	...	1,300
Total.....	6	243	198	..	...	2,076
Hospital departments of institutions						
State.....	3	105	57	..	...	1,576
County.....	1	707	533	..	...	461
Total.....	4	812	640	..	...	2,037
Grand total.....	103	16,731	13,794	769	15,096	152,606

TEXAS

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	13	2,904	1,710	38	500	20,762
State.....	1	52	21	4	14	794
County.....	17	796	438	138	2,892	18,915
City.....	9	809	617	99	2,756	20,982
City-county.....	8	1,407	999	176	5,811	38,558
Church related.....	43	3,832	2,384	612	17,221	109,161
Nonprofit associations.....	38	1,859	1,120	278	5,785	51,738
Individual and partnership.....	122	2,284	1,032	515	9,273	59,234
Corporations (profit unrestricted)	36	1,502	858	238	4,412	45,446
Total.....	287	15,445	9,179	2,098	48,604	371,610
Nervous and mental						
Federal.....	2	2,127	1,610	..	...	1,718
State.....	9	16,706	16,593	3	19	3,837
County.....	3	77	36	..	...	203
Individual and partnership.....	4	170	109	..	...	757
Corporations (profit unrestricted)	4	170	109	..	...	757
Total.....	18	19,080	18,238	3	19	6,515
Tuberculosis						
Federal.....	1	420	451	..	...	2,155
State.....	2	1,172	991	..	...	2,524
County.....	3	195	189	..	...	263
City.....	4	402	351	..	...	791
City-county.....	2	111	92	..	...	209
Church related.....	1	150	99	..	...	163
Nonprofit associations.....	3	90	50	..	...	162
Individual and partnership.....	1	25	16	..	...	85
Corporations (profit unrestricted)	1	25	16	..	...	85
Total.....	17	2,565	2,199	..	...	6,352
Maternity						
Church related.....	2	31	11	32	441	445
Industrial						
Nonprofit associations.....	5	443	222	..	...	6,867
Eye, ear, nose and throat						
Nonprofit associations.....	1	12	2	..	...	790
Corporations (profit unrestricted)	1	23	9	..	...	1,144
Total.....	2	35	11	..	...	1,934
Children's						
Nonprofit associations.....	3	152	63	..	...	1,413
Orthopedic						
Nonprofit associations.....	2	90	78	..	...	1,133
Individual and partnership.....	1	23	8	..	...	280
Total.....	3	113	86	..	...	1,413
Convalescent and rest						
City-county.....	1	250	200	..	...	95
Hospital departments of institutions						
Federal.....	2	61	29	..	...	661
State.....	3	386	160	..	...	6,747
County.....	1	6	2	..	...	48
City.....	1	25	16	..	...	162
Total.....	7	478	207	..	...	7,618

TEXAS—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
All other hospitals						
Individual and partnership.....	1	16	9	..	...	378
Grand total.....	346	38,608	30,445	2,133	49,124	404,640

UTAH

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	3	203	173	7	49	2,216
County.....	3	293	179	40	856	5,470
City.....	3	85	55	30	515	1,826
Church related.....	4	918	669	164	4,550	23,152
Nonprofit associations.....	8	299	163	88	1,591	8,842
Individual and partnership.....	6	115	49	33	434	1,817
Total.....	27	1,913	1,288	362	8,025	43,323
Nervous and mental						
State.....	2	1,688	1,614	..	1	624
Tuberculosis						
State.....	1	96	42	..	...	89
Maternity						
Church related.....	1	26	20	26	699	751
Children's						
Church related.....	1	25	20	..	...	91
Orthopedic						
Nonprofit associations.....	1	20	20	..	...	49
Grand total.....	33	3,768	3,004	388	8,725	44,927

VERMONT

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	2	319	209	2	10	2,290
Church related.....	3	225	177	34	496	5,129
Nonprofit associations.....	17	955	640	176	2,974	23,462
Individual and partnership.....	1	14	5	..	...	112
Total.....	23	1,513	1,031	212	3,480	30,993
Nervous and mental						
State.....	2	1,480	1,396	..	...	381
Nonprofit associations.....	1	900	780	..	...	386
Corporations (profit unrestricted)	1	25	8	..	...	41
Total.....	4	2,405	2,184	..	...	808
Tuberculosis						
State.....	2	132	122	..	...	174
Nonprofit associations.....	1	77	69	..	...	149
Total.....	3	209	191	..	...	323
Hospital departments of institutions						
State.....	1	11	6	..	...	101
Grand total.....	31	4,138	3,412	212	3,480	32,225

VIRGINIA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted†
General						
Federal.....	7	2,413	1,574	30	568	23,548
State.....	1	367	278	44	809	8,818
County.....	2	83	48	14	145	1,884
City.....	2	574	541	53	443	3,471
Church related.....	2	328	180	38	756	6,781
Nonprofit associations.....	36	3,065	2,134	359	8,242	78,429
Individual and partnership.....	16	522	257	72	979	12,646
Corporations (profit unrestricted)	15	911	632	132	2,656	25,893
Total.....	81	8,263	5,674	772	14,593	164,490
Nervous and mental						
Federal.....	1	1,090	1,026	..	...	784
State.....	6	10,878	10,708	..	9	3,214
Individual and partnership.....	2	126	118	..	...	342
Corporations (profit unrestricted)	2	183	118	..	...	757
Total.....	11	12,277	11,970	..	9	5,097

VIRGINIA—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
Tuberculosis						
State.....	3	1,039	809	..	...	1,310
City.....	3	470	322	..	...	367
Nonprofit associations.....	2	110	93	..	...	195
Total.....	8	1,619	1,229	..	...	1,872
Industrial						
Nonprofit associations.....	1	16	4	..	...	152
Eye, ear, nose and throat						
Nonprofit associations.....	1	25	4	..	...	722
Individual and partnership.....	1	11	3	..	...	334
Total.....	2	36	7	..	...	1,056
Orthopedic						
Nonprofit associations.....	1	120	97	..	...	230
Isolation						
City.....	1	24	3	..	...	110
Hospital departments of institutions						
State.....	3	121	68	..	...	1,000
Church related.....	1	18	1	1	4	169
Nonprofit associations.....	1	20	2	..	...	192
Total.....	5	159	71	1	4	2,021
Grand total.....	110	22,516	19,035	773	14,611	175,018

WASHINGTON

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	10	1,803	1,178	30	424	14,992
State.....	1	22	14	..	...	101
County.....	6	952	776	109	1,831	21,216
Church related.....	20	2,411	1,533	441	9,067	68,613
Nonprofit associations.....	19	1,567	1,102	325	6,563	43,332
Individual and partnership.....	22	483	218	112	1,707	12,332
Corporations (profit unrestricted).....	5	190	103	49	834	5,266
Total.....	83	7,488	4,914	1,066	20,426	155,952
Nervous and mental						
Federal.....	1	710	684	..	...	364
State.....	4	8,320	7,979	..	12	1,736
Individual and partnership.....	1	26	11	..	...	103
Corporations (profit unrestricted).....	3	76	47	..	...	507
Total.....	9	9,132	8,721	..	12	2,710
Tuberculosis						
Federal.....	2	305	263	..	...	1,087
County.....	6	605	516	..	...	569
City.....	1	230	235	..	1	271
Nonprofit associations.....	1	88	79	..	...	121
Individual and partnership.....	2	117	114	..	...	238
Total.....	12	1,345	1,242	..	1	2,286
Maternity						
Church related.....	1	42	25	25	105	111
Nonprofit associations.....	3	64	43	40	137	184
Total.....	4	106	68	65	242	295
Orthopedic						
Nonprofit associations.....	2	144	134	..	...	1,579
Isolation						
City.....	1	100	7	..	...	135
Convalescent and rest						
County.....	1	267	247	..	...	866
Nonprofit associations.....	1	20	16	..	...	68
Individual and partnership.....	1	11	5	..	...	90
Total.....	3	298	267	..	...	1,024
Hospital departments of institutions						
Federal.....	1	85	69	..	...	714
State.....	3	184	78	..	...	2,533
Total.....	4	269	147	..	...	3,297
Grand total.....	118	18,882	15,531	1,131	20,681	167,278

WEST VIRGINIA

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	1	317	259	..	...	2,557
State.....	2	214	137	14	133	5,964
County.....	1	135	66	19	232	2,081
Church related.....	1	165	70	18	306	2,888
Nonprofit associations.....	9	972	547	127	2,683	19,986
Individual and partnership.....	12	1,213	966	162	2,682	32,881
Corporations (profit unrestricted).....	13	605	356	68	698	14,514
Total.....	23	1,671	1,023	148	2,030	45,631
Grand total.....	64	5,292	3,364	556	8,764	126,552

WEST VIRGINIA—Continued

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
Nervous and mental						
State.....	5	4,101	4,043	4	9	1,381
Tuberculosis						
State.....	3	1,055	998	..	...	1,157
County.....	2	64	62	..	...	34
Nonprofit associations.....	1	52	32	..	...	33
Total.....	6	1,171	1,092	..	...	1,224
Maternity						
Nonprofit associations.....	1	22	15	18	26	64
Eye, ear, nose and throat						
Individual and partnership.....	1	5	2	..	...	423
Orthopedic						
Nonprofit associations.....	2	90	41	..	2	433
Convalescent and rest						
Nonprofit associations.....	1	75	50	..	...	148
Hospital departments of institutions						
State.....	1	72	56	..	...	496
Grand total.....	81	10,828	8,663	578	8,801	120,711

WISCONSIN

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	3	1,280	1,098	16	175	6,583
State.....	1	650	669	22	300	14,696
County.....	4	1,204	703	90	1,067	10,314
City.....	9	340	221	95	1,683	15,558
City-county.....	1	55	34	16	227	1,424
Church related.....	56	5,963	3,904	1,121	21,853	138,677
Nonprofit associations.....	28	1,761	1,071	317	6,363	44,281
Individual and partnership.....	33	532	255	139	1,652	10,319
Corporations (profit unrestricted).....	7	212	131	33	372	3,371
Total.....	142	12,000	8,086	1,879	34,197	254,243
Nervous and mental						
Federal.....	1	295	295	..	...	63
State.....	5	4,483	4,154	5	15	2,463
County.....	37	11,143	10,561	1	...	2,075
City.....	3	562	517	..	...	543
City-county.....	1	64	40	..	...	102
Corporations (profit unrestricted).....	4	281	227	..	...	840
Total.....	61	16,818	15,795	6	15	6,035
Tuberculosis						
State.....	2	204	243	..	...	184
County.....	17	1,806	1,740	..	...	1,917
Church related.....	1	63	62	..	...	150
Nonprofit associations.....	1	55	45	..	...	56
Total.....	21	2,307	2,093	..	...	2,307
Maternity						
Church related.....	2	106	63	44	828	876
Children's						
Nonprofit associations.....	1	205	105	..	...	3,814
Isolation						
City.....	3	355	73	..	...	1,045
Convalescent and rest						
Church related.....	2	100	95	..	...	193
Hospital departments of institutions						
State.....	2	31	21	..	...	524
County.....	2	130	88	..	...	1,564
Total.....	4	161	109	..	...	2,088
Grand total.....	226	32,032	26,422	1,923	35,040	270,651

WYOMING

	Hospitals	Beds	Average Census	Bassinets	Births	Patients Admitted
General						
Federal.....	3	440	231	12	130	3,955
State.....	1	100	60	12	328	2,317
County.....	4	412	203	69	1,400	9,022
City.....	2	45	21	11	124	934
City-county.....	4	166	49	21	244	1,832
Church related.....	9	146	50	39	494	2,177
Nonprofit associations.....	2	48	15	13	180	934
Total.....	25	1,297	638	177	2,900	21,171
Nervous and mental						
Federal.....	1	596	540	..	...	276
State.....	2	1,045	982	..	2	176
Total.....	3	1,641	1,522	..	2	452
Tuberculosis						
State.....	1	33	27	..	...	52
Grand total.....	29	2,971	2,187	177	2,902	21,675

HOSPITALS REGISTERED BY THE AMERICAN MEDICAL ASSOCIATION

The following list contains the names of 6,291 hospitals, sanatoriums and related institutions that are located in the United States and 277 in Alaska, Canal Zone, Guam, Hawaii, Philippines, Puerto Rico and Virgin Islands. The list for each state is presented in two groups: (1) hospitals and sanatoriums, and (2) related institutions. The related institutions include school and prison infirmaries, nursing homes and other institutions designed to give certain medical and nursing care in an ethical and acceptable manner, without giving a full hospital service.

Registration of hospitals is governed by the Essentials of a Registered Hospital, adopted by the House of Delegates in 1928 and revised in 1939.

Registration is a basic recognition, extended to all the hospitals and related institutions in the following list, concerning which we have no evidence of irregular or unsafe practices. Approval is designation of certain registered institutions by the Council on Medical Education and Hospitals for internships, residencies and fellowships; or by the American College of Surgeons as unconditionally meeting its minimum standards.

KEY TO SYMBOLS AND ABBREVIATIONS

- * Approved for training interns by the Council on Medical Education and Hospitals. List with detailed information is sent on request.
- + Approved for residencies or fellowships. List with detailed information is sent on request.

- ▲ Approved by American College of Surgeons as meeting unconditionally its minimum standards.
- ◊ School of nursing accredited by state board of nurse examiners.
- ◊ Affiliated for nurse training on state accredited basis.
- † Figures for "average census" and "admissions" are exclusive of newborn infants.

The column headed "Type of Service" tells what diseases are treated in each institution:

Card	Cardiac	ENT	Eye, ear, nose and throat	Inst	Institutional	N&M	Nervous and mental
Chil	Children	Gen	General	Mat	Maternity	Orth	Orthopedic
Chr	Chronic	Incur	Incurable	MatCh	Maternity and children	SkCa	Skin and cancer
Conv	Convalescent and rest	Indus	Industrial	McDe	Mentally deficient	TB	Tuberculosis
Drug	Drug and alcoholic	Iso	Isolation	Ment	Mental	Ven	Venereal
Epi	Epileptic						

The column headed "Control" indicates control, or auspices under which the institution is conducted:

GOVERNMENTAL			NONPROFIT ORGANIZATIONS		PROPRIETARY	
Fed	Federal	State City County City-County CyCo	Church	Nonprofit Association	Indiv	Individual
IA	Indian Affairs		NPAssn		Part	Partnership
Army	United States Army				Corp	Corporation (unrestricted as to profit)
Navy	United States Navy					
USPHS	United States Public Health Service					
Vet	Veterans Administration Facility					

The accompanying list was corrected by additions and removals of hospitals up to the time of going to press; totals of the list, therefore, may vary from tables 1 and 2, which were necessarily compiled earlier.

ALABAMA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Albertville, 3,651—Marshall	Gen	Indiv	24	0	2	52	201
Sand Mountain Infirmary...	Gen	Indiv	24	0	2	52	201
Alexander City, 6,640—Tallapoosa	Gen	Corp	64	12	4	104	405
Russell Hospital	Gen	Corp	64	12	4	104	405
Anniston, 25,523—Calhoun	Gen	City	64	34	5	159	1,760
Garner Hospital▲	Gen	Army	200	165	2	22	5,449
Station Hospital	Gen	NPAssn	15	15	..	..	42
Susie Parker Stringfellow	TB	NPAssn	15	15	..	..	42
Memorial Hospital	TB	NPAssn	15	15	..	..	42
Atmore, 3,200—Escambia	Gen	NPAssn	26	6	2	27	562
Atmore General Hospital...	Gen	NPAssn	26	6	2	27	562
Bellamy, 317—Sumter	Gen	Indiv	16	4	2	18	208
Bellamy Hospital	Gen	Indiv	16	4	2	18	208
Bessemer, 22,826—Jefferson	Gen	Corp	72	24	4	56	971
Bessemer General Hospital▲	Gen	Corp	72	24	4	56	971
Birmingham, 267,583—Jefferson	Gen	Church	179	131	22	571	6,357
Baptist Hospitals+▲	Gen	NPAssn	50	33	..	..	1,236
Children's Hospital+▲	Chil	NPAssn	50	26	..	..	433
Hill Crest Sanitarium.....	N&M	Indiv	50	26	..	..	433
Hillman Hospital+▲	Gen	County	438	356	40	2,168	11,293
Jefferson Hospital	Gen	County	650	104	..	..	Estab. 1941
Jefferson Sanatorium	TB	County	150	104	..	..	315
Norwood Hospital+▲	Gen	Church	210	103	16	511	5,007
St. Vincent's Hospital+▲	Gen	Church	125	117	6	204	4,011
South Highlands Infirmary▲	Gen	Corp	140	122	27	671	4,649
365 Crippled Children's Clinic	Orth	NPAssn	50	37	..	..	239
Brewton, 3,323—Escambia	Gen	Indiv	20	..	..	..	No data supplied
Brewton Memorial Hospital	Gen	Indiv	20	..	..	..	No data supplied
Clanton, 3,982—Chilton	Gen	NPAssn	28	14	3	21	694
Central Alabama Hospital..	Gen	NPAssn	28	14	3	21	694
Cullman, 5,074—Cullman	Gen	CyCo	40	21	10	92	847
Cullman Hospital	Gen	CyCo	40	21	10	92	847
Decatur, 16,604—Morgan	Gen	NPAssn	45	22	4	90	775
Benevolent Society Hospital	Gen	NPAssn	45	22	4	90	775
Dothan, 17,194—Houston	Gen	Indiv	60	51	6	89	1,680
Fraser-Ellis Hospital▲	Gen	Indiv	50	35	9	76	906
Moody Hospital▲	Gen	Indiv	50	35	9	76	906
Enterprise, 4,353—Coffee	Gen	Indiv	25	9	3	53	660
Gibson Hospital	Gen	Indiv	25	9	3	53	660
Eufaula, 6,269—Barbour	Gen	Indiv	50	22	6	30	531
Britt Infirmary	Gen	Indiv	50	22	6	30	531
Salter Hospital	Gen	Indiv	50	23	6	50	1,018

ALABAMA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Fairfield, 11,703—Jefferson	Gen	NPAssn	271	189	35	989	7,327
Employees' Hospital of the Tennessee Coal, Iron and Railroad Company+▲	Gen	NPAssn	271	189	35	989	7,327
Fayette, 2,663—Fayette	Gen	Part	20	8	4	30	406
McNease and Robertson Hospital	Gen	Part	20	8	4	30	406
Flint (Decatur P.O.), 134—Morgan	Gen	County	50	38	..	..	148
Morgan County Tuberculosis Sanatorium	TB	County	50	38	..	..	148
Floralda, 2,999—Covington	Gen	Indiv	40	12	3	35	400
Lakeview Hospital	Gen	Indiv	40	12	3	35	400
Florence, 15,043—Lauderdale	Gen	City	40	22	6	135	1,223
Eliza Coffee Memorial Hospital	Gen	City	40	22	6	135	1,223
Gadsden, 36,975—Etowah	Gen	Indiv	85	20	10	62	1,216
Forrest General Hospital...	Gen	Indiv	85	20	10	62	1,216
Holy Name of Jesus Hospital	Gen	Church	96	63	18	300	4,697
Greenville, 5,075—Butler	Gen	Indiv	46	7	6	40	472
Speir Hospital	Gen	Part	42	17	6	64	706
Stabler Infirmary	Gen	Part	42	17	6	64	706
Huntsville, 13,050—Madison	Gen	NPAssn	70	29	6	120	1,480
Huntsville Hospital	Gen	NPAssn	70	29	6	120	1,480
Jackson, 2,059—Clarke	Gen	Corp	16	6	2	15	220
South Alabama Infirmary...	Gen	Corp	16	6	2	15	220
Jasper, 6,847—Walker	Gen	County	80	30	8	109	1,341
Peoples Hospital	Gen	County	80	30	8	109	1,341
Walker County Hospital▲	Gen	Corp	55	24	3	55	698
Lafayette, 2,138—Chambers	Gen	County	50	42	..	..	143
Batson Memorial Sanatorium	TB	County	50	42	..	..	143
Mobile, 78,720—Mobile	Gen	CyCo	127	105	18	512	3,747
City Hospital+▲	Gen	CyCo	127	105	18	512	3,747
Mobile County Tuberculosis Sanatorium	TB	NPAssn	64	45	..	..	60
Mobile Infirmary+▲	Gen	NPAssn	110	84	10	199	2,015
Providence Hospital▲	Gen	Church	85	61	12	249	2,471
U. S. Marine Hospital▲	Gen	USPHS	191	148	..	..	2,103
Montgomery, 78,084—Montgomery	Gen	Indiv	20	28	7	164	1,010
Fitts Hill Hospital	Gen	Indiv	65	36	12	303	2,199
Hubbard Hospital	Gen	Indiv	65	36	12	303	2,199

Key to symbols and abbreviations is on page 1083

ALABAMA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Montgomery Tuberculosis Sanatorium	TB	NPAssn	110	91	..	...	271
St. Margaret's Hospital	Gen	Church	123	96	12	493	4,776
Station Hospital	Gen	Army	50	60	4	23	1,911
Veterans Admin. Facility	Gen	Vet	269	...	..	Estab. 1910	...
Mt. Vernon, 810—Mobile							
Searey Hospital	Ment	State	1,650	1,635	..	...	621
Opelika, 8,487—Lee							
Opelika Infirmary	Gen	Indiv	25	11	8	123	672
Prattville, 2,664—Autauga							
Prattville General Hospital	Gen	Indiv	20	10	6	72	636
Repton, 365—Conecuh							
Carter Hospital	Gen	Indiv	16	6	3	21	336
Roanoke, 4,168—Randolph							
Knight Sanatorium	Gen	Indiv	25	14	7	36	432
Russellville, 3,510—Franklin							
Russellville Hospital	Gen	Indiv	30	14	3	42	801
Scottsboro, 2,884—Jackson							
Hodges Hospital	Gen	Indiv	19	6	2	22	317
Tri-Counties Tuberculosis Sanatorium	TB	Counties	20	15	..	...	69
Sehma, 19,834—Dallas							
Burwell Infirmary	Gen	Part	25	8	2	6	362
Goldshy King Memorial Hospital	Gen	NPAssn	72	44	10	47	1,617
Good Samaritan Hospital	Unit of Selma Baptist Hospital	NPAssn	50	20	6	120	1,575
Selma Baptist Hospital	Gen	Corp	35	21	6	71	1,383
Vaughan Memorial Hospital	Gen	CyCo	63	17	12	153	1,221
Sheffield, 7,933—Colbert							
Colbert County Hospital	Gen	NPAssn	38	17	12	142	676
Sylacauga, 6,269—Talladega	Gen	Corp	28	14	6	62	721
Drummond Fraser Hospital	Gen	NPAssn	60	28	10	190	2,308
Sylacauga Infirmary	Gen	Indiv	30	14	6	40	790
Talladega, 9,298—Talladega	Gen	Indiv	35	17	2	35	879
Citizens' Hospital	Gen	State	4,154	4,027	..	...	1,602
Troy, 7,055—Pike							
Beard Memorial Hospital	Gen	NPAssn	75	56	10	551	3,484
Edge Hospital	Gen	Church	40	20	5	37	755
Tuscaloosa, 27,493—Tuscaloosa							
Bryce Hospital	Ment	Vet	535	419	..	...	2,321
Druid City Hospital	Gen	NPAssn	125	39	12	93	1,011
Stillman Hospital	Gen	NPAssn	29	4	..	...	730
Veterans Admin. Facility	Gen	Part	12	8	..	...	223
Tuskegee, 3,937—Macon	Gen	Church	46	30	25	104	135
Veterans Admin. Facility	Gen	Mat	20	19	4	20	718
Tuskegee Institute, 375—Macon	Gen	Indiv	20	12	9	101	611
John Albion Andrew Memorial Hospital	GenOr	NPAssn	24	10	23	381	390
Wetumpka, 3,089—Elmore	Gen	State	36	5	..	...	1,695
Wetumpka General Hospital	Gen	Indiv	50	33	12	97	1,008
York, 1,783—Sumter	Gen	State	125	89	..	...	1,169
Hill Hospital	Gen	Indiv	19	6	1	...	320
Related Institutions							
Alabama City, 8,544—Etowah							
Etowah County Tuberculosis Sanatorium	TB	County	22	10	..	...	41
Altoona, 995—Etowah	Gen	Indiv	27	11	3	36	359
Klein Hospital	Gen	State	29	4	..	...	730
Birmingham, 267,583—Jefferson	Inst	Part	12	8	..	...	223
Alabama Boys' Industrial School	Inst	Church	46	30	25	104	135
Miss Quinn's Nursing Home	Conv	Mat	20	19	4	20	718
Salvation Army Home and Hospital	Gen	Indiv	20	12	9	101	611
Dothan, 17,194—Houston	Gen	NPAssn	29	12	9	101	611
Dr. M. S. Davie's Private Hospital	Gen	Church	24	10	23	381	390
East Tallahassee, 2,198—Tallahassee	Gen	State	36	5	..	...	1,695
Community Hospital	Gen	Indiv	50	33	12	97	1,008
Mobile, 78,720—Mobile	Mat	State	125	89	..	...	1,169
Allen Memorial Home	Gen	Indiv	19	6	1	...	320
Montevallo, 1,490—Shelby	Inst	State	18	1	1	1	112
Peterson Hall	Inst	NPAssn	802	755	..	...	126
Montgomery, 78,081—Montgomery	Gen	Indiv	20	19	4	20	718
Fraternal Hospital	Gen	Indiv	20	12	9	101	611
Kilby Prison Hospital	Inst	State	36	5	..	...	1,695
Pell City, 900—St. Clair	Gen	Indiv	50	33	12	97	1,008
Pell City Infirmary	Gen	Indiv	19	6	1	...	320
Talladega, 9,298—Talladega	Inst	NPAssn	18	1	1	1	112
T	MeDe	State	802	755	..	...	126

ARIZONA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Ajo, 1,100—Pima							
Phelps Dodge Hospital	Gen	Corp	33	12	5	102	422
Bisbee, 5,853—Cochise							
Copper Queen Hospital	Gen	NPAssn	42	22	8	203	1,233
Chin Lee, 65—Apache							
Chin Lee General Hospital	Gen	IA	17	18	2	33	781
Douglas, 8,623—Cochise							
Cochise County Hospital	Gen	County	100	83	6	70	1,000
Flagstaff, 5,080—Coconino							
Flagstaff Hospital	Gen	NPAssn	22	8	6	67	601

ARIZONA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Fort Defiance, 600—Apache							
Fort Defiance Sanatorium	Unit of Navajo Medical Center and Sanatorium	GenTb IA	238	215	10	122	2,116
Navajo Medical Center Hospital and Sanatorium	GenTb IA	Gen	48	31	1	12	862
Fort Huachuca, 1,500—Cochise							
Station Hospital	Gen	Army	150	98	15	136	1,600
Ganado, 150—Apache							
Sage Memorial Hospital	Gen	Church	50	36	6	63	630
Globe, 6,141—Gila							
Gila County Hospital	Gen	County	9	4	2	28	113
Holbrook, 1,184—Navajo							
Park-Navajo Private Hospital	Gen	Indiv	52	26	4	83	680
Jerome, 2,295—Yavapai							
United Verde Hospital	Gen	NPAssn	40	32	7	54	1,031
Kenms Canyon, 150—Navajo							
Hopi General Hospital	Gen	IA	30	25	5	127	839
Kingman, 2,300—Mohave							
Mohave General Hospital	Gen	County	28	12	3	30	451
Leupp, 200—Coconino							
Leupp Indian Hospital	Gen	IA	52	33	8	364	1,765
Mesa, 7,224—Maricopa							
South Side District Hospital	Gen	NPAssn	40	19	4	160	727
Miami, 4,723—Gila							
Miami-Inspiration Hospital	Gen	NPAssn	34	12	10	171	936
Morenci, 2,200—Greenlee							
Phelps-Dodge Hospital	Gen	NPAssn	900	897	..	...	342
Phoenix, 65,414—Maricopa							
Arizona State Hospital	Ment	State	38	17	4	15	314
Booker T. Washington Hospital	GenTb	Indiv	178	118	18	531	5,338
Good Samaritan Hosp.	Gen	Church	65	54	3	89	1,181
Phoenix Indian Hospital	Gen	IA	150	98	..	...	236
Phoenix Indian Sanatorium	Gen	IA	205	153	20	831	9,074
St. Joseph's Hospital	Gen	Church	57	26	..	...	100
St. Luke's Home	TB	Church	30	10	..	...	...
Prescott, 6,018—Yavapai							
Pamsetgan Sanatorium	TB	Indiv	20	11	4	44	386
St. Luke's in the Mountains Unit of St. Luke's Home, Phoenix	Unit of St. Luke's Home, Phoenix	Unit of St. Luke's Home, Phoenix	38	25	6	84	837
Ray, 3,100—Pinal							
Ray Hospital	Gen	NPAssn	23	7	5	25	397
Sacaton, 316—Pinal							
Pima Indian Hospital	Gen	IA	46	26	9	45	907
Safford, 2,260—Graham							
Morris-Squibb Hospital	Gen	NPAssn	49	29	5	41	476
San Carlos, 100—Gila							
San Carlos Indian Hospital	Gen	IA	104	91	..	...	137
Sells, 250—Pima							
Indian Oasis Hospital	Gen	IA	42	26	5	22	924
Tempe, 2,906—Maricopa							
State Welfare Sanatorium	TB	State	30	23	..	...	36
Tuba City, 150—Coconino							
Western Navajo General Hospital	Gen	IA	22	12	..	...	45
Tucson, 36,818—Pima							
Anson Rest Home	TB	Part	81	32	5	11	391
Barfield Sanatorium	TB	Indiv	140	83	10	1	1,309
Desert Sanatorium of Southern Arizona	Gen	NPAssn	35	22	..	...	40
Pima County General Hospital	GenTb	County	190	115	25	503	3,852
St. Mary's in-the-Desert Sanatorium	TB	Church	82	48	..	...	59
St. Mary's Hospital and Sanatorium	GenTb	Church	358	320	..	...	906
Southern Pacific Sanatorium	TB	NPAssn	401	196	..	...	1,783
Veterans Admin. Facility	GenTb	Vet	47	20	6	32	617
Whipple, Yavapai							
Veterans Admin. Facility	GenTb	Vet	12	9	3	46	325
Whiteriver, 300—Navajo							
Fort Apache Agency Hospital	Gen	IA	8	4	3	26	233
Wickenburg, 995—Maricopa							
Wickenburg Hospital	Gen	NPAssn	54	48	..	...	45
Williams, 2,622—Coconino							
Edel Hospital	Gen	Indiv	29	12	8	21	369
Winslow, 4,577—Navajo							
Winslow Indian Sanatorium	TB	IA	72	51	12	307	1,738
Yuma, 5,325—Yuma							
Fort Yuma Indian Hospital	Gen	IA	41	15	4	22	521
Yuma County General Hospital	Gen	County	63	45	6	92	701
Related Institutions							
Kayenta, 40—Navajo							
Kayenta Sanatorium	TB	IA	54	33	..	...	150
McNary, 65—Apache							
McNary Hospital	Gen	NPAssn	12	2	1	19	111
Nogales, 5,135—Santa Cruz							
St. Joseph's Hospital	Gen	Church	30	10	7	20	300
Oracle, 200—Pinal							
La Casa del Encanto	Conv	Indiv	8	5	..	...	14
Parker, 200—Yuma							
Colorado River Indian Agency Hospital	Gen	IA	23	13	..	...	24
Prescott, 6,018—Yavapai							
Yavapai County Hospital	InstGen	County	33	29	..	...	70
Tucson, 36,818—Pima							
Arizona State Elks Association Hospital	TB	NPAssn	33	29	..	...	70
Comstock Children's Hospital	TB	NPAssn	33	29	..	...	70

ARIZONA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Pima County Preventorium, Chl	NPAssn		130	125	..	..	200
Reardon Sanatorium,	TB	Indiv	12	7	..	..	23
San Xavier Indian Sanatorium,	TB	IA	46	32	..	..	59
Valentine, 116—Mohave							
Truxton Canyon Hospital, ..	Gen	IA	15	10	5	21	206

ARKANSAS

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Alexander, 134—Pulaski							
McRae Memorial Sanatorium, TB	State		200	102	..	..	138
Arkadelphia, 5,078—Clark							
Townsend Hospital,	Gen	Indiv	16	4	4	23	183
Batesville, 5,247—Independence							
Dr. Gray's Hospital,	Gen	Indiv	45	16	6	12	590
Johnston and Craig Hospital, Gen	Indiv		11	8	2	21	394
Benton, 3,502—Saline							
Blakely Hospital,	Gen	Indiv	15	5	2	21	212
Bl.....	Gen	Indiv	35	..	6	..	..
.....	Gen	Indiv	34	17	6	105	1,095
Camden, 8,975—Ouachita							
Camden Hospital,	Gen	NPAssn	30	18	9	229	1,179
Charleston, 958—Franklin							
Bollinger Hospital,	Gen	Indiv	15	3	..	49	79
Clarksville, 3,118—Johnson							
St. Hildegard's Municipal Hospital,	Gen	Church	26	8	5	37	895
Conway, 5,782—Faulkner							
Conway Memorial Hospital, Gen	City		30	9	4	30	519
Crossett, 4,891—Ashley							
Crossett Hospital,	Gen	NPAssn	50	16	10	114	826
De Queen, 3,055—Sevier							
Archer Hospital,	Gen	Indiv	25	7	1	25	364
Dermott, 3,083—Chicot							
Dermott Municipal Hospital, Gen	Church		30	..	3	Estab. 1940	
Dumas, 3,323—Desha							
Dumas Hospital,	Gen	Corp	23	8	4	78	290
Dress, 1,000—Mississippi							
Dress Hospital,	Gen	NPAssn	20	3	4	48	236
El Dorado, 15,858—Union							
Henry C. Rosamond Memorial Hospital,	Gen	Corp	26	3	8	39	974
Warner Brown Hospital,	Gen	Church	69	55	8	278	1,766
Fayetteville, 8,212—Washington							
Fayetteville City Hospital, ..	Gen	City	58	31	8	205	1,638
Veterans Admin. Facility, ..	Gen	Vet	258	234	..	..	2,216
Fort Smith, 36,584—Sebastian							
Arkansas Tuberculosis Sanatorium,		Unit of Arkansas Tuberculosis Sanatorium, State Sanatorium					
St. Edward's Mercy Hospital, ..	Gen	Church	100	79	15	393	2,517
Sparks' Memorial Hospital, ..	Gen	NPAssn	100	43	12	232	2,804
Haskell, 171—Saline							
State Hospital, Benton Division		Unit of State Hospital, Little Rock					
.....	Gen	Part	22	11	3	129	604
Helena, 8,546—Phillips							
New Helena Hospital,	Gen	NPAssn	77	..	..	New building	
Hope, 7,475—Hempstead							
Josephine Hospital,	Gen	Indiv	22	5	4	26	283
Julia Chester Hospital,	Gen	NPAssn	25	13	4	75	490
Hot Springs National Park, 21,370—Garland							
Army and Navy General Hospital,	Gen	Fed	412	369	3	10	3,098
Leo N. Levi Memorial Hospital, ..	Gen	NPAssn	75	50	5	45	1,332
Ozark Sanatorium,	Gen	Corp	60	9	4	34	310
St. Joseph's Hospital,	Gen	Church	144	80	6	82	2,275
Jonesboro, 11,729—Craighead							
St. Bernard's Hospital,	Gen	Church	100	64	10	203	2,230
Lake Village, 2,645—Chicot							
Lake Village Infirmary,	Gen	Part	38	14	4	68	960
Little Rock, 88,039—Pulaski							
Arkansas Children's Home and Hospital,	Chl	NPAssn	75	54	8	..	1,161
Baptist State Hospital,	Gen	Church	300	141	15	414	5,717
Granite Mountain Hospital, Gen	Indiv		25	4	2	21	130
Missouri Pacific Hospital, ..	Indus	NPAssn	100	44	..	..	1,381
St. Vincent's Infirmary,	Gen	Church	183	137	50	684	4,710
State Hospital,	Ment	State	4,200	4,305	..	..	1,699
United Friends Hospital,	Gen	NPAssn	25	15	1	3	1,350
University Hospital,	Gen	State	205	156	19	339	3,976
Magnolia, 4,326—Columbia							
City Hospital,	Gen	City	21	7	4	69	367
Monticello, 3,650—Drew							
Mack Wilson Hospital,	Gen	Indiv	30	11	2	38	520
Morrilton, 4,608—Conway							
St. Anthony's Hospital,	Gen	Church	30	16	4	68	641
North I.....							
Veter.....	Vet		1,360	1,207	..	..	686
Paragould, 1,009—Greene							
Dickson Memorial Sanitarium, Gen	Corp		25	10	4	50	410
Pine Bluff, 21,200—Jefferson							
Davis Hospital,	Gen	Church	57	30	8	290	1,393

ARKANSAS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Prescott, 3,177—Nevada							
Cora Donnell Hospital,	Gen	Indiv	30	12	4	25	638
Russellville, 5,927—Pope							
St. Mary's Hospital,	Gen	Indiv	60	24	12	95	1,351
Searcy, 3,670—White							
Hawkins Clinic Hospital,	Gen	Indiv	26	..	3	Estab. 1940	
Wakenight Hospital,	Gen	Indiv	55	24	4	59	1,296
Siloam Springs, 2,764—Benton							
John Brown University Hospital,	Gen	NPAssn	25	8	4	22	494
State Sanatorium, —Logan							
Arkansas Tuberculosis Sanatorium,	TB	State	1,154	826	..	..	1,285
Texarkana, 11,821—Miller							
Michael Meagher Memorial Hospital,	Gen	Church	50	41	10	181	2,392
St. Louis Southwestern Hospital,	Indus	NPAssn	150	75	..	2	3,223
Warren, 2,516—Bradley							
Hunt Hospital,	Gen	Indiv	17	4	4	16	220
Related Institutions							
De Queen, 3,053—Sevier							
De Queen General Hospital, ..	Gen	Part	18	5	2	9	317
Gould, 908—Lincoln							
Arkansas State Penitentiary Hospital,	Inst	State	36	20	..	..	413
H.....	Garland						
cal Center Infirmary,	Ven	USPHS	90	52	4	18	908
Little Rock, 88,039—Pulaski							
Arkansas School for the Blind,	Inst	State	22	2	..	..	153
Florence Crittenton Home, ..	Mat	NPAssn	24	2	13	32	58
Pulaski County Hospital, ..	Gen	County	200	184	8	146	1,384
Marshall, 822—Searcy							
Marshall Hospital,	Gen	Indiv	10	2	4	13	117
Newport, 4,321—Jackson							
Dr. Gray's Hospital,	Gen	Indiv	15	5	1	11	193
Russellville, 5,927—Pope							
Haney Eye, Ear, Nose and Throat Hospital,	ENT	Indiv	6	2	..	..	740

CALIFORNIA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Agnew, 300—Santa Clara							
Agnews State Hospital,	Ment	State	3,581	3,515	..	..	948
Ahwahnee, 50—Madera							
Ahwahnee Sanatorium,	TB	Counties	128	123	..	..	132
.....	Gen	NPAssn	75	44	21	265	2,003
.....	Gen	Indiv	30	15	16	370	1,041
.....	Gen	Corp	40	22	12	289	1,414
Angel Island, 478—Marin							
Station Hospital,	Gen	Army	70	41	..	..	1,584
Antioch, 5,106—Contra Costa							
Antioch Hospital,	Gen	Indiv	20	7	8	223	709
Arcata, 1,855—Humboldt							
Trinity Hospital,	Gen	Church	23	14	5	85	738
Arlington, 3,440—Riverside							
Riverside County Hospital, ..	GenTb	County	322	272	23	506	4,594
Artesia, 3,591—Los Angeles							
Artesia Hospital,	Gen	Indiv	25	12	7	112	529
Auberry, 100—Fresno							
Wish-Iah Sanatorium,	TB	County	102	102	..	..	94
Auburn, 4,013—Placer							
Highlands General Hospital and Sanitarium,	Gen	Indiv	26	13	5	25	182
Bakersfield, 29,252—Kern							
Mercury Hospital,	Gen	Church	80	65	20	422	4,085
Banning, 3,874—Riverside							
Banning Hospital and Sanatorium,	GenTb	Indiv	25	..	2	..	..
Southern Sierras Sanatorium, TB	Indiv		35	16	..	..	11
Bell, 11,264—Los Angeles							
Bell Mission Hospital,	Gen	Corp	30	20	13	515	1,120
Belmont, 1,229—San Mateo							
Alexander Sanitarium,	N&M	Corp	75	54	..	..	211
California Sanatorium,	TB	Corp	100	87	..	..	193
Twin Pines Sanitarium,	N&M	Corp	45	35	..	..	84
Berkeley, 85,547—Alameda							
Alta Bates Hospital,	Gen	Corp	100	79	26	627	3,767
Berkeley Hospital,	Gen	NPAssn	70	40	13	220	1,709
E. V. Cowell Memorial Hospital, ..	Gen	State	100	63	..	..	2,432
Brawley, 11,718—Imperial							
Brawley Community Hospital, ..	Gen	Indiv	20	11	10	304	690
Burbank, 34,237—Los Angeles							
Burbank Hospital,	Gen	Indiv	36	19	12	225	718
Camarillo, 300—Ventura							
Camarillo State Hospital, ..	Ment	State	2,701	2,430	..	..	1,223
Carmel, 2,837—Monterey							
Peninsula Community Hospital,	Gen	NPAssn	47	23	10	215	1,001

Key to symbols and abbreviations is on page 1083

CALIFORNIA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Chico, 9,287—Butte	Gen	Indiv	42	25	14	273	1,303
Enloe Hospital	Gen	Indiv	42	25	14	273	1,303
Colfax, 794—Placer	Unit of Colfax School for the Tuberculous	Unit of Colfax School for the Tuberculous					
Bushnell Sanatorium	Unit of Colfax School for the Tuberculous	Unit of Colfax School for the Tuberculous					
Colfax Hospital	Unit of Colfax School for the Tuberculous	Unit of Colfax School for the Tuberculous					
Colfax School for the Tuberculous	Unit of Colfax School for the Tuberculous	Unit of Colfax School for the Tuberculous					
Compton, 16,198—Los Angeles	N&M	Corp	120	47	..	..	396
Compton Sanitarium	N&M	Corp	120	47	..	..	396
Las Campanas Hospital	Gen	Corp	30	22	12	290	906
Covina, 3,049—Los Angeles	Gen	Part	45	25	10	172	932
Covina Hospital	Gen	Part	45	25	10	172	932
Crescent City, 1,363—Del Norte	Gen	NPAasn	25	10	5	63	506
Knapp Hospital	Gen	NPAasn	25	10	5	63	506
Culver City, 8,976—Los Angeles	Gen	Corp	40	..	..	..	..
University Hospital	Gen	Corp	40	..	..	..	..
Dinuba, 8,700—Tulare	Gen	Part	17	5	7	121	341
Alta District Hospital	Gen	Part	17	5	7	121	341
Duarte, 1,500—Los Angeles	TB	NPAasn	180	173	..	..	123
Los Angeles Sanatorium	TB	NPAasn	180	173	..	..	123
Dunsmuir, 2,359—Siskiyou	Gen	Corp	17	3	6	57	358
Dunsmuir Hospital and Sanitarium	Gen	Corp	17	3	6	57	358
El Centro, 10,017—Imperial	Gen	County	97	73	4	152	1,216
Imperial County Charity Hospital	Gen	County	97	73	4	152	1,216
El Monte, 4,740—Los Angeles	VenMat	NPAasn	135	66	15	12	120
Ruth Home	VenMat	NPAasn	135	66	15	12	120
Eureka, 17,055—Humboldt	Gen	Part	40	23	8	108	1,026
General Hospital	Gen	Part	40	23	8	108	1,026
Humboldt County Hospital	Gen	County	121	116	13	161	1,597
Humboldt County School for the Tuberculous	TB	County	65	50	..	..	52
St. Joseph Hospital	Gen	Church	65	30	13	206	1,433
Fort Bragg, 3,335—Mendocino	Gen	Corp	27	13	6	83	464
Redwood Coast Hospital	Gen	Corp	27	13	6	83	464
French Camp, 248—San Joaquin	Gen	County	575	512	25	831	10,196
San Joaquin General Hospital	Gen	County	575	512	25	831	10,196
Fresno, 60,635—Fresno	Gen	Corp	134	83	32	668	3,706
Burnett Sanitarium	Gen	Corp	134	83	32	668	3,706
General Hospital of Fresno County	Gen	County	475	462	25	1,037	7,938
St. Agnes Hospital	Gen	Church	72	47	18	402	1,928
Fullerton, 10,442—Orange	Gen	Church	27	17	10	200	873
Fullerton Hospital	Gen	Church	27	17	10	200	873
Gilroy, 3,615—Santa Clara	Gen	NPAasn	25	14	8	84	440
Wheeler Hospital	Gen	NPAasn	25	14	8	84	440
Glendale, 82,582—Los Angeles	Gen	Church	200	136	12	583	3,925
Glendale Sanitarium and Hospital	Gen	Church	200	136	12	583	3,925
Physicians and Surgeons Hospital	Gen	NPAasn	65	54	18	746	2,522
Grass Valley, 5,701—Nevada	Gen	Indiv	30	15	4	53	587
W. O. Jones Memorial Hospital	Gen	Indiv	30	15	4	53	587
Hamilton Field, —Marin	Gen	Army	66	23	..	..	1,005
Station Hospital	Gen	Army	66	23	..	..	1,005
Hanford, 8,234—Kings	Gen	Corp	25	17	8	142	681
Hanford Sanitarium	Gen	Corp	25	17	8	142	681
Kings County Hospital	Gen	County	150	131	12	240	2,317
Sacred Heart Hospital	Gen	Church	20	7	5	105	623
San Jose, 10,000—Los Angeles	Gen	Part	25	15	10	258	584
San Jose Hospital	Gen	Part	25	15	10	258	584
San Jose Community Hospital	Gen	Indiv	16	9	5	135	425
San Jose Community Hospital	Gen	Indiv	16	9	5	135	425
Hermosa Beach, 7,197—Los Angeles	Gen	NPAasn	15	7	6	65	542
South Bay Community Hospital	Gen	NPAasn	15	7	6	65	542
Hoopa, 20—Humboldt	Gen	IA	36	13	5	37	415
Hoopa Valley Indian Hospital	Gen	IA	36	13	5	37	415
Huntington Park, 28,648—Los Angeles	Gen	Corp	31	28	10	346	1,354
Mission Hospital	Gen	Corp	31	28	10	346	1,354
Imola, 20—Napa	Gen	State	3,854	3,592	..	..	838
Napa State Hospital	Gen	State	3,854	3,592	..	..	838
Indio, 2,396—Riverside	Gen	Indiv	26	11	7	117	720
Casita Hospital	Gen	Indiv	26	11	7	117	720
Coachella Valley Hospital	Gen	Part	14	12	4	103	749
Inglewood, 30,114—Los Angeles	Gen	Indiv	40	27	10	217	971
Centifolia Hospital	Gen	Indiv	40	27	10	217	971
Keene, 164—Kern	TB	County	103	101	..	..	80
Stony Brook Retreat	TB	County	103	101	..	..	80
King City, 1,768—Monterey	Gen	Indiv	15	6	4	28	267
Community Hospital	Gen	Indiv	15	6	4	28	267
La Crescenta, 6,000—Los Angeles	TB	Corp	90	80	..	..	163
Hillcrest Sanatorium	TB	Corp	90	80	..	..	163
La Jolla, —San Diego	Gen	NPAasn	44	27	6	65	1,008
Scripps Memorial Hospital	Gen	NPAasn	44	27	6	65	1,008
Scripps Metabolic Clinic	Metab	NPAasn	33	26	..	..	1,343
La Vina, 70—Los Angeles	TB	NPAasn	50	49	..	..	35
La Vina Sanatorium	TB	NPAasn	50	49	..	..	35
Lindsay, 4,397—Tulare	Gen	Part	12	8	3	77	352
Lindsay Hospital	Gen	Part	12	8	3	77	352
Livermore, 146—Livermore	TB	County	266	240	..	..	364
Livermore Sanitarium	TB	County	266	240	..	..	364
St. Paul's Hospital	Gen	Indiv	20	12	3	84	300
St. Paul's Hospital	Gen	Indiv	20	12	3	84	300
Veterans Admin. Facility	TB	Vet	339	288	..	..	464

CALIFORNIA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Lodi, 11,079—San Joaquin	Gen	Indiv	30	15	9	140	978
Buchanan Hospital	Gen	Indiv	30	15	9	140	978
Mason Hospital	Gen	Indiv	30	15	9	140	978
Loma Linda, 2,500—San Bernardino	Gen	Church	112	85	12	222	3,028
Loma Linda Sanitarium and Hospital	Gen	Church	112	85	12	222	3,028
Long Beach, 164,271—Los Angeles	Gen	Indiv	40	17	7	86	751
Harriman Jones Clinic and Hospital	Gen	Indiv	40	17	7	86	751
Long Beach Community Hospital	Gen	NPAasn	100	66	20	515	3,406
St. Mary's Long Beach Hospital	Gen	Church	75	70	15	738	2,633
Sensido Memorial Hospital	Gen	NPAasn	214	129	40	708	5,608
Los Angeles, 1,504,277—Los Angeles	TB	NPAasn	100	99	..	..	73
Barlow Sanatorium	TB	NPAasn	28	20	30	686	605
Baurlyte Maternity Cottage Mat California Babies and Children's Hospital	Chil	NPAasn	30	9	10	37	656
California Hospital	Chil	NPAasn	261	228	32	1,283	8,845
Cedars of Lebanon Hospital	Gen	NPAasn	258	235	40	1,075	8,313
Children's Hospital	Chil	NPAasn	200	154	..	..	4,754
East Los Angeles Hospital	Gen	NPAasn	25	18	11	297	71
Ex-Patients Home of the Jewish Consumptive Relief Association	TB	NPAasn	70	67	..	..	73
Eye and Ear Hospital	ENT	Corp	21	5	..	..	1,655
French Hospital	Gen	NPAasn	80	57	20	465	2,023
Golden State Hospital	Gen	Indiv	70	29	..	..	642
Hospital of the Good Samaritan	Gen	Church	400	318	45	984	10,036
Japanese Hospital	Gen	Corp	36	23	6	123	1,142
Lincoln Hospital	Gen	NPAasn	30	16	11	187	737
Los Angeles County Hospital (Medical Unit)	Gen	County	3,794	2,166	217	3,583	48,902
Los Angeles County Psychiatric Hospital	Gen	County	37	19	..	..	151
Orthopaedic Hospital	Gen	Church	180	116	40	1,323	5,485
Pahl Hospital	Gen	Indiv	15	6	3	42	388
Presbyterian Hospital—Olmsted Memorial	Gen	NPAasn	250	182	65	1,179	7,341
Queen of Angels Hospital	Gen	Church	325	246	64	1,494	9,253
St. Vincent's Hospital	Gen	Church	250	191	50	806	6,202
Santa Fe Coast Lines Hospital	Indus	NPAasn	190	135	..	..	3,382
Southwest General Hospital	Gen	Church	24	18	12	..	545
White Memorial Hospital	Gen	Church	185	137	30	987	7,317
Los Banos, 2,214—Merced	Gen	Church	12	..	4	..	Estab. 1940
City Clinic and Emergency Hospital	Gen	Church	12	..	4	..	Estab. 1940
Madera, 6,457—Madera	Gen	Indiv	25	11	4	98	680
Darborn Hospital	Gen	Indiv	25	11	4	98	680
Madera County Hospital	Gen	County	143	131	8	248	1,814
Madera Sanitarium	Gen	Indiv	21	13	3	108	640
Manor, —Marin	TB	NPAasn	50	42	..	..	56
Arcipua Sanatorium	TB	NPAasn	50	42	..	..	56
March Field, —Riverside	Gen	Army	75	33	5	65	1,080
Station Hospital	Gen	Army	75	33	5	65	1,080
Mare Island, 500—Solano	Gen	Navy	484	469	5	82	5,616
U. S. Naval Hospital	Gen	Navy	484	469	5	82	5,616
Martinez, 7,381—Contra Costa	Gen	County	235	167	12	281	2,869
Contra Costa County Hospital	Gen	County	235	167	12	281	2,869
Martinez Community Hospital	Gen	Corp	30	23	6	178	1,163
Marysville, 6,646—Yuba	Gen	Indiv	32	23	6	192	1,381
Rideout Memorial Hospital	Gen	Indiv	32	23	6	192	1,381
McCloud, 2,616—Siskiyou	Gen	NPAasn	23	6	6	77	573
McCloud Hospital	Gen	NPAasn	23	6	6	77	573
Merced, 10,135—Merced	Gen	Indiv	50	34	12	298	1,903
Merey Hospital	Gen	Indiv	50	34	12	298	1,903
Modesto, 16,379—Stanislaus	Gen	Indiv	35	..	..	..	..
McPheeters Hospital	Gen	Indiv	35	..	..	..	..
Monrovia, 12,807—Los Angeles	TB	Indiv	20	13	..	..	40
Norumbega Sanatorium	TB	Indiv	20	13	..	..	40
Pottenger Sanatorium and Clinic	TB	Corp	90	61	..	..	204
Monterey, 10,084—Monterey	Gen	NPAasn	34	12	6	43	528
Monterey Hospital	Gen	NPAasn	34	12	6	43	528
Station Hospital	Gen	Army	300	250	2	11	4,099
Monterey Park, 8,531—Los Angeles	Gen	NPAasn	38	28	12	473	1,324
Garfield Hospital	Gen	NPAasn	38	28	12	473	1,324
Murphys, 600—Calaveras	TB	Counties	247	227	..	..	415
Bret Harte Sanatorium	TB	Counties	247	227	..	..	415
Napa, 7,740—Napa	Gen	Corp	28	10	8	201	835
Victory Hospital	Gen	Corp	28	10	8	201	835
National City, 10,344—San Diego	Gen	Part	10	4	3	24	169
Elwyn Hospital	Gen	Part	10	4	3	24	169
Paradise Valley Sanitarium and Hospital	Gen	Church	127	65	16	362	1,935
Nevada City, 2,445—Nevada	Gen	NPAasn	20	..	4	..	Estab. 1910
Miners Hospital	Gen	NPAasn	20	..	4	..	Estab. 1910
Newhall, 1,104—Los Angeles	Gen	Corp	16	9	4	65	421
Unit of Olive View Sanatorium, Olive View	Gen	Corp	16	9	4	65	421
Norwalk, 5,111—Los Angeles	Ment	State	2,485	2,315	..	..	618
Norwalk State Hospital	Ment	State	2,485	2,315	..	..	618

Key to symbols and abbreviations is on page 1083

CALIFORNIA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Oakland, 302,163—Alameda							
Children's Hospital of the East Bay†	Chil	NPAssn	50	28	..	...	2,263
East Oakland Hospital†	Gen	Corp	83	60	15	1,009	3,461
Highland-Alameda County Hospital†	Gen	County	366	382	22	1,156	12,797
Peralta Hospital†	Gen	NPAssn	145	117	40	808	5,552
Providence Hospital†	Gen	Church	190	114	30	786	5,011
Samuel Merritt Hospital†	Gen	NPAssn	190	145	35	1,038	6,021
Olive View, —Los Angeles							
Olive View Sanatorium†	TB	County	1,099	1,054	..	...	700
Orange, 7,901—Orange							
Orange County General Hospital†	Gen	County	332	297	20	348	3,529
St. Joseph Hospital†	Gen	Church	105	61	21	546	2,492
Oxnard, 8,519—Ventura							
St. John's Hospital†	Gen	Church	28	13	9	128	483
Palo Alto, 16,774—Santa Clara							
Palo Alto Hospital†	Gen	NPAssn	163	75	28	441	3,412
Veterans Admin. Facility†	Ment	Vet	1,218	1,152	..	...	375
Pasadena, 81,864—Los Angeles							
Collis P. and Howard Huntington Memorial Hospital†	Gen	NPAssn	204	149	25	720	5,938
Las Encinas Sanitarium†	Nerv& IntMed	Corp	100	89	..	...	297
Lutheran Good Samaritan Hospital†	Gen	Church	45	36	6	141	749
St. Luke Hospital†	Gen	Church	75	60	20	425	2,315
Southern California Sanitarium for Nervous and General Diseases†	See Las Encinas Sanitarium						
Woman's Hospital†	Mat	NPAssn	14	8	14	300	312
Patton, 4,100—San Bernardino							
Patton State Hospital†	Ment	State	4,024	3,843	..	...	1,380
Placerville, 3,064—Eldorado							
Placerville Sanatorium†	Gen	Part	30	15	10	61	542
Pomona, 23,539—Los Angeles							
Pomona Valley Community Hospital†	Gen	NPAssn	82	25	21	251	1,262
Portola, 1,400—Plumas							
Western Pacific Railway Hospital†	Gen	NPAssn	27	14	6	77	504
Quincy, 1,000—Plumas							
Plumas County Hospital†	Gen	County	34	29	3	29	289
Red Bluff, 3,824—Tehama							
St. Elizabeth's Mercy Hospital†	Gen	Church	40	28	8	126	630
Tehama County Hospital†	Gen	County	68	46	8	91	511
Redwood City, 12,453—San Mateo							
Canyon Sanatorium†	TB	Indiv	70	36	..	...	79
Hassler Health Home†	TB	CyCo	314	96	..	...	161
Richmond, 23,642—Contra Costa							
Richmond Hospital†	Gen	Part	50	36	11	311	1,902
Riverside, 34,696—Riverside							
Riverside Community Hospital†	Gen	NPAssn	64	53	18	405	2,217
Rosemead, 4,500—Los Angeles							
Alhambra Sanatorium†	N&M	Part	22	14	..	...	61
Ross, 1,751—Marin							
Ross General Hospital†	Gen	Corp	88	54	8	162	1,335
Sacramento, 103,958—Sacramento							
Mercury Hospital†	Gen	Church	160	116	27	587	4,778
Sacramento County Hospital†	Gen	County	485	359	25	711	8,219
Sutter General Hospital†	Gen	NPAssn	225	177	..	...	7,763
Sutter Maternity Hospital†	Mat	NPAssn	52	41	56	1,320	1,457
Salinas, 11,586—Monterey							
El Sausal Sanitarium†	Unit of Monterey County Hospital						
Monterey County Hospital†	GenTb	County	195	170	10	284	3,010
Park Lane Hospital†	Gen	Indiv	36	24	9	270	1,067
Salinas Valley Hospital†	Gen	Part	23	20	9	120	989
San Bernardino, 43,616—San Bernardino							
St. Bernardine's Hospital†	Gen	Church	125	49	12	332	1,790
San Bernardino County Charity Hospital†	Gen	County	324	299	17	555	3,786
San Diego, 263,341—San Diego							
Mercury Hospital†	Gen	Church	300	232	60	1,961	10,926
San Diego County General Hospital†	Gen	County	638	461	38	786	9,313
U. S. Naval Hospital†	Gen	Navy	1,184	939	..	...	9,711
Vaulchain Home†	Unit of San Diego County General Hospital						
San Fernando, 9,094—Los Angeles							
Veterans Admin. Facility†	TB	Vet	360	339	..	...	704
San Francisco, 634,536—San Francisco							
Chinese Hospital†	Gen	NPAssn	50	25	9	121	695
Dante Hospital†	Gen	Corp	173	120	12	121	4,234
Franklin Hospital†	Gen	NPAssn	225	199	23	398	5,508
French Hospital†	Gen	NPAssn	210	160	19	277	3,788
Greens' Eye Hospital†	ENT	Part	33	5	..	...	1,006
Hospital for Children†	Gen	NPAssn	188	127	44	1,081	4,775
Letterman General Hosp.†	Gen	Army	1,192	780	10	143	9,064
Mary's Help Hospital†	Gen	Church	119	85	25	478	3,167
Mt. Zion Hospital†	Gen	NPAssn	161	96	26	401	3,930
Park Sanitarium†	N&M	Corp	33	23	..	...	736
St. Elizabeth's Infant Hosp.†	MatCh	Church	65	54	10	72	92
St. Francis Hospital†	Gen	NPAssn	285	184	50	712	8,147
St. Joseph's Hospital†	Gen	Church	244	165	45	1,067	6,017
St. Luke's Hospital†	Gen	Church	200	153	20	421	5,334
St. Mary's Hospital†	Gen	Church	325	233	40	1,158	8,516
San Francisco Hospital†	Gen	CyCo	1,284	1,074	50	691	16,555
San Francisco Psychopathic Hospital†	Unit of San Francisco Hospital						

CALIFORNIA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Shriners Hospital for Crippled Children†	Orth	NPAssn	60	60	..	...	321
Southern Pacific General Hospital†	Indus	NPAssn	400	366	..	...	5,661
Stanford University Hospital†	Gen	NPAssn	369	249	26	701	9,736
Sutter Hospital†	Gen	Corp	60	25	12	32	2,114
U. S. Marine Hospital†	Gen	USPHS	485	431	..	...	5,211
University of California Hospital†	Gen	State	279	213	30	592	7,608
Veterans Admin. Facility†	Gen	Vet	340	311	..	...	2,210
Sanger, 4,017—Fresno							
Sanger Sanitarium†	Gen	Indiv	16	7	4	93	409
Sanitarium, 500—Napa							
St. Helena Sanitarium and Hospital†	Gen	Church	130	73	6	91	2,109
San Jacinto, 1,357—Riverside							
Soboba Indian Hospital†	Gen	IA	32	16	3	25	294
San Jose, 63,457—Santa Clara							
Alum Rock Sanatorium†	TB	Corp	45	32	..	...	143
O'Connor Sanitarium†	Gen	Church	105	72	25	610	3,582
San Jose Hospital†	Gen	NPAssn	131	86	30	806	4,040
Santa Clara County Hospital†	GenTb	County	537	436	26	816	7,754
Santa Clara County Sanatorium†	Unit of Santa Clara County Hospital						
San Leandro, 14,001—Alameda							
Fairmont Hospital of Alameda County†	GenTb	County	768	749	..	...	1,918
San Luis Obispo, 8,881—San Luis Obispo							
Mountain View Hospital†	Gen	Indiv	20	12	4	57	630
San Luis Obispo County Tuberculosis Sanatorium†	Unit of San Luis Obispo General Hospital						
San Luis Obispo General Hospital†	GenTb	County	69	38	8	97	1,324
San Luis Sanitarium†	Gen	Indiv	23	14	5	70	684
San Mateo, 19,403—San Mateo							
Community Hospital of San Mateo County†	Gen	County	198	148	12	151	2,119
Mills Memorial Hospital†	Gen	Church	124	75	38	464	3,378
San Pedro, —Los Angeles							
San Pedro Hospital†	Gen	Corp	88	55	24	527	2,595
Station Hospital†	Gen	Army	86	35	..	...	1,288
U. S. Ship Relief Hospital†	Gen	Navy	367	173	..	...	2,737
San Rafael, 8,573—Marin							
San Rafael Cottage Hosp.†	Gen	Indiv	45	25	16	210	1,056
Santa Barbara, 34,958—Santa Barbara							
St. Francis Hospital†	Gen	Church	85	59	20	263	1,979
Santa Barbara Cottage Hospital†	Gen	NPAssn	165	103	20	265	3,501
Santa Barbara General Hospital†	Gen	County	300	204	12	216	2,491
Santa Cruz, 16,896—Santa Cruz							
Hanly Hospital†	Gen	Indiv	31	10	7	62	453
Santa Cruz County Hospital†	GenTb	County	110	129	6	145	1,520
Santa Cruz Hospital†	Gen	Corp	35	20	8	187	1,071
Santa Maria, 8,522—Santa Barbara							
Our Lady of Perpetual Help Hospital†	Gen	Church	40	...	14	Estab.	1940
Santa Monica, 53,500—Los Angeles							
Santa Monica Hospital†	Gen	Corp	150	126	30	1,269	6,159
Santa Rosa, 12,605—Sonoma							
Eliza Tanner Hospital†	Gen	Part	20	10	5	153	511
General Hospital†	Gen	Indiv	41	14	8	149	841
Sonoma County Hospital†	Gen	County	426	366	14	279	2,906
Scotia, 1,000—Humboldt							
Scotia Hospital†	Gen	NPAssn	35	18	4	...	400
Selma, 3,667—Fresno							
Selma Sanitarium†	Gen	Corp	21	14	6	124	989
Shasta Dam, 750—Shasta							
Shasta Dam Hospital†	Indus	NPAssn	29	12	..	...	594
South Pasadena, 14,350—Los Angeles							
Pasadena Sanitarium†	N&M	Indiv	100	71	..	...	99
South San Francisco, 6,629—San Mateo							
South San Francisco Hosp.†	Gen	Corp	34	...	No data supplied		
Spadra, 275—Los Angeles							
Pacific Colony-State Narcotic Hospital†	McDeDrug	State	1,348	1,056	..	...	395
Springville, 665—Tulare							
Tulare-Kings Counties Joint Tuberculosis Hospital†	TB	Counties	146	123	..	...	142
Stockton, 54,714—San Joaquin							
Dameron Hospital†	Gen	Corp	76	54	18	363	2,711
St. Joseph's Home and Hospital†	Gen	Church	95	64	15	412	2,579
Stockton State Hospital†	Ment	State	4,708	4,255	..	...	1,463
Susanville, 1,575—Lassen							
Riverside Hospital†	Gen	Indiv	40	7	6	52	612
Talmage, 350—Mendocino							
Mendocino State Hospital†	Ment	State	2,931	2,726	..	...	813
Tehachapi, 1,264—Kern							
Tehachapi Valley Hospital†	Gen	Indiv	15	9	4	80	457
Terminal Island, 1,046—Los Angeles							
Federal Correctional Hosp.†	Gen	USPHS	41	35	..	...	518
Torrance, 9,950—Los Angeles							
Jared Sidney Torrance Memorial Hospital†	Gen	NPAssn	40	21	12	338	1,092
Trona, 775—San Bernardino							
Trona Hospital†	Gen	NPAssn	20	9	6	43	609

CALIFORNIA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Births	Number of Births	Admissions †
Tulare, 8,250—Tulare							
East Tulare Hospital.....	Gen	Indiv	12	6	12	318	426
Tulare County General Hospital.....	Gen	County	102	83	15	619	3,895
Tulare Hospital.....	Gen	Indiv	24	18	4	9	948
Turlock, 4,839—Stanislaus							
Emanuel Hospital.....	Gen	Church	40	19	9	136	845
Lillian Collins Hospital.....	Gen	Indiv	15	4	6	39	276
Upland, 6,316—San Bernardino							
San Antonio Community Hospital.....	Gen	NPAasn	55	29	16	205	1,498
Vallejo, 20,072—Solano							
Vallejo General Hospital.....	Gen	Indiv	70	35	18	356	3,318
Ventura, 13,264—Ventura							
Bard Memorial Hospital.....	Unit of	Ventura County Hospital					
Poster Memorial Hospital.....	Gen	NPAasn	65	23	12	144	1,032
Ventura County Hospital.....	GenTb	County	300	222	7	274	4,874
Vineburg, 164—Sonoma							
Burndale Hospital.....	Gen	Indiv	15	5	2	37	200
Visalia, 8,904—Tulare							
Visalia Municipal Hospital.....	Gen	City	32	21	8	300	1,316
Watsonville, 8,937—Santa Cruz							
Watsonville Hospital.....	Gen	Corp	37	23	10	217	1,161
Weed, 4,000—Siskiyou							
Weed Hospital.....	Gen	Part	20	7	4	81	319
Weimar, 50—Placer							
Weimar Joint Sanatorium.....	TB	Counties	544	521	..	..	503
West Los Angeles, —Los Angeles							
Veterans Admin. Facility.....	GenMent	Vet	2,425	1,993	..	..	8,761
Westwood, 3,500—Lassen							
Westwood Hospital.....	Gen	NPAasn	40	17	9	131	746
Willits, 1,625—Mendocino							
Frank R. Howard Memorial Hospital.....	Gen	NPAasn	22	14	5	80	571
Woodland, 6,637—Yolo							
Woodland Clinic Hospital.....	Gen	Part	65	43	10	154	1,962
Yosemite National Park, 1,000—Mariposa							
Lewis Memorial Hospital.....	Gen	Indiv	13	8	3	20	335
Yreka, 2,485—Siskiyou							
Siskiyou County General Hospital.....	Gen	County	140	135	8	130	1,500
Yuba City, 4,968—Sutter							
Yuba City General Hospital.....	Gen	Indiv	20	15	6	225	963
Related Institutions							
Alcatraz, —San Francisco							
U. S. Penitentiary Hosp.....	Inst	Fed	30	..	..	..	..
Altadena, —Los Angeles							
Pasadena Preventorium.....	Conv	NPAasn	40	35	..	..	87
Alta Loma, 1,500—San Bernardino							
Our Lady of Lourdes Sanatorium.....	TB	Indiv	25	8	..	..	17
Artesia, 3,891—Los Angeles							
Pioneer Sanatorium.....	N&M	Indiv	53	53	..	..	52
Atwater, 1,235—Merced							
Bloss Memorial Hospital.....	Unit of	Merced General Hospital, Merced					
Auburn, 4,013—Placer							
Placer County Hospital.....	InstGen	County	136	103	6	76	966
Azusa, 5,209—Los Angeles							
Rural Rest Home and Sanatorium.....	Conv	NPAasn	95	90	..	..	170
Belmont, 3,220—San Mateo							
Chas. S. Howard Foundation.....	TbChil	NPAasn	20	17	..	..	48
Hillwell Sanatorium.....	N&M	Part	25	23	..	..	34
Blythe, 2,355—Riverside							
Blythe Hospital.....	Gen	County	18	9	11	106	581
Claremont, 3,057—Los Angeles							
Claremont Hospital.....	Inst	NPAasn	24	5	..	..	357
Claremont, 1,500—Los Angeles							
Claremont Hospital.....	Gen	Indiv	14	6	5	64	360
Claremont, 1,500—Los Angeles							
Claremont Hospital.....	Gen	Indiv	11	8	6	131	439
Claremont, 1,500—Los Angeles							
Claremont Hospital.....	Gen	Indiv	16	8	7	57	492
Dos Palos, 978—Merced							
Dos Palos Community Hosp.....	Gen	Indiv	16	8	3	84	416
Duarte, 1,500—Los Angeles							
Duarte Hospital.....	TB	Indiv	24	10	..	..	40
Duarte Hospital.....	N&M	Part	45	43	..	..	47
Duarte Hospital.....	TB	Church	120	115	..	..	40
Duarte Hospital.....	MeDe	State	2,987	2,969	..	..	415
Duarte Hospital.....	ation	County	16	3	..	..	96
Fairfield, 1,312—Solano							
Solano County Hospital.....	InstGen	County	110	89	6	96	764
Fowler, 1,531—Fresno							
Fowler Sanatorium.....	Gen	Indiv	6	3	3	35	214
Glendale, 82,582—Los Angeles							
Villa Shaw Rest Home.....	Ment	Indiv	25	25	..	..	25
Hollister, 3,881—San Benito							
San Benito County Hosp.....	InstGen	County	41	32	2	16	240
Hondo, 3,150—Los Angeles							
Rancho Los Amigos.....	InstMent	County	2,823	2,774	..	..	2,034
Inglewood, 30,114—Los Angeles							
St. Erme Sanatorium.....	N&M	Indiv	200	185	..	..	313
Stork's Nest Maternity Hospital.....	Mat	Part	28	10	17	350	280
Keene, 164—Kern							
Kern County Preventorium.....	TB	County	50	38	..	..	52
Kingsburg, 1,504—Fresno							
Kingsburg Sanatorium.....	Gen	Indiv	14	7	4	56	395
La Crescenta, 6,000—Los Angeles							
Kimball Sanatorium.....	N&M	Part	28	21	..	..	136

CALIFORNIA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Births	Number of Births	Admissions †
Lancaster, 1,000—Los Angeles							
Antelope Valley Sanatorium TB	Part		118	97	..	..	93
Lincoln, 2,044—Placer							
Joslin's Sanatorium.....	N&M	Indiv	15	11	..	..	15
Livermore, 2,885—Alameda							
Del Valle Preventorium.....	Unit of	Arroyo-Del Valle Sanatorium, Livermore					
Long Beach, 164,271—Los Angeles							
Bixby Knolls Maternity Hospital.....	Mat	Part	20	11	24	524	519
California Sanatorium.....	Conv	Indiv	36	22	..	..	700
Los Angeles, 1,504,277—Los Angeles							
Chase Diet Sanatorium.....	Conv	Part	22	11	..	..	133
Doughty Sanatorium.....	TB	Indiv	14	11	..	..	22
Florence Crittenton Home.....	Mat	NPAasn	44	27	6	75	79
Junior League Convalescent Home for Children.....	Conv	NPAasn	24	22	..	..	71
Juvenile Hall Hospital.....	GenVen	County	121	64	..	..	5,070
Mt. Sinai Hospital.....	InstGen	NPAasn	105	52	..	..	34
Resthaven.....	N&M	NPAasn	45	35	..	..	201
St. Barnabas Rest Home for Men.....	Conv	Church	15	11	..	..	128
Salvation Army Women's Home and Hospital.....	Mat	Church	72	70	8	136	211
Twentieth Century Sanit.....	N&M	Indiv	45	45	..	..	78
Marysville, 6,646—Yuba							
Yuba County Hospital.....	InstGen	County	90	77	6	145	1,222
Merced, 10,135—Merced							
Merced General Hospital.....	InstGen	County	250	241	19	455	3,223
Monrovia, 12,807—Los Angeles							
Maryknoll Sanatorium.....	TB	Church	50	48	..	..	40
Montebello, 8,016—Los Angeles							
Los Angeles Convalescent Home.....	Conv	NPAasn	42	30	..	..	463
National City, 10,344—San Diego							
Hillcrest Home.....	N&M	Indiv	50	32	..	..	72
Nevada City, 2,445—Nevada							
Nevada City Sanatorium.....	Gen	Indiv	10	4	8	142	361
Nevada County Hospital.....	InstGen	County	100	77	3	28	347
Oakland, 302,163—Alameda							
Salvation Army Women's Home and Hospital.....	Mat	Church	66	63	38	179	179
Pacific Grove, 6,249—Monterey							
Pine Grove Sanatorium and Hospital.....	Gen	Indiv	13	2	4	55	107
Pacifica, —Los Angeles							
Independent Order of Foresters California Tubercu.....	TB	NPAasn	60	18	..	..	21
.....	InstGen	County	60	33	4	20	146
.....	Gen	Indiv	20	10	4	144	601
Randsburg, 433—Kern							
Rand District Hospital.....	Gen	Indiv	8	6	2	21	394
Redding, 8,169—Shasta							
Shasta County Hospital.....	InstGen	County	82	75	8	123	1,240
Represa, 30—Sacramento							
Folsom Prison Hospital.....	Inst	State	94	65	..	..	951
.....	ital. Inst	IA	58	..	..	..	No data supplied
Rosemead Lodge.....	N&M	Indiv	68	35	..	..	179
Ross, 1,751—Marin							
Ross School, MeDe	Corp		37	31	..	..	2
.....	Gen	Indiv	9	3	2	3	65
.....	Conv	Part	25	16	..	..	102
San Fernando, 9,004—Los Angeles							
San Fernando Hospital.....	TB	County	57	50	..	..	40
.....	Indiv		19	11	5	103	409
.....	NPAasn		67	66	..	..	69
.....	Corp		21	16	..	..	58
.....	CyCo		770	748	..	..	854
.....	NPAasn		12	7	..	..	538
.....	Part		85	85	..	..	122
.....	Indiv		60	60	..	..	48
.....	Part		72	62	..	..	65
Beale Sanatorium.....	N&M	Indiv	15	9	..	..	48
.....	Unit of	Santa Clara County Hospital					
.....	TB	NPAasn	28	23	..	..	24
San Quentin, 1,000—San Francisco							
Charles L. Neumiller Memorial Hospital.....	Inst	State	200	121	..	..	1,419
San Rafael, 8,573—Marin							
San Rafael Hospital.....	GenTh	County	70	..	..	..	..
.....	NPAasn		20	18	..	..	22
.....	Conv	Corp	30	16	..	..	133
.....	County		41	23	5	45	472
.....	NPAasn		80	71	..	..	165
Stanford							
Sunland, —Los Angeles							
Sunland Sanatorium.....	TB	Corp	59	55	..	..	87
Tujunga, —Los Angeles							
Reslock Health Retreat.....	Chil	Indiv	34	22	..	..	50
Verdugo City, 1,500—Los Angeles							
Rockhaven Sanatorium.....	N&M	Indiv	100	100	..	..	209

Key to symbols and abbreviations is on page 1083

CALIFORNIA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Veterans Home, 800—Napa							
Veterans Home Hospital... Inst	State		266	215	..	...	1,655
Willows, 2,215—Glenn							
Glenn County Hospital.....InstGen County			38	...	No data supplied		
Yuba City, 4,908—Sutter							
Sutter County Hospital.....InstGen County			70	43	8	187	1,106

COLORADO

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Alamosa, 5,613—Alamosa							
Community Hospital	Gen	Church	43	27	8	228	1,348
Aspen, 777—Pitkin							
Citizens' Hospital	Gen	NPAssn	20	5	2	2	63
Boulder, 12,958—Boulder							
Boulder-Colorado Sanitarium and Hospital... Gen	Church		101	37	6	41	1,185
Community Hospital... Gen	NPAssn		45	29	12	142	1,353
Brush, 2,481—Morgan							
Eben-Ezer Hospital	Gen	Church	24	13	8	99	613
Canon City, 6,690—Fremont							
Colorado Hospital	Gen	Indiv	28	12	5	59	540
Thomas More Hospital..... Gen	Church		40	15	6	70	635
Cheyenne Wells, 695—Cheyenne							
Cheyenne County Hospital. Gen	Indiv		10	5	6	21	191
Climax, 250—Lake							
Climax Molybdenum Com- pany Hospital	Indus	NPAssn	10	3	..	...	112
Colorado Springs, 36,789—El Paso							
Beth-El General Hospital and Sanatorium... GenTb	Church		160	87	16	393	2,051
Colorado Springs Psycho- pathic Hospital	N&M	Part	150	130	..	...	235
Glockner Sanatorium and Hospital... GenTb	Church		150	99	13	189	1,773
National Methodist Episcopal Sanat. for Tuberculosis... Unit of Beth-El General Hosp. and Sanat.							
Observation Hospital	Unit of Beth-El General Hosp. and Sanat.						
St. Francis Hospital and Sanatorium... GenTb	Church		140	86	10	230	1,431
Union Printers Home and Tuberculosis Sanatorium.. GenTb	NPAssn		172	164	..	...	237
Cortez, 1,778—Montezuma							
Johnson Hospital	Gen	Indiv	12	5	2	40	186
Cripple Creek, 2,358—Teller							
Cripple Creek Hospital..... Gen	NPAssn		25	9	6	78	672
Del Norte, 1,923—Rio Grande							
St. Joseph's Hospital and Sanatorium	Gen	Church	45	22	11	124	924
Delta, 3,717—Delta							
Western Slope Memorial Hospital	Gen	NPAssn	12	5	3	12	233
Denver, 322,412—Denver							
Bethesda Sanatorium	TB	Church	68	32	..	...	39
Beth Israel Hospital... Gen	NPAssn		53	34	10	36	1,189
Childrens Hospital... Gen	NPAssn		200	119	..	...	3,827
Colorado General Hosp. ... Gen	State		245	133	20	629	3,878
Colorado Psychopathic Hos- pital... Gen	State		78	79	..	...	876
Denver General Hosp. ... Gen	CyCo		521	300	51	493	7,416
Ex-Patients' Tubercular Home	TB	NPAssn	70	39	..	...	56
Fitzsimons General Hosp. ... GenTb	Army		1,185	888	6	77	7,344
Mercy Hospital... Gen	Church		210	164	30	687	6,653
Mt. Airy Sanitarium... N&M	Corp		66	42	..	...	351
National Jewish Hospital... TB	NPAssn		246	231	..	...	195
Porter Sanitarium and Hos- pital... Gen	Church		80	53	13	205	1,757
Presbyterian Hospital... Gen	Church		150	111	25	748	4,597
St. Anthony Hospital... Gen	Church		180	111	30	692	3,715
St. Joseph's Hospital... Gen	Church		246	193	54	845	6,343
St. Luke's Hospital... Gen	Church		219	162	40	749	6,010
Steele Memorial Hospital... Iso	CyCo		80	25	..	...	707
Durango, 5,887—LaPlata							
Durango Hospital... Gen	Church		51	33	9	167	1,940
Ochsner Hospital	Gen	Part	33	20	7	44	455
Edgewater, 1,648—Jefferson							
Craig Colony	TB	NPAssn	50	42	..	...	28
Sands House	TB	NPAssn	44	35	..	...	33
Englewood, 9,680—Arapahoe							
Federal Correctional Insti- tution	Gen	USPHS	25	3	..	...	...
Swedish National Sanat. ... TB	NPAssn		90	...	No data supplied		
Fairplay, 739—Park							
Fairplay Hospital	Gen	Indiv	16	6	2	52	563
Fort Logan, 800—Arapahoe							
Station Hospital	Gen	Army	74	39	..	...	677
Fort Lyon, 1,180—Bent							
Veterans Admin. Facility... Ment	Vet		805	676	..	...	124
Fort Morgan, 4,884—Morgan							
Fort Morgan Hospital..... Gen	Indiv		25	10	6	139	614
Glenwood Springs, 2,233—Garfield							
Dr. Porter's Hospital..... Gen	Part		21	10	4	46	387
Grand Junction, 12,479—Mesa							
St. Mary's Hospital... Gen	Church		65	35	12	238	1,096
Greeley, 15,995—Weld							
Greeley Hospital	Gen	County	103	84	31	536	3,524
Hayden, 640—Routt							
Solandt Memorial Hospital. Gen	NPAssn		16	8	3	53	331

COLORADO—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Holyoke, 1,150—Phillips							
Holyoke Hospital	Gen	Indiv	8	3	2	11	184
Ignacio, 555—LaPlata							
Edward T. Taylor Hospital. Gen	IA		44	22	3	31	740
Julesburg, 1,619—Sedgwick							
Community Hospital	Gen	Indiv	11	4	4	44	275
La Junta, 7,040—Otero							
Atchison, Topeka and Santa Fe Railroad Hospital... Indus	NPAssn		36	22	..	...	441
Mennonite Hospital and Sani- tarium... GenTb	Church		60	56	13	254	1,173
Leadville, 4,774—Lake							
St. Vincent Hospital..... Gen	Church		36	21	10	105	383
Longmont, 7,406—Boulder							
Longmont Hospital... Gen	Indiv		33	17	7	73	735
Montrose, 4,764—Montrose							
St. Luke's Hospital..... Gen	Indiv		15	10	6	75	386
Oak Creek, 1,769—Routt							
Oak Creek Hospital..... Gen	Indiv		11	7	2	43	380
Ouray, 951—Ouray							
Bates Hospital and Sanit... Gen	Corp		16	5	2	8	289
Pueblo, 52,162—Pueblo							
Colorado State Hospital... Ment	State		4,062	3,914	..	...	684
Corvin Hospital... Gen	NPAssn		206	125	22	187	2,703
Parkview Hospital... Gen	NPAssn		83	47	9	239	1,920
St. Mary Hospital... Gen	Church		150	96	24	431	2,673
Woodcroft Hospital... N&M	Corp		120	36	..	...	132
Rocky Ford, 3,494—Otero							
Physicians Hospital	Gen	NPAssn	10	9	3	97	241
Salida, 4,960—Chaffee							
Denver and Rio Grande West- ern Railroad Hospital... Gen	NPAssn		70	42	4	80	1,508
Red Cross Hospital..... Gen	Corp		40	15	3	25	348
Spivak, 350—Jefferson							
Sanat. of the Jewish Consump- tives' Relief Society... TB	NPAssn		300	211	..	...	156
Sterling, 7,411—Logan							
Good Samaritan Hospital... Gen	Church		30	15	10	100	722
St. Benedict Hospital... Gen	Church		30	17	6	182	870
Towaoc, 50—Montezuma							
Ute Mountain Indian Hosp.. Gen	IA		26	8	4	14	319
Trinidad, 13,223—Las Animas							
Mt. San Rafael Hospital... Gen	Church		75	32	7	119	955
Walsenburg, 5,855—Huerfano							
Lamme Brothers Hospital... Gen	Part		20	8	2	18	340
Wheat Ridge, 500—Jefferson							
Evangelical Lutheran Sanit.. TB	Church		110	84	..	...	51
Woodmen, 400—El Paso							
Modern Woodmen of America Sanatorium... TB	NPAssn		155	76	..	...	117
Wray, 2,001—Yuma							
Wray Hospital	Gen	Indiv	15	5	5	68	272
Related Institutions							
Boulder, 12,958—Boulder							
Boulder County Hospital... Gen	County		40	29	5	92	601
Mesa Vista Sanatorium..... TB	Part		50	20	..	...	27
Burlington, 1,280—Kit Carson							
Burlington Hospital	Gen	Part	8	4	4	48	267
Canon City, 6,690—Fremont							
Colorado State Penitentiary Hospital	Inst	State	45	40	..	...	1,738
Collbran, 301—Mesa							
Plateau Valley Congregation Hospital	Gen	Church	13	3	5	23	211
Colorado Springs, 36,789—El Paso							
Cragmor Sanatorium	TB	NPAssn	130	30	..	...	45
Denver, 322,412—Denver							
Florence Crittenton Home (Mary H. Donaldson Woman's Hospital)..... Mat	NPAssn		11	3	9	99	112
Oakes Home Sanitarium... TB	Church		100	58	..	...	92
St. Francis Sanatorium... TB	Church		16	11	..	...	40
Salvation Army Women's Home and Hospital..... Mat	Church		40	27	20	85	98
Englewood, 9,680—Arapahoe							
Costello Home	TB	NPAssn	16	10	..	...	9
Temple Sanatorium	Conv	Indiv	25	24	..	...	125
Flagler, 506—Kit Carson							
Flagler Hospital	Gen	Indiv	10	5	4	46	267
Fruita, 1,460—Mesa							
Fruita Community Hospital Gen	Indiv		8	3	2	38	186
Golden, 3,175—Jefferson							
Hospital-State Industrial School for Boys..... Inst	State		25	9	..	...	638
Grand Junction, 12,479—Mesa							
State Home and Training School for Mental Defec- tives	McDe	State	507	379	..	...	33
Greeley, 15,995—Weld							
Island Grove Hospital.....InstIso County			66	53	..	...	228
Homeland, 225—Rio Grande							
Colorado State Soldiers and Sailors Home	Inst	State	35	21	..	...	87
Longmont, 7,406—Boulder							
St. Vrain Hospital..... Gen	Indiv		25	13	5	40	450
Loveland, 6,145—Larimer							
Loveland Hosp. and Clinie.. Gen	Part		10	5	4	19	218
State Home and Training School for Mental Defec- tives	McDe	State	320	228	..	...	26
Yuma, 1,606—Yuma							
Yuma Community Hospital. Gen	NPAssn		12	5	5	42	212

Key to symbols and abbreviations is on page 1083

CONNECTICUT

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Bridgeport, 147,121—Fairfield	Gen	NPAssn	326	301	74	1,649	9,463
Bridgeport Hospital*AO	TbIso	City	150	29	..	..	326
Englewood Hospital	Gen	Church	270	199	55	1,163	6,563
St. Vincent's Hospital*AO	Gen	NPAssn	100	93	25	547	3,707
Bristol, 30,167—Hartford	Gen	NPAssn	100	93	25	547	3,707
Bristol Hospital	Gen	NPAssn	100	93	25	547	3,707
Canaan, 555—Litchfield	Gen	NPAssn	26	10	7	50	442
Robert O. Geer Memorial Hospital	Gen	NPAssn	26	10	7	50	442
Cromwell, 3,281—Middlesex	Gen	NPAssn	26	10	7	50	442
Cromwell Hall	Nerv	Corp	33	17	..	..	75
Danbury, 22,339—Fairfield	Gen	NPAssn	180	92	30	480	2,901
Danbury Hospital*AO	Gen	NPAssn	180	92	30	480	2,901
Derby, 10,287—New Haven	Gen	NPAssn	82	63	19	461	2,393
Griffin Hospital	Gen	NPAssn	82	63	19	461	2,393
Greens Farms, 275—Fairfield	N&M	Corp	70	45	..	..	130
Hall-Brooke Sanitarium	N&M	Corp	70	45	..	..	130
Greenwich, —Fairfield	N&M	Corp	79	50	..	..	133
Blythwood	N&M	Corp	79	50	..	..	133
Greenwich Hospital*AO	Gen	NPAssn	115	97	20	569	2,544
St. Luke's Convalescent Hospital	Conv	Church	110	91	..	..	909
Hartford, 166,267—Hartford	Gen	NPAssn	270	270	..	..	615
Avery Convalescent Hospital	Unit of Hartford Hospital	State	350	238	..	..	218
Cedarsent Sanatorium	TB	State	667	597	106	2,440	17,511
Hartford Hospital*AO	Gen	NPAssn	51	47	6	158	1,450
Mt. Sinai Hospital	Gen	NPAssn	315	197	25	297	4,467
Municipal Hospitals*AO	GenIso	City	315	197	25	297	4,467
Neuro-Psychiatric Institute of the Hartford Retreat*AO	N&M	NPAssn	270	270	..	..	615
St. Francis Hospital*AO	Gen	Church	444	352	82	1,631	10,632
Kent, 1,245—Litchfield	Gen	NPAssn	26	5	..	..	1,393
Kent School Infirmary	Inst	NPAssn	26	5	..	..	1,393
Lakeville, 1,800—Litchfield	Gen	NPAssn	35	11	..	..	544
Hotchkiss School Infirmary	Inst	NPAssn	35	11	..	..	544
Manchester, 23,799—Hartford	Gen	NPAssn	67	70	11	360	2,298
Manchester Memorial Hosp.*AO	Gen	NPAssn	67	70	11	360	2,298
Meriden, 39,494—New Haven	Gen	NPAssn	116	87	24	562	3,256
Meriden Hospital*AO	Gen	NPAssn	116	87	24	562	3,256
Undercliff, Meriden State Tuberculosis Sanatorium	TbChil	State	296	243	..	..	373
Middletown, 26,495—Middlesex	Gen	NPAssn	3,300	3,305	..	..	1,081
Connecticut State Hospital*AO	Ment	State	3,300	3,305	..	..	1,081
Middlesex Hospital*AO	Gen	NPAssn	140	106	27	481	3,161
Milford, 16,439—New Haven	Gen	NPAssn	50	24	15	141	855
Milford Hospital	Gen	NPAssn	50	24	15	141	855
New Britain, 68,685—Hartford	Gen	NPAssn	223	161	40	930	5,572
New Britain General Hospital*AO	Gen	NPAssn	223	161	40	930	5,572
New Haven, 160,605—New Haven	Gen	NPAssn	223	161	40	930	5,572
Dr. J. H. Evans' Private Hospital	Gen	Indiv	8	3	..	..	104
Grace Hospital*AO	Gen	NPAssn	230	201	40	1,010	6,034
Hospital of St. Raphael*AO	Gen	Church	240	202	40	952	6,805
New Haven Hospital*AO	Gen	NPAssn	521	393	50	921	10,265
Newington, 5,449—Hartford	Gen	NPAssn	200	174	..	..	124
Newington Home for Crippled Children	Orth	NPAssn	200	174	..	..	124
Veterans Admin. Facility	Vet	Gen	365	..	..	..	No data supplied
New London, 30,456—New London	Gen	NPAssn	48	31	12	116	733
Home Memorial Hospital	Gen	NPAssn	48	31	12	116	733
Lawrence and Memorial Associated Hospitals*AO	Gen	NPAssn	210	124	38	714	3,502
Dr. Lena's Surgical Hospital	Surg	Indiv	26	20	..	..	891
U. S. Coast Guard Academy Hospital	Gen	USPHS	30	6	..	..	370
New Milford, 5,559—Litchfield	Gen	NPAssn	30	10	6	56	342
New Milford Hospital	Gen	NPAssn	30	10	6	56	342
Newtown, 4,023—Fairfield	Ment	State	936	929	..	..	52
Fairfield State Hospital	Ment	State	936	929	..	..	52
Norwalk, 39,849—Fairfield	Gen	NPAssn	106	149	30	932	5,001
Norwalk General Hosp.*AO	Gen	NPAssn	106	149	30	932	5,001
Norwich, 34,140—New London	Gen	NPAssn	3,053	2,921	..	..	550
Norwich State Hospital	Ment	State	3,053	2,921	..	..	550
Norwich State Tuberculosis Sanatorium (Uncas-On-Thames)*AO	TB	State	428	343	..	..	289
William W. Backus Hospital*AO	Gen	NPAssn	150	88	28	623	3,018
Portland, 4,321—Middlesex	N&M	Indiv	25	24	..	..	148
Elmerest Manor	N&M	Indiv	25	24	..	..	148
Putnam, 8,692—Windham	Gen	NPAssn	60	62	16	265	1,513
Day Kimball Hospital	Gen	NPAssn	60	62	16	265	1,513
Rockville, 7,572—Tolland	Gen	NPAssn	35	19	6	136	519
Rockville City Hospital	Gen	NPAssn	35	19	6	136	519
Sharon, 1,611—Litchfield	Gen	NPAssn	40	17	12	197	784
Sharon Hospital	Gen	NPAssn	40	17	12	197	784
Sharon Tuberculosis Hospital	TB	State	382	350	..	..	302
Southington, 1,200—Hartford	N&M	Indiv	25	8	..	..	3
Stafford Springs, 3,401—Tolland	Gen	NPAssn	45	25	10	205	622
Cyril and Julia C. Johnson Hospital	Gen	NPAssn	45	25	10	205	622
Stamford, 1,200—Hartford	N&M	Corp	60	34	..	..	114
Dr. J. H. Evans' Private Hospital	N&M	Corp	150	125	..	..	122
Stamford Hall	N&M	Corp	221	160	30	870	5,179
Stamford Hospital*AO	Gen	NPAssn	26	9	..	..	5
Tophassee Grange	N&M	Corp	26	9	..	..	5
Thompsonville, 9,643—Hartford	N&M	Corp	12	7	..	..	..
Elmerest-Dr. Vail's Sanat.	N&M	Corp	12	7	..	..	..
Torrington, 26,988—Litchfield	Gen	NPAssn	130	83	20	553	2,934
Charlotte Hungerford Hospital	Gen	NPAssn	130	83	20	553	2,934

CONNECTICUT—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Wallingford, 11,425—New Haven	Gen	NPAssn	145	135	..	..	203
Gaylord Farm Sanatorium*TB	TB	NPAssn	145	135	..	..	203
Waterbury, 99,314—New Haven	Gen	NPAssn	226	191	44	1,073	8,793
St. Mary's Hospital*AO	Gen	Church	226	191	44	1,073	8,793
Waterbury Hospital*AO	Gen	NPAssn	306	198	49	935	6,793
Waterford, —New London	TbChil	State	145	136	..	..	37
The Seaside	TbChil	State	145	136	..	..	37
Westport, 8,258—Fairfield	N&M	Corp	100	84	..	..	191
Westport Sanitarium	N&M	Corp	100	84	..	..	191
Williamantic, 12,101—Windham	Gen	NPAssn	76	49	15	226	1,776
Windham Community Memorial Hospital	Gen	NPAssn	76	49	15	226	1,776
Winsted, 7,674—Litchfield	Gen	NPAssn	64	35	11	161	1,088
Litchfield County Hospital	Gen	NPAssn	64	35	11	161	1,088
Related Institutions							
Avon, 2,258—Hartford	Gen	NPAssn	12	2	..	..	190
Avon Old Farms Infirmary	Inst	NPAssn	12	2	..	..	190
Bridgeport, 147,121—Fairfield	City	City	275	251	..	..	555
Hillside Home and Hospital	Chr	City	275	251	..	..	555
Cheshire, 4,352—New Haven	Inst	State	28	6	..	..	202
Connecticut Reformatory	Inst	State	28	6	..	..	202
East Lyme, 3,338—New London	Unit of Connecticut State Farm for Women	State	60	42	7	66	173
Ida Thompson Hospital	Unit of Connecticut State Farm for Women	State	60	42	7	66	173
Greenwich, —Fairfield	N&M	Corp	18	15	..	..	13
Crest View Sanitarium	N&M	Corp	18	15	..	..	13
Municipal Hospital	TbIso	City	72	46	2	1	244
Mansfield Depot, 300—Tolland	MeDe	State	1,200	1,179	..	..	58
Mansfield State Training School and Hospital	MeDe	State	1,200	1,179	..	..	58
Meriden, 39,494—New Haven	Inst	State	30	8	..	..	800
Connecticut School for Boys	Inst	State	30	8	..	..	800
New Canaan, 6,221—Fairfield	Nerv	Corp	26	16	..	..	75
Silver Hill Foundation	Nerv	Corp	26	16	..	..	75
New Haven, 160,605—New Haven	Inst	NPAssn	101	92	..	..	27
Jewish Home for the Aged	Inst	NPAssn	101	92	..	..	27
Yale Infirmary	Inst	NPAssn	30	8	..	..	602
Niantic, 1,312—New London	Inst	State	60	42	7	66	173
Connecticut State Farm for Women	Inst	State	60	42	7	66	173
Noroton Heights, 1,600—Fairfield	Unit of Nestledown Home, Springdale	State	284	110	..	..	1,636
Nestledown Convalescent Hospital	Unit of Nestledown Home, Springdale	State	284	110	..	..	1,636
Rocky Hill, 2,679—Hartford	Inst	State	39	25	..	..	32
State Veterans Hospital	Inst	State	39	25	..	..	32
Springdale, 4,500—Fairfield	Conv	N&M Indiv	18	13	..	..	23
Nestledown Home	Conv	N&M Indiv	18	13	..	..	23
Stamford, 47,935—Fairfield	Conv	Indiv	125	79	..	..	77
Pinewood Rest	Conv	Indiv	125	79	..	..	77
Waterbury, 99,314—New Haven	Mat	Church	9	2	6	66	66
Connecticut Children's Hosp.	Mat	Church	9	2	6	66	66
West Hartford, 33,776—Hartford	Conv	Indiv	12	10	..	..	24
St. Agnes Home	Conv	Indiv	12	10	..	..	24
West Haven, 30,021—New Haven	Conv	NPAssn	40	11	..	..	57
West Haven Convalescent Home	Conv	NPAssn	40	11	..	..	57
West Suffield, 700—Hartford	Conv	NPAssn	40	11	..	..	57
Travelers Rest Home	Conv	NPAssn	40	11	..	..	57
Woodmont, 748—New Haven	Inst	State	35	18	..	..	256
Woodmont Hall	Conv	Indiv	12	8	..	..	45

DELAWARE

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Dover, 5,517—Kent							
Kent General Hospital▲.....	Gen	NPAssn	50	32	10	189	1,274
St. Joseph's Hospital▲.....	Ment	State	1,247	1,189	..	...	244
Station Hospital.....	Gen	Army	46	8	..	...	267
Lewes, 2,246—Sussex							
Lewes Hospital▲.....	Gen	NPAssn	100	35	9	110	1,193
Lewes Hospital (Tb)▲.....	TB	State	160	138	..	...	109
Lewes Hospital (Tb)▲.....	TB	State	40	35	..	...	46
Lewes Hospital (Mat)▲.....	Mat	Indiv	20	6	10	110	100
Lewes Hospital (Tb)▲.....	Gen	NPAssn	160	52	18	245	1,889
Wilmington, 112,004—New Castle							
Alfred I. duPont Institute of The Nemours Foundation.	Orth	NPAssn	85	...	...	...	1946
Delaware Hospital▲▲.....	Gen	NPAssn	213	144	25	505	4,548
Gross Private Hospital.....	Gen	Corp	15	7	6	62	225
St. Vincent's Hospital▲▲.....	Gen	NPAssn	210	133	34	615	4,540
St. Vincent's Hospital▲▲.....	Gen	Church	104	55	51	319	1,816
St. Vincent's Hospital▲▲.....	Gen	NPAssn	170	117	48	1,038	3,900

DISTRICT OF COLUMBIA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Washington, 663,091							
Central Dispensary and Emergency Hospital*+▲	Gen	NPAssn	280	234	..	6,772	
Children's Hospital+▲	Chil	NPAssn	200	142	..	6,385	
Columbia Hosp. for Women and Lying-In Asylum+▲	GynMat	NPAssn	127	104	83	2,209	3,771
Doctors Hospital+▲	Gen	Corp	250	...	65	Estab. 1940	
Eastern Dispensary and Casualty Hospital	Gen	NPAssn	147	83	12	21	2,848
Episcopal Eye, Ear and Throat Hospital+▲	ENT	Church	105	71	..	6,230	
Freedmen's Hospital+▲	Gen	USPHS	402	288	48	1,271	5,438
Gallinger Municipal Hospital+▲	Gen	City	1,392	903	54	1,929	15,881
Garfield Memorial Hospital+▲	Gen	NPAssn	335	310	98	2,028	10,834
Georgetown University Hospital+▲	Gen	NPAssn	217	193	51	1,222	5,919
George Washington University Hospital+▲	Gen	NPAssn	92	71	22	545	2,639
Glenn Dale Sanatorium	See Tuberculosis Sanatorium						
National Homeopathic Hospital+▲	Gen	NPAssn	60	45	18	284	1,400
Providence Hospital+▲	Gen	Church	265	260	35	1,321	7,926
St. Elizabeths Hospital. }+▲	Gen	USPHS	454	422	2	2	2,201
Sibley Memorial Hosp.+▲	Ment	USPHS	7,017	6,524	..	..	1,256
Tuberculosis Sanatorium+▲	Gen	Church	245	222	100	2,115	8,683
(Glenn Dale Sanatorium, Glenn Dale Md. P.O.)	TB	City	670	658	..	..	571
U. S. Naval Hospital+▲	Gen	Navy	205	186	..	..	2,177
Veterans Admin. Facility+▲	Gen	Vet	327	313	..	..	4,983
Walter Reed General Hospital+▲	Gen	Army	1,400	1,055	21	170	8,467
Washington Sanitarium and Hospital+▲	Gen	Church	188	138	22	406	3,455

Related Institutions

Washington, 663,091							
District of Columbia Reformatory Hospital (Lorton, Va. P.O.)	Inst	City	127	74	..	..	3,018
District Training School (Laurel, Md. P.O.)	McDe	City	620	588	..	..	65
Florence Crittenton Home	Mat	NPAssn	84	48	60	88	112
Home for the Aged and Infirm	Inst	City	130	130	..	..	230
Kendall House Sanitarium	Conv	Indiv	22	10	..	..	50
National Training School for Boys Hospital	Inst	Fed	30	...	No data supplied		
U. S. Soldiers' Home Hosp.	InstGen	Fed	466	284	..	..	1,710
Washington Home for Incurables	Incur	NPAssn	180	170	..	..	94

FLORIDA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Arcadia, 4,055—De Soto							
Arcadia General Hospital...	Gen	Corp	25	...	No data supplied		
Bartow, 6,158—Polk							
Bartow General Hospital....	Gen	City	16	...	4	...	...
Polk County Hospital.....	Gen	County	60	57	4	23	1,031
Bay Pines, —Pinellas							
Veterans Admin. Facility+▲	Gen	Vet	444	411	..	..	3,283
Bradenton, 7,444—Manatee							
Bradenton General Hospital	Gen	Part	18	7	7	63	340
Century, 1,250—Escambia							
Turberville Hospital+▲	Gen	NPAssn	40	10	4	29	569
Chattahoochee, 450—Gadsden							
Florida State Hospital+▲	Ment	State	4,651	4,563	..	..	1,081
Clearwater, 10,136—Pinellas							
Morton F. Plant Hospital+▲	Gen	NPAssn	50	22	10	110	1,037
Coral Gables, 8,294—Dade							
University Hospital	Gen	Corp	35	22	16	172	1,150
Dade City, 2,561—Pasco							
Jackson Memorial Hospital	Gen	County	20	5	3	19	236
Daytona Beach, 22,584—Volusia							
Halifax District Hospital+▲	Gen	NPAssn	145	66	35	253	2,160
De Funiak Springs, 2,570—Walton							
Lakeside Clinic	Gen	Indiv	10	5	7	120	230
De Land, 7,041—Volusia							
De Land Memorial Hospital	Gen	NPAssn	22	5	8	37	498
Dunedin, 1,758—Pinellas							
Mease Hospital	Gen	NPAssn	24	10	4	55	405
Eustis, 2,930—Lake							
Lake County Medical Center	Gen	NPAssn	63	25	7	135	1,104
Fort Barrancas, 150—Escambia							
Station Hospital	Gen	Army	90	64	..	..	1,752
Fort Lauderdale, 17,996—Broward							
Broward General Hospital..	Gen	City	42	27	6	203	1,461
Fort Myers, 10,604—Lee							
Lee Memorial Hospital.....	Gen	NPAssn	24	14	4	148	1,013
Fort Pierce, 8,040—St. Lucie							
Fort Pierce Memorial Hosp..	Gen	NPAssn	34	16	6	90	678
Gainesville, 13,757—Alachua							
Alachua County Hospital+▲	Gen	County	65	39	10	252	1,683

FLORIDA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Hollywood, 6,239—Broward							
Hollywood Hospital	Gen	Corp	26	13	6	105	764
Jacksonville, 173,065—Duval							
Brewster Hospital+▲	Gen	Church	72	56	10	231	1,145
Duval County Hospital+▲	Gen	County	225	177	15	735	4,280
Hazlehurst Sanatorium	TB	NPAssn	21	14	..	..	22
Negro Tuberculosis Hospital TB	Gen	CyCo	50	50	..	..	50
Dr. Randolph's Sanitarium	N&M	Indiv	10	5	..	..	18
Riverside Hospital+▲	Gen	NPAssn	50	31	6	64	1,567
St. Luke's Hospital+▲	Gen	NPAssn	176	118	24	905	4,773
St. Vincent's Hospital+▲	Gen	Church	200	179	40	862	6,050
Key West, 12,927—Monroe							
U. S. Marine Hospital+▲	Gen	USPHS	65	48	..	1	903
Kissimmee, 3,225—Osceola							
Osceola Hospital	Gen	Indiv	40	16	5	48	1,059
Lake City, 5,836—Columbia							
Lake Shore Hospital.....	Gen	NPAssn	17	10	8	82	415
Veterans Admin. Facility+▲	Gen	Vet	353	314	..	..	2,522
Lakeland, 22,068—Polk							
Morrell Memorial Hospital..	Gen	City	100	42	12	230	1,778
Lake Wales, 5,024—Polk							
Lake Wales Hospital.....	Gen	NPAssn	25	6	7	39	249
Leesburg, 4,687—Lake							
Theresa Holland Hospital..	Gen	Indiv	30	16	6	72	822
Manatee, 3,595—Manatee							
Manatee County Hospital...	GenTb	County	65	30	7	119	626
Riverside Hospital	Gen	County	20	10	3	27	463
Marianna, 5,079—Jackson							
Doctor's Hospital	Gen	Part	14	5	1	6	475
Melbourne, 2,622—Brevard							
Brevard Hospital	Gen	City	25	10	5	53	374
Miami, 172,172—Dade							
Dade County Hospital+▲	GenTb	County	181	119	20	417	3,682
James M. Jackson Memorial Hospital+▲	Gen	City	450	373	50	1,407	14,331
Miami Retreat	N&M	Indiv	80	45	..	..	453
Miami Riverside Hospital..	Gen	Indiv	50	...	No data supplied		
Sun-Ray Park Health Resort	N&M	Corp	75	19	..	..	244
Victoria Hospital	Gen	Indiv	75	34	22	449	2,061
Miami Beach, 28,012—Dade							
Miami Beach Hospital.....	Gen	Corp	50	18	6	5	834
St. Francis Hospital+▲	Gen	Church	175	70	18	192	2,552
Miami Springs, 898—Dade							
Miami-Battle Creek Sanit...	Gen	NPAssn	105	27	..	..	417
Ocala, 8,986—Marion							
Munroe Memorial Hosp.+▲	Gen	CyCo	85	30	10	165	1,513
Orlando, 36,736—Orange							
Florida Sanitarium and Hospital+▲	Gen	Church	100	65	12	156	1,956
Florida State Sanatorium..	TB	State	392	386	..	..	333
Orange General Hospital+▲	Gen	NPAssn	173	100	21	340	3,478
Panama City, 11,610—Bay							
Lisenby Hospital	Gen	Indiv	20	7	3	62	398
Panama City Hospital.....	Gen	NPAssn	13	4	5	77	341
Pensacola, 37,449—Escambia							
Escambia County Tubercu- losis Sanatorium	TB	CyCo	40	34	..	..	66
Pensacola Hospital+▲	Gen	Church	144	87	23	503	3,894
U. S. Naval Hospital+▲	Gen	Navy	142	95	..	..	1,252
Quincy, 3,888—Gadsden							
Gadsden County Hospital..	Gen	NPAssn	35	13	4	43	608
St. Augustine, 12,090—St. Johns							
East Coast Hospital+▲	Gen	NPAssn	55	...	No data supplied		
Flagler Hospital+▲	Gen	NPAssn	66	24	5	117	888
St. Petersburg, 60,812—Pinellas							
Mersey Hospital	Gen	City	46	22	4	11	651
Mound Park Hospital+▲	Gen	City	192	100	16	378	5,924
St. Anthony's Hospital+▲	Gen	Church	75	41	15	146	1,670
Sanford, 10,217—Seminole							
Fernald-Laughton Memorial Hospital	Gen	NPAssn	22	10	6	101	601
Sarasota, 11,141—Sarasota							
Joseph Halton Hospital....	Gen	Indiv	20	18	5	24	600
Sarasota Hospital	Gen	City	52	24	9	146	1,283
St. Joseph's Hospital+▲	Gen	Indiv	25	8	7	30	240
St. Vincent's Hospital+▲	Gen	Indiv	16	6	3	89	517
Stuart, 2,438—Martin							
Martin County Hospital...	Gen	NPAssn	25	9	8	32	383
Tallahassee, 16,240—Leon							
Johnston's Sanitarium	Gen	Indiv	31	...	No data supplied		
Tampa, 108,391—Hillsborough							
Centro Asturiano Hospital	Gen	NPAssn	70	50	4	132	611
Clara Frye Tampa Municipal Negro Hospital+▲	Gen	City	72	31	8	123	1,640
Dr. H. M. Cook's Hospital..	Gen	Indiv	32	18	8	133	1,223
Hillsboro County Home and Hospital	InstGen	County	230	210	6	305	1,980
St. Joseph's Hospital+▲	Gen	Church	63	30	15	229	1,782
Tampa Municipal Hosp.+▲	Gen	City	289	159	29	777	7,105
Umatilla, 1,149—Lake							
Harry-Anna Crippled Chil- dren's Home	Orth	NPAssn	75	29	..	..	97
West Palm Beach, 33,633—Palm Beach							
Good Samaritan Hospital+▲	Gen	NPAssn	117	77	15	399	3,074
Pine Ridge Hospital.....	Gen	NPAssn	27	...	No data supplied		
Winter Haven, 6,199—Polk							
Winter Haven Hospital....	Gen	NPAssn	30	11	5	89	511

Related Institutions

Daytona Beach, 22,584—Volusia							
Daytona Beach Sanitarium	Gen	Indiv	10	4	2	11	118
Fort Lauderdale, 17,996—Broward							
Provident Hospital	Gen	NPAssn	15	8	4	29	276

Key to symbols and abbreviations is on page 1083

GEORGIA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Douglas, 5,175—Coffee							
Douglas Hospital	Gen	City	32	10	3	74	665
Dublin, 7,814—Laurens							
Claxton Sanitarium	Gen	Corp	55	29	5	169	1,445
Coleman Hospital	Gen	Indiv	40	22	4	72	992
Hicks Hospital	Gen	Indiv	20	9	2	8	488
Thompson Sanatorium	Gen	Indiv	14	7	1	22	376
Eastman, 3,311—Dodge							
Clinic Hospital	Gen	Indiv	12	4	3	19	282
Coleman Sanatorium	Gen	Indiv	39	8	4	15	594
Elberton, 6,188—Elbert							
Elbert County Hospital.....	Gen	CyCo	10	3	3	52	333
Thompson-Johnson Hosp. ...	Gen	Part	10	2	2	80	411
Emory University, —De Kalb							
Emory University Hospi- tal**△△							
Fort Benning, —Chattahoochee	Gen	NPAssn	232	176	37	772	6,495
Station HospitalA	Gen	Army	364	426	15	191	12,855
Fort McPherson (Atlanta P.O.), —Fulton							
Station HospitalA	Gen	Army	247	140	4	31	3,901
Fort Gordon, —Waynesboro							
Station HospitalA	Gen	Army	271	164	5	25	2,100
Fort Gordon, —Waynesboro							
Station HospitalA	Gen	Army	50	No data supplied			
Fort Gordon, —Waynesboro							
Station HospitalA	Gen	Corp	52	27	6	106	1,472
Fort Gordon, —Waynesboro							
Station HospitalA	Gen	County	30	13	4	28	609
Fort Gordon, —Waynesboro							
Station HospitalA	Gen	Indiv	45	24	5	105	1,170
Fort Gordon, —Waynesboro							
Station HospitalA	Gen	NPAssn	48	10	5	40	410
Fort Gordon, —Waynesboro							
Station HospitalA	Gen	Indiv	12	7	1	25	815

..... Gen	Indiv	10
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Drs. Colvin-Ritch Hospital.. Gen	Part	27	14	5	133	733
La Grange, 21,983—Troup						
City-County Hospital▲..... Gen	CyCo	62	35	6	145	1,493
Macon, 57,865—Bibb						
Clinic Hospital..... Gen	Corp	26	13	4	59	965
Macon Hospital▲▲..... Gen	CyCo	207	173	21	614	5,469
Middle Georgia Hospital▲○. Gen	Corp	48	32	12	251	1,635
Oglethorpe Private Infirmary▲○..... Gen	Corp	40	20	3	81	591
St. Luke Hospital..... Gen	Indiv	20	2	2	19	210
Marietta, 8,667—Cobb						
Marietta Hospital..... Gen	NPAssn	30	12	5	101	619
Metter, 1,823—Candler						
Kennedy Memorial Hospital Gen	Part	16	10	3	33	502
Milledgeville, 6,778—Baldwin						
Allen's Invalid Home..... N&M	Indiv	150	104	..	...	306
Baldwin Memorial Hospital... Gen	Indiv	70	31	15	103	1,627
Milledgeville State Hosp.○. Ment	State	6,885	7,132	..	...	1,463
Scott Hospital..... Gen	Indiv	25	19	4	16	354
Millen, 2,820—Jenkins						
Millen Hospital▲..... Gen	Indiv	20	9	4	22	494
Mulkey Hospital..... Gen	Indiv	21	9	5	44	601
Monroe, 4,168—Walton						
Walton County Hospital... Gen	CyCo	17	2	4	33	154
Montezuma, 2,346—Macon						
Macon County Clinic..... Gen	Part	20	7	3	40	400
Moultrie, 10,147—Colquitt						
Vereen Memorial Hospital... Gen	NPAssn	46	12	6	81	845
Nashville, 2,449—Berrien						
Turner Hospital..... Gen	Indiv	10	3	2	78	218
Ocilla, 2,124—Irwin						
Ocilla Hospital..... Gen	Part	20	8	4	56	554
Quitman, 4,450—Brooks						
Brooks County Hospital... Gen	CyCo	32	10	4	70	610
Reidsville, 805—Tattnell						
Jelks Hospital..... Gen	Indiv	13	8	2	23	467
Rome, 26,282—Floyd						
Harbin Hospital▲..... Gen	Part	60	34	10	210	2,532
McCall Hospital▲..... Gen	Part	73	41	10	365	3,214
Royston, 1,549—Franklin						
Brown's Hospital..... Gen	Indiv	20	12	2	...	...
Sandersville, 3,566—Washington						
Rawlings Sanitarium..... Gen	NPAssn	68	27	7	84	1,136
Savannah, 95,996—Chatham						
Central of Georgia Railway Hospital▲..... Indus	NPAssn	68	47	..	...	2,064
Charity Hospital..... Gen	NPAssn	43	40	12	207	2,063
Georgia Infirmary..... Gen	NPAssn	60	60	8	257	1,098
Oglethorpe Sanatorium..... Gen	Indiv	50	35	8	120	1,441
St. Joseph Hospital▲○..... Gen	Church	100	50	15	257	1,952
Telfair Hospital..... Gen	NPAssn	65	65	20	540	2,647
U. S. Marine Hospital▲..... Gen	USPHS	150	157	..	...	1,461
Warren A. Candler Hosp.▲. Gen	Church	86	60	14	247	2,206
Smyna, 1,440—Cobb						
Dr. Brawner's Sanitarium... N&M	Indiv	40	32	..	...	361
Statesboro, 5,028—Bulloch						
Bulloch County Hospital... Gen	County	40	10	6	44	644
Van Buren's Sanitarium... Gen	Indiv	25	6	5	10	40
Swainsboro, 3,575—Emanuel						
Franklin Hospital..... Gen	Indiv	20	6	2	30	338
Fate, 1,548—Picksens						
Robinson Hospital..... Gen	Indiv	12	6	2	27	320
Thomasville, 12,683—Thomas						
John D. Archbold Memorial Hospital▲..... Gen	NPAssn	110	53	12	163	2,398

Key to symbols and abbreviations is on page 1083

GEORGIA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Tifton, 5,228—Tift							
Tift County Hospital.....	Gen	County	50	...	7	Estab. 1940	
Toccoa, 5,494—Stephens							
Stephens County Hospital..	Gen	County	30	10	3	120	1,000
Trion, 3,800—Chattooga							
Riegel Hospital.....	Gen	Indiv	40	19	5	421	1,300
Valdosta, 15,595—Lowndes							
Frank Bird Hospital.....	Gen	Indiv	22	6	3	21	342
Little-Griffin-Owens-Saunders							
Private Hospital.....	Gen	Corp	54	17	5	210	2,189
Vidalia, 4,109—Toombs							
Bethany Home Hospital....	Gen	Church	32	31	..	...	97
Warm Springs, 608—Meriwether							
Georgia Warm Springs Foundation	Orth	NPAasn	113	81	..	...	312
Washington, 3,537—Wilkes							
Washington General Hosp..	Gen	City	30	17	6	137	1,086
Waycross, 16,763—Ware							
Atlantic Coast Line Hosp.▲	Indus	NPAasn	75	31	..	...	1,110
Ware County Hospital▲.....	Gen	County	67	46	8	109	2,195
West Point, 3,591—Troup							
Valley Hospital.....	Gen	NPAasn	25	10	4	111	614
Related Institutions							
Atlanta, 302,288—Fulton							
Dwelle's Infirmary.....	Gen	Indiv	15	5	2	8	155
Florence Crittenton Home..	Mat	NPAasn	26	22	12	51	51
Georgia Sanitarium.....	Gen	Indiv	5	1	2	8	67
Joseph B. Whitehead Memorial							
Hospital.....	Inst	State	26	1	..	...	465
Our Lady of Perpetual Help							
Free Cancer Home.....	Cancer	Church	80	33	..	...	134
Social Disease Hospital.....	Ven	City	60	28	..	...	547
U. S. Penitentiary Hospital▲	Inst	Fed	148	74	..	...	2,732
William A. Harris Memorial							
Hospital.....	Gen	Indiv	26	23	2	16	667
Barwick, 409—Brooks							
Sanchez Private Sanitarium	Gen	Indiv	14	3	2	15	400
Cedartown, 9,025—Polk							
Cedartown Hospital.....	Gen	Indiv	12	6	4	55	245
Whitely Hospital.....	Gen	Indiv	10	2	3	27	155
Columbus, 53,280—Muscogee							
Muscogee County Tuberculo-							
sis Sanatorium.....	TB	County	48	19	..	...	54
Cordele, 7,929—Crisp							
Gillespie Hospital.....	Gen	Church	25	8	4	15	237
Gracewood, 500—Richmond							
Georgia Training School for							
Mental Defectives.....	MeDe	State	322	312	..	...	34
Lyons, 1,900—Toombs							
Aiken Hospital.....	Gen	Indiv	8	...	2	Estab. 1940	
.....	Gen	Indiv	16	1	2	40	339
.....	Gen	Corp	14	7	3	42	406

IDAHO

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
American Falls, 1,439—Power							
Schiltz Memorial Hospital... Gen		County	21	16	8	126	838
Boise, 26,130—Ada							
St. Alphonsus Hospital▲.... Gen		Church	139	119	20	399	3,010
St. Luke's Hospital▲..... Gen		Church	115	91	18	511	4,576
Veterans Admin. Facility▲.. Gen		Vet	203	141	..	...	1,260
Bonnors Ferry, 1,345—Boundary							
Bonnors Ferry Hospital..... Gen		Corp	25	9	8	98	219
Burley, 5,329—Cassia							
Cottage Hospital.....	Gen	Corp	16	14	4	60	589
Caldwell, 7,273—Canyon							
Caldwell Sanitarium.....	Gen	Part	20	9	6	109	431
Coeur d'Alene, 10,049—Kootenai							
Coeur d'Alene Hospital..... Gen		NPAasn	25	15	1	3	63
Cottonwood, 673—Idaho							
Our Lady of Consolation							
Hospital.....	Gen	Church	28	19	4	65	477
For							
Gooding, 2,568—Gooding							
Gooding County Hospital.. Gen		NPAasn	16	7	8	120	539
Hailey, 1,443—Blaine							
Hailey Clinical Hospital.... Gen		Indiv	18	11	6	58	441
Idaho Falls, 15,024—Bonneville							
Idaho Falls Latter-Day							
Saints' Hospital▲.....	Gen	Church	100	85	39	714	3,856
Kellogg, 4,235—Shoshone							
Wardner Hospital.....	Gen	Part	35	20	7	139	1,486
Lapwai, 426—Nez Perce							
Ft. Lapwai Sanatorium▲.... TB		IA	145	117	..	...	212
Lewiston, 10,548—Nez Perce							
St. Joseph's Hospital▲..... Gen		Church	90	71	18	297	1,930
White Hospital.....	Gen	NPAasn	25	13	4	44	373
Malad City, 2,731—Oneida							
Oneida Hospital.....	Gen	County	17	9	7	98	465
Nampa, 12,149—Canyon							
Mercy Hospital▲.....	Gen	Church	65	32	15	235	1,053
Nazarene Missionary Sanit.							
and Institute (Samaritan							
Hospital Division)○..... Gen		Church	50	20	6	88	776

IDAHO—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Orofino, 1,602—Clearwater							
Orofino Hospital.....	Gen	Part	38	22	4	50	599
Pocatello, 18,133—Bannock							
Pocatello General Hosp.▲.... Gen		County	65	50	15	369	1,951
St. Anthony Mercy Hosp.▲... Gen		Church	50	31	15	344	1,483
Potlatch, 800—Latah							
Potlatch Hospital.....	Gen	Part	21	7	3	41	338
Preston, 4,236—Franklin							
General Memorial Hospital. Gen		Corp	17	10	10	158	395
Rexburg, 3,437—Madison							
Harlo B. Rigby Hospital... Gen		Indiv	14	6	6	70	510
Rupert, 3,167—Minidoka							
Rupert General Hospital.... Gen		Indiv	12	6	2	39	346
St. Maries, 2,234—Beneviah							
St. Maries Hospital.....	Gen	Part	25	10	3	31	321
Sandpoint, 4,356—Bonner							
Community Hospital.....	Gen	Corp	25	11	5	54	369
Graham Hospital.....	Gen	Indiv	12	7	4	50	350
Soda Springs, 1,057—Caribou							
Caribou County Hospital... Gen		County	36	...	No data supplied		
Twin Falls, 11,851—Twin Falls							
Twin Falls County General							
Hospital.....	Gen	County	75	65	14	465	2,716
Wallace, 3,839—Shoshone							
Providence Hospital▲..... Gen		Church	50	28	10	200	1,170
Wallace Hospital.....	Gen	Part	40	16	5	48	784
Wendell, 1,001—Gooding							
St. Valentine's Hospital.... Gen		Church	22	13	9	92	479
Related Institutions							
Blackfoot, 3,681—Bingham							
State Hospital, South○..... Ment		State	640	594	..	...	297
Boise, 26,130—Ada							
Salvation Army Women's							
Home and Hospital.....	Mat	Church	30	20	17	236	282
Coeur d'Alene, 10,049—Kootenai							
Community Hospital.....	Gen	Indiv	15	7	2	18	335
Moscow, 6,014—Latah							
University of Idaho Infirmary							
.....	Inst	State	30	12	..	...	1,007
Nampa, 12,149—Canyon							
State School and Colony... McDe		State	550	550	..	...	48
Orofino, 1,602—Clearwater							
State Hospital, North..... Ment		State	429	387	..	...	106
Priest River, 1,056—Bonner							
Priest River Hospital.....	Gen	Indiv	10	3	2	13	67

ILLINOIS

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Aledo, 2,593—Mercer							
Stites Hospital.....	Gen	Indiv	14	...	4	Estab. 1940	
Alton, 31,255—Madison							
Alton Memorial Hospital▲... Gen		Church	81	75	19	487	3,046
Alton State Hospital.....	Ment	State	1,830	1,622	..	...	570
St. Anthony's Infirmary and							
Sanitarium.....	Gen	Church	90	60	..	...	997
St. Joseph's Hospital▲..... Gen		Church	117	70	18	374	3,860
Amboy, 1,986—Lee							
Amboy Public Hospital.... Gen		NPAasn	20	10	5	70	265
Anna, 4,092—Union							
Anna State Hospital.....	Ment	State	2,356	2,156	..	...	789
Hale-Willard Memorial Hos-							
pital.....	Gen	City	16	8	4	35	304
Aurora, 47,170—Kane							
Copley Hospital▲.....	Gen	NPAasn	100	86	20	481	3,361
Kane County Springbrook							
Sanitarium.....	TB	County	85	85	..	...	55
Mercyville Sanitarium.....	N&M	Church	150	135	..	...	260
St. Charles Hospital▲..... Gen		Church	120	90	20	465	2,844
St. Joseph Mercy Hospital▲... Gen		Church	106	78	30	490	2,830
Butavia, 5,101—Kane							
Bellevue Place Sanitarium... N&M		Corp	40	20	..	...	2
Fox River Sanitarium.... TB		NPAasn	85	53	..	...	109
Bellefonte, 28,405—St. Clair							
St. Elizabeth's Hospital... Gen		Church	102	77	16	506	2,906
Belvidere, 8,694—Boone							
Highland Hospital.....	Gen	NPAasn	29	16	10	125	718
St. Joseph's Hospital.....	Gen	Church	25	16	9	115	525
Benton, 7,372—Franklin							
Moore Hospital.....	Gen	Indiv	23	10	2	41	560
Berwyn, 48,451—Cook							
Berwyn Hospital.....	Gen	NPAasn	84	67	22	651	3,221
Bloomington, 32,868—McLean							
Memnonite Hospital○..... Gen		Church	68	62	15	333	2,084
St. Joseph's Hospital○..... Gen		Church	220	90	20	418	3,214
Blue Island, 16,638—Cook							
St. Francis Hospital▲..... Gen		Church	85	54	15	579	2,460
Breese, 2,266—Clinton							
St. Joseph Hospital.....	Gen	Church	27	19	6	146	719
Bushnell, 2,966—McDonough							
Elmgrove Sanatorium.....	TB	County	36	29	..	...	47
Cairo, 14,407—Alexander							
St. Mary Infirmary▲.....	Gen	Church	100	64	10	189	2,134
Canton, 11,577—Fulton							
Graham Hospital○.....	Gen	NPAasn	60	38	14	317	1,925
Carbondale, 8,530—Jackson							
Holden Hospital.....	Gen	Church	50	28	8	125	1,100

Key to symbols and abbreviations is on page 1083

ILLINOIS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Carlinville, 4,965—Macoupin							
Macoupin Hospital	Gen	Indiv	26	16	6	94	888
Centralia, 16,343—Marion							
St. Mary's Hospital	Gen	Church	75	56	15	538	2,853
Champaign, 23,302—Champaign							
Burnham City Hospital	Gen	City	117	80	21	478	7,146
Charleston, 8,197—Coles							
Oakwood Hospital	Gen	Indiv	20	5	3	28	196
Chester, 5,110—Randolph							
Chester Hospital	Gen	NPAssn	12	...	3	Estab. 1940	
Chicago, 3,396,808—Cook							
Albert Merritt Billings Hosp. Unit of University of Chicago Clinics							
Alexian Brothers Hosp.*	Gen	Church	252	208	...	4,318	
American Hospital*	Gen	NPAssn	175	92	20	257	3,353
Augustana Hospital*	Gen	Church	275	170	25	604	5,527
Belmont Community Hosp.*	Gen	NPAssn	100	66	25	423	2,411
Bethany Home Hospital	Gen	Church	25	9	...	340	
Bethany Sanitarium and Hospital	Gen	Church	47	29	16	226	1,227
Bobs Roberts Memorial Hospital for Children	Unit of University of Chicago Clinics	Gen					
Burrows Hospital	Gen	Indiv	40	9	6	40	309
Chicago Eye, Ear, Nose and Throat Hospital	ENT	Corp	45	11	...	756	
Chicago Lying-in Hosp. of the University of Chicago	Unit of University of Chicago Clinics						
Chicago Memorial Hosp.*	Gen	NPAssn	83	68	20	305	2,695
Chicago State Hospital	Ment	State	4,300	4,526	...	1,468	
Children's Memorial Hospital*	Chil	NPAssn	232	165	...	4,162	
City of Chicago Municipal Tuberculosis Sanit.*	TB	City	1,219	1,188	...	1,788	
Columbus Hospital*	Gen	Church	152	91	20	451	3,749
Cook County Children's Hospital	Unit of Cook County Hospital						
Cook County Hospital*	Gen	County	3,300	3,108	225	4,818	81,154
Cook County Psychopathic Hospital	Unit of Cook County Hospital						
Edgewater Hospital*	Gen	NPAssn	115	106	30	589	4,171
Englewood Hospital*	Gen	NPAssn	101	85	25	598	3,697
Evangelical Hospital*	Gen	Church	180	171	60	1,536	7,357
Franklin Boulevard Hosp.*	Gen	Corp	60	39	16	294	1,907
Garfield Park Community Hospital*	Gen	NPAssn	150	88	32	645	4,407
Grant Hospital*	Gen	NPAssn	218	156	46	1,011	6,572
Henrotin Hospital*	Gen	NPAssn	100	71	20	232	2,859
Holy Cross Hospital*	Gen	Church	120	96	37	932	4,033
Home for Destitute Crippled Children	Unit of University of Chicago Clinics						
Hospital of St. Anthony de Padua*	Gen	Church	196	155	36	1,087	6,593
Illinois Central Hospital*	Gen	NPAssn	250	160	40	695	4,920
Illinois Eye and Ear Infirmary*	ENT	State	200	168	...	5,522	
Illinois Masonic Hospital*	Gen	NPAssn	159	107	25	556	4,410
Jackson Park Hospital*	Gen	Corp	182	68	40	454	3,723
Kenner Hospital	Gen	NPAssn	40	14	0	68	693
La Rabida Jackson Park Sanitarium	CardChil	NPAssn	100	60	...	134	
Lewis Memorial Maternity Hospital	Mat	Church	117	56	117	1,936	2,133
Loretto Hospital*	Gen	Church	125	78	27	581	3,490
Lutheran Deaconess Home and Hospital*	Gen	Church	176	139	42	916	5,112
Martha Washington Hosp.*	Gen	NPAssn	75	28	15	229	1,346
Mercy Hospital-Loyola University Clinics*	Gen	Church	275	205	36	625	6,594
Michael Reese Hospital*	Gen	NPAssn	595	455	71	1,979	17,600
Misericordia Hospital and Home for Infants*	Mat	Church	57	8	18	329	338
Mother Cabrini Memorial Hospital*	Gen	Church	120	81	20	429	3,558
Mt. Sinai Hospital*	Gen	NPAssn	180	143	40	895	6,157
Municipal Contagious Disease Hospital*	Iso	City	428	221	...	3,584	
Norwegian-American Hospital*	Gen	NPAssn	147	96	35	705	4,506
Parkway Sanitarium	N&M	Corp	50	37	...	238	
Passavant Memorial Hospital*	Gen	NPAssn	100	153	35	450	5,257
.....	Gen	NPAssn	40	26	...	264	
.....	Gen	Church	378	305	34	959	11,617
.....	Gen	NPAssn	144	114	22	711	3,569
.....	Gen	NPAssn	155	122	50	1,062	5,333
.....	Gen	State	433	359	34	473	5,475
.....	Gen	Church	240	188	60	1,548	7,015
.....	Gen	Church	200	150	33	773	6,774
.....	Gen	Church	220	203	42	1,161	7,101
.....	Gen	Church	160	31	...	1,502	
.....	Gen	Church	210	139	40	835	4,342
St. George's Hospital	Gen	NPAssn	407	335	55	925	12,138
St. Joseph Hospital*	Gen						
St. Luke's Hospital*	Gen						
St. Mary of Nazareth Hospital*	Gen	Church	246	176	38	1,307	7,391
St. Vincent's Infant and Maternity Hospital*	Mat	Church	200	157	12	247	967
Sarah Morris Hospital for Children	Unit of Michael Reese Hospital						
Shriners Hospital for Crippled Children*	Orth	NPAssn	60	60	...	229	
South Chicago Community Hospital*	Gen	NPAssn	86	37	17	406	2,638
South End Hospital*	Gen	Corp	101	77	28	514	3,296

ILLINOIS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
South Shore Hospital*	Gen	Corp	125	47	25	465	2,428
Streeter Community Hosp.*	Gen	NPAssn	15	8	...	...	300
Surgical Institute for Crippled Children	Unit of Research and Educational Hospital						
Swedish Covenant Hosp.*	Gen	Church	171	123	46	1,150	5,045
U. S. Marine Hospital*	Gen	USPHS	301	198	...	...	2,750
University Hospital*	Gen	NPAssn	100	77	21	292	5,578
University of Chicago Clinics*	Gen	NPAssn	523	410	162	2,646	10,844
Walther Memorial Hosp.*	Gen	Church	175	92	36	719	4,433
Washington Boulevard Hospital*	Gen	NPAssn	100	57	8	137	1,594
Wesley Memorial Hosp.*	Gen	Church	158	89	15	255	3,200
Women and Children's Hospital*	Gen	NPAssn	100	61	25	511	2,764
Woodlawn Hospital*	Gen	NPAssn	125	75	22	306	3,156
Chicago Heights, 22,461—Cook							
St. James Hospital*	Gen	Church	100	60	20	379	2,231
Clinton, 6,331—De Witt							
Dr. John Warner Hospital	Gen	City	28	25	4	153	803
Compton, 300—Lee							
Compton Hospital	Gen	Indiv	8	1	1	6	37
Danville, 36,919—Vermilion							
Lake View Hospital*	Gen	NPAssn	146	82	24	281	2,819
St. Elizabeth Hospital*	Gen	Church	150	126	29	645	3,666
Veterans Admin. Facility*	Ment	Vet	1,703	1,778	...	...	543
Decatur, 59,305—Macon							
Decatur and Macon County Hospital*	Gen	NPAssn	147	122	25	611	3,708
Macon County Tuberculosis Sanitarium*	TB	County	80	64	...	...	108
St. Mary's Hospital	Gen	Church	180	167	25	610	5,013
Wabash Employes' Hosp.*	Indus	NPAssn	75	43	...	...	1,219
De Kalb, 9,146—De Kalb							
De Kalb County Tuberculosis Sanitarium	TB	County	33	26	...	...	53
De Kalb Public Hospital*	Gen	City	40	22	9	188	900
St. Mary's Hospital*	Gen	Church	40	25	8	79	820
Des Plaines, 9,518—Cook							
Northwestern Hospital	Gen	NPAssn	14	10	5	48	676
Dixon, 10,671—Lee							
Dixon Public Hospital*	Gen	NPAssn	60	47	16	367	1,437
Downey, —Lake							
Veterans Admin. Facility*	Ment	Vet	1,475	1,262	...	...	582
Du Quoin, 7,515—Perry							
Marshall Browning Hospital	Gen	NPAssn	47	23	8	132	889
Dwight, 2,499—Livingston							
Veterans Admin. Facility*	Gen	Vet	218	204	...	...	1,412
East Moline, 12,359—Rock Island							
East Moline State Hospital	Ment	State	2,365	2,132	...	...	872
East St. Louis, 75,009—St. Clair							
Christian Welfare Hosp.*	Gen	NPAssn	55	51	10	463	2,451
St. Mary's Hospital*	Gen	Church	240	140	36	758	4,781
.....	TB	County	90	81	...	...	138
.....	Gen	Church	81	71	10	278	1,859
Elgin, 38,333—Kane							
Elgin State Hospital*	Ment	State	4,933	4,684	...	...	1,745
Resthaven Sanitarium	N&M	Indiv	85	68	...	...	159
St. Joseph Hospital*	Gen	Church	104	52	15	338	1,987
Sherman Hospital*	Gen	NPAssn	125	96	30	572	3,697
Elmhurst, 15,458—Du Page							
Elmhurst Community Hos-	Gen	NPAssn	90	62	20	422	2,701
.....	Gen	NPAssn	25	14	4	29	345
.....	Gen	NPAssn	228	207	32	966	8,221
.....	Gen	Church	262	141	50	1,013	6,263
Evergreen Park, 3,313—Cook							
Little Company of Mary Hospital*	Gen	Church	175	140	60	1,487	6,100
Fort Sheridan, 2,000—Lake							
Station Hospital*	Gen	Army	100	149	6	27	3,200
.....	Gen	Church	100	56	18	327	2,225
.....	Gen	Church	97	60	16	274	2,525
.....	Gen	NPAssn	82	62	18	412	2,018
.....	Gen	Church	100	65	15	301	2,192
Geneseo, 3,824—Henry							
J. C. Hammond City Hosp.	Gen	City	20	11	8	153	547
Genera, 4,101—Kane							
Community Hospital*	Gen	NPAssn	65	43	20	252	1,538
Granite City, 22,974—Madison							
St. Elizabeth Hospital*	Gen	Church	104	82	22	530	2,270
Great Lakes, —Lake							
U. S. Naval Hospital*	Gen	Navy	280	145	...	...	3,892
.....	Gen	Corp	30	10	1	19	249
.....	Gen	Indiv	35	14	5	64	883
.....	Iosp.	Part	21	12	8	107	377
.....	Gen	NPAssn	95	34	25	453	1,943
.....	Gen	Indiv	50	33	7	106	1,170
.....	Gen	Church	63	51	12	263	1,412
.....	Gen	NPAssn	50	27	17	212	1,174
.....	Gen	NPAssn	35	21	5	94	549
Veterans Admin. Facility*	Vet		1,750	1,623	...	...	9,106

ILLINOIS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Hinsdale, 7,336—Du Page							
Hinsdale Sanitarium and Hospital	Gen	Church	100	57	15	180	1,648
Jacksonville, 19,844—Morgan							
Jacksonville State Hospital	Ment	State	3,388	3,237	..	..	855
Morgan County Tuberculosis Sanatorium "Oaklawn"	.. TB	County	40	21	..	..	47
Norbury Sanatorium	.. N&M	Corp	125	79	..	..	138
Our Saviour's Hospital	.. Gen	Church	81	41	12	113	1,371
Passavant Memorial Hospital	.. Gen	Church	73	44	12	197	1,511
Joliet, 42,365—Will							
Illinois State Penitentiary							
Hospital	.. Inst	State	108	72	..	..	2,084
St. Joseph's Hospital	.. Gen	Church	220	172	44	932	5,436
Silver Cross Hospital	.. Gen	NPAssn	107	71	25	489	2,747
Will County Tuberculosis Sanatorium	.. TB	County	96	69	..	..	64
Kankakee, 22,241—Kankakee							
Kankakee State Hospital	.. Ment	State	4,500	4,190	..	..	1,426
St. Mary Hospital	.. Gen	Church	145	95	22	479	2,962
Kenilworth, 2,935—Cook							
Kenilworth Sanitarium	.. N&M	Indiv	50	28	..	..	147
Kewanee, 16,901—Henry							
Kewanee Public Hospital	.. Gen	NPAssn	54	37	12	208	1,303
St. Francis Hospital	.. Gen	Church	56	50	13	180	987
Lake Forest, 6,885—Lake							
Alice Home Hospital	.. Gen	NPAssn	45	14	9	64	696
La Salle, 12,812—La Salle							
St. Mary Hospital	.. Gen	Church	85	70	15	307	2,014
Libertyville, 3,930—Lake							
Condell Memorial Hospital	.. Gen	NPAssn	25	15	6	103	384
Lincoln, 12,752—Logan							
Evangelical Deaconess Hospital	.. Gen	Church	52	36	8	186	1,153
St. Clara's Hospital	.. Gen	Church	60	40	7	99	1,219
Litchfield, 7,048—Montgomery							
St. Francis Hospital	.. Gen	Church	125	86	15	235	3,230
Mackinaw, 845—Tazewell							
Oak Knoll Sanatorium	.. TB	County	45	38	..	..	65
Macomb, 8,764—McDonough							
Phelps Hospital	.. Gen	NPAssn	45	29	6	113	850
St. Francis Hospital	.. Gen	Church	91	53	11	177	2,073
Manteno, 1,537—Kankakee							
Manteno State Hospital	.. Ment	State	5,810	5,216	..	..	1,404
Mattoon, 15,827—Coles							
Memorial Methodist Hosp...	.. Gen	Church	46	31	10	172	1,254
Melrose Park, 10,933—Cook							
Westlake Hospital	.. Gen	NPAssn	56	35	16	336	1,910
Mendota, 4,215—La Salle							
Harris Hospital	.. Gen	Part	15	5	4	83	517
Moline, 34,608—Rock Island							
Lutheran Hospital	.. Gen	Church	135	58	36	441	1,885
Moline Public Hospital	.. Gen	City	163	117	22	834	4,737
Monmouth, 9,096—Warren							
Monmouth Hospital	.. Gen	City	58	39	15	177	1,013
Morris, 6,145—Grundy							
Morris Hospital	.. Gen	NPAssn	40	25	14	249	856
Moweaqua, 1,366—Shelby							
Moweaqua Hospital	.. Gen	Indiv	26	12	8	50	167
Murphysboro, 8,976—Jackson							
St. Andrew's Hospital	.. Gen	Church	35	23	6	95	1,043
Naperville, 5,272—Du Page							
Edward Sanatorium	.. TB	NPAssn	98	83	..	..	251
Normal, 6,983—McLean							
Brokaw Hospital	.. Gen	Church	92	61	15	200	2,376
Fairview Sanatorium	.. TB	County	57	56	..	..	32
North Riverside (Riverside P.O.), 1,036—Cook							
Municipal Tuberculosis Sanatorium—North Riverside Division	.. TB	City	260	244	..	..	250
Oak Forest, 825—Cook							
Cook County Infirmary	.. GenChr	County	1,075	1,050	..	..	5,174
Cook County Tuberculosis Hospital	.. TB	County	694	476	..	..	390
Oak Park, 66,015—Cook							
Oak Park Hospital	.. Gen	Church	130	96	40	727	4,811
West Suburban Hospital	.. Gen	NPAssn	312	200	100	1,636	8,399
Olney, 7,831—Richland							
Olney Sanitarium	.. Gen	Corp	75	47	8	173	1,721
Oregon, 2,825—Ogle							
Warmolts Clinic	.. Gen	Indiv	10	5	3	13	133
Ottawa, 16,003—La Salle							
Highland	.. TB	County	54	54	..	..	78
Ottawa Tuberculosis Sanat.	.. TB	Corp	133	120	..	..	154
Ryburn Memorial Hosp.	.. Gen	City	88	52	20	408	2,566
Pana, 5,966—Christian							
Huber Memorial Hospital	.. Gen	Church	37	24	6	102	827
Paris, 9,281—Edgar							
Paris Hospital	.. Gen	NPAssn	70	33	6	84	1,623
Pekin, 19,407—Tazewell							
Pekin Public Hospital	.. Gen	NPAssn	75	46	14	380	1,830
Peoria, 105,087—Peoria							
John C. Proctor Hospital	.. Gen	NPAssn	107	74	15	379	2,436
Methodist Hospital of Central Illinois	.. Gen	Church	200	166	40	1,175	5,510
Michell Farm	.. N&M	Indiv	22	16	..	..	45
Peoria Municipal Tuberculosis Sanitarium	.. TB	City	103	99	..	..	170
Peoria Sanitarium	.. N&M	Indiv	22	19	..	..	63
Peoria State Hospital	.. Ment	State	2,816	2,638	..	..	940
St. Francis Hospital	.. Gen	Church	360	255	51	1,383	10,820
Peru, 8,983—La Salle							
Peoples Hospital	.. Gen	NPAssn	50	36	10	127	920

ILLINOIS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Pontiac, 9,585—Livingston							
Livingston County Sanat...	.. TB	County	44	33	..	..	49
St. James' Hospital	.. Gen	Church	40	19	12	205	731
Princeton, 5,224—Bureau							
Julia Rackley Perry Memorial Hospital	.. Gen	City	58	36	14	209	1,206
Quincy, 40,469—Adams							
Blessing Hospital	.. Gen	NPAssn	102	75	25	381	2,649
Hillcrest	.. TB	County	50	45	..	..	43
St. Mary Hospital	.. Gen	Church	190	125	25	591	4,177
Rantoul, 2,367—Champaign							
Station Hospital	.. Gen	Army	150	114	4	10	4,071
Red Bud, 1,302—Randolph							
St. Clement's Hospital	.. Gen	Church	14	12	4	32	324
Robinson, 4,311—Crawford							
Robinson Hospital	.. Gen	Part	18	5	5	44	241
Rockford, 84,637—Winnebago							
Elmhurst (Wilgus Sanit.)	.. N&M	Indiv	30	14	..	..	108
Rockford Hospital	.. Gen	NPAssn	84	49	18	231	2,143
Rockford Municipal Tuberculosis Sanatorium	.. TB	City	124	112	..	..	142
St. Anthony's Hospital	.. Gen	Church	225	145	34	833	5,090
Swedish-American Hosp.	.. Gen	NPAssn	75	69	15	393	2,624
Winnebago County Hospital	.. Gen	County	72	47	6	40	1,050
Rock Island, 42,775—Rock Island							
Rock Island County Tuberculosis Sanatorium	.. TB	County	76	66	..	..	82
St. Anthony's Hospital	.. Gen	Church	150	85	30	458	2,320
Rosiclare, 1,774—Hardin							
Rosiclare Hospital	.. Gen	Indiv	15	7	2	33	259
Rushville, 2,480—Schuyler							
Culbertson Hospital	.. Gen	Indiv	27	5	5	23	201
St. Charles, 5,870—Kane							
Delnor Hospital	.. Gen	NPAssn	32	..	9	Estab.	1940
Savanna, 4,792—Carroll							
Savanna City Hospital	.. Gen	City	16	7	5	64	230
Shelbyville, 4,092—Shelby							
Shelby County Memorial Hospital	.. Gen	NPAssn	19	13	5	73	444
Sparta, 3,604—Randolph							
Sparta Community Hospital	.. Gen	Indiv	10	4	2	7	68
Springfield, 75,593—Sangamon							
Palmer Sanatorium	.. TB	Corp	75	64	..	..	117
St. John's Crippled Children's Home	.. Unit of	St. John's Sanitarium					
St. John's Hospital	.. Gen	Church	650	427	45	1,111	12,713
St. John's Sanitarium	.. TBOr	Church	270	210	..	..	617
Springfield Hospital	.. Gen	NPAssn	100	109	15	475	3,754
Spring Valley, 5,010—Bureau							
St. Margaret's Hospital	.. Gen	Church	78	63	12	235	1,881
Statesville, Will							
Illinois State Penitentiary Hospital	.. See Joliet						
Sterling, 11,363—Whiteside							
Home Hospital	.. Gen	NPAssn	25	10	6	21	316
Public Hospital	.. Gen	City	57	30	14	321	1,406
Streator, 14,930—La Salle							
St. Mary's Hospital	.. Gen	Church	110	89	15	460	3,112
Sublette, 282—Lee							
Angar Hospital	.. Gen	Indiv	8	2	3	40	..
Sycamore, 4,702—De Kalb							
Sycamore Municipal Hosp...	.. Gen	City	28	13	12	101	538
Taylorville, 8,313—Christian							
St. Vincent Hospital	.. Gen	Church	80	55	12	268	1,875
Tuscola, 2,838—Douglas							
Douglas County Jarman Hospital	.. Gen	County	37	25	9	151	963
Urbana, 14,064—Champaign							
Carle Memorial Hospital	.. Gen	Corp	46	33	12	128	1,490
Champaign County Hospital	.. Gen	County	55	30	8	123	979
Mercy Hospital	.. Gen	Church	55	44	9	241	1,792
The Outlook	.. TB	County	45	39	..	..	34
Vandalia, 5,288—Fayette							
Mark Greer Hospital	.. Gen	Indiv	29	24	8	161	913
Waukegan, 3,744—Iroquois							
Iroquois Hospital	.. Gen	NPAssn	41	32	11	259	1,314
Waukegan, 34,241—Lake							
Lake County General Hosp.	.. Gen	County	90	56	15	161	1,285
Lake County Tuberculosis Sanatorium	.. TB	County	100	72	..	..	197
St. Therese's Hospital	.. Gen	Church	163	91	26	505	3,313
Victory Memorial Hospital	.. Gen	NPAssn	76	53	14	335	2,781
Winfield, 567—Du Page							
Winfield Sanatorium	.. TB	NPAssn	76	62	..	..	137
Zace Sanatorium	.. TB	NPAssn	50	35	..	..	70
Woodstock, 6,122—McHenry							
Woodstock Public Hospital	.. Gen	NPAssn	41	18	12	189	902
Zeigler, 3,006—Franklin							
Zeigler Hospital	.. Gen	NPAssn	15	3	1	3	88
Related Institutions							
Arrowsmith, 294—McLean							
L. M. Johnson Hospital	.. Gen	Indiv	10	1	2	5	43
Avon, 803—Fulton							
Saunders' Hospital	.. Gen	NPAssn	12	6	4	55	184
Belleville, 28,403—St. Clair							
St. Clair County Hospital and Home	.. Inst	County	100	86	2	18	526
Chicago, 3,336,808—Cook							
Beverly Hills Rest Home	.. Conv	Indiv	12	8	..	..	26
Chicago Home for Convalescent Women and Children	.. Conv	NPAssn	41	33	..	..	229
Chicago Home for Incurables	.. Incur	NPAssn	250	270	..	..	87
House of Correction Hosp.	.. Inst	City	75	17	..	..	1,062
Jones Nursing Home	.. Conv	Indiv	20	19	..	..	169

Key to symbols and abbreviations is on page 1083

ILLINOIS—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Long's Convalescent Home. N&M	Indiv		24	16	..	..	70
Parkway Lodge Convalescent Home for Men and Women Conv	FedCy		270	168	..	..	781
Salvation Army Booth Memorial Hospital.....	Mat	Church	21	14	12	235	261
Southside Sanitarium.....	Conv	Indiv	35	27	..	..	72
Washington and Jane Smith Home.....	InstGen	NPAasn	21	11	..	..	114
Danvers, 705—McLenn							
Willow Bark Hospital.....	Alcoh	Corp	10	4	..	..	49
Deatur, 59,305—Macon							
City Public Hospital.....	Iso	City	26	8	..	..	113
Des Plaines, 9,518—Cook							
Forest Sanitarium.....	N&M	Indiv	12	10	..	..	42
Dixon, 10,671—Lee							
Dixon State Hospital.....	McDe	State	4,522	4,055	5	20	661
Eldorado, 4,891—Saline							
Ferrell Hospital.....	Gen	Indiv	12	5	2	21	255
Evanston, 65,389—Cook							
Broadhurst Nursing Home.....	Conv	Part	18	..	..	..	Estab. 1910
Grove House for Convalescents.....	Conv	NPAasn	25	20	..	..	186
The Cradle.....	Chil	NPAasn	36	30	..	..	165
Virginia Hall Nursing Home Conv	Part		30	25	..	..	30
Fairbury, 2,300—Livingston							
Fairbury Hospital.....	Gen	NPAasn	11	8	5	125	432
Geneva, 4,101—Kane							
State Training School for Girls.....	Inst	State	22	17	..	..	299
Godfrey, 150—Madison							
Beverly Farm.....	McDe	Corp	72	68	..	..	10
Henry, 1,877—Marshall							
Drs. Coggeshall and Dysart Hospital.....	Gen	Part	6	3	4	25	126
Lincoln, 12,752—Logan							
Lincoln State School and Colony.....	McDe	State	4,574	4,193	6	5	433
Mattoon, 15,827—Coles							
Independent Order of Odd Fellows Old Folks Home Hospital.....	Inst	NPAasn	55	35	..	..	150
Menard, 22—Randolph							
Illinois Security Hospital... Ment	State		500	461	..	..	25
Metropolis, 6,287—Massac							
Fisher Hospital.....	Gen	Indiv	15	5	3	35	391
Minonk, 1,897—Woodford							
Woodford County Tuberculosis Sanatorium.....	TB	County	12	6	..	..	14
Mooseheart, 1,400—Kane							
Philadelphia Memorial Hospital.....	InstChil	NPAasn	65	36	..	..	1,702
Normal, 6,983—McLean							
Soldiers' and Sailors' Children's School Hospital... Inst	State		90	29	..	..	1,149
Paxton, 3,106—Ford							
Paxton Community Hosp... Gen	NPAasn		18	10	4	85	463
Peoria, 105,087—Peoria							
Florence Crittenton Home.. Mat	NPAasn		70	25	10	77	90
Pontiac, 9,685—Livingston							
Illinois State Penitentiary Hospital.....	Inst	State	120	42	..	..	1,358
Princeville, 996—Peoria							
Seven Oaks Rest Home and Hospital.....	Gen	Indiv	14	8	4	28	39
Quincy, 40,469—Adams							
Quincy Memorial Sanitarium Conv	NPAasn		20	6	..	..	91
Rockford, 84,637—Winnebago							
Childrens Convalescent Home and Cottage.....	Orth	NPAasn	25	15	..	..	85
St. Charles, 5,870—Kane							
Illinois State Training School for Boys.....	Inst	State	28	16	..	..	1,180
.....	Inst	State	155	32	..	..	2,507
.....	Conv	Church	72	46	..	..	949
West Chicago, 3,355—Du Page							
Country Home for Convalescent Crippled Children.. Orth	NPAasn		120	69	..	..	200
Wheaton, 7,389—Du Page							
Mary E. Pogue School.....	McDe	Indiv	50	46	..	..	9
Wheeling, 550—Cook							
Wheeling Hospital.....	Gen	Indiv	9	1	4	..	6
White Hall, 3,025—Greene							
White Hall Hospital.....	Gen	NPAasn	10	5	5	75	250
Winnetka, 12,430—Cook							
North Shore Health Resort. Conv	Corp		75	33	..	..	243

INDIANA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Anderson, 41,572—Madison							
St. John's Hickey Memorial Hospital.....	Gen	Church	131	107	15	491	3,172
Angola, 3,141—Steuben							
Cameron Hospitals.....	Gen	NPAasn	20	12	5	69	521
Argos, 1,190—Marshall							
Kelly Hospital.....	Gen	NPAasn	10	6	10	27	172

INDIANA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Auburn, 5,415—De Kalb							
Dr. Bonnell M. Souder Hospital.....	Gen	Indiv	20	6	12	88	299
D.....	Gen	Indiv	11	..	4	..	275
Margaret Mary Hospital....	Gen	Church	40	18	10	159	778
Bedford, 12,514—Lawrence							
Dunn Memorial Hospital....	Gen	NPAasn	30	17	5	130	959
Beeth Grove, 2,607—Madison							
S.....	Gen	Church	140	62	35	823	2,405
Bloomington Hospital.....	Gen	NPAasn	36	25	8	144	917
Bluffton, 5,417—Wells							
Clinic Hospital.....	Gen	Corp	32	..	8	Estab. 1940	
Wells County Hospital.....	Gen	County	24	15	6	156	550
Clinton, 7,092—Vermillion							
Vermillion County Hospital Gen	County		37	27	6	173	1,122
Columbus, 11,738—Bartholomew							
Bartholomew County Hosp. Gen	County		42	30	7	232	1,617
Connersville, 12,898—Fayette							
Fayette Memorial Hospital. Gen	NPAasn		40	25	10	178	874
Crawfordsville, 11,083—Montgomery							
Culver Hospital.....	Gen	County	57	53	12	291	1,938
Crown Point, 4,643—Lake							
James O. Parramore Hosp. TB	County		281	219	..	..	190
Decatur, 5,861—Adams							
Adams County Memorial Hospital.....	Gen	County	31	..	No data supplied		
East Chicago, 51,637—Lake							
St. Catherine's Hospital*.. Gen	Church		252	166	60	1,068	6,094
Elkhart, 33,434—Elkhart							
Elkhart General Hospital... Gen	NPAasn		75	45	10	445	2,318
Elwood, 10,913—Madison							
Mersey Hospital.....	Gen	Church	45	21	15	330	1,012
Evansville, 97,062—Vanderburgh							
Boehne Tuberculosis Hospital*..	TB	County	160	124	..	..	380
Evansville State Hospital... Ment	State		1,200	1,187	..	..	380
Protestant Deaconess Hospital*..	Gen	Church	165	133	21	673	5,096
St. Mary's Hospital*.. Gen	Church		150	103	20	450	4,993
U. S. Marine Hospital*.. Gen	USPHS		100	51	..	..	741
Welborn-Walker Hospital*.. Gen	Corp		111	75	13	124	2,939
Fort Benjamin Harrison, —Marion							
Station Hospital.....	Gen	Army	154	78	4	27	2,178
Fort Wayne, 118,410—Allen							
Irene Byron Sanatorium.... TB	Counties		250	216	..	..	495
Lutheran Hospital*.. Gen	Church		165	112	25	676	3,725
Methodist Hospital*.. Gen	Church		87	62	22	257	1,688
St. Joseph Hospital*.. Gen	Church		248	182	52	824	4,995
Frankfort, 13,706—Clinton							
Clinton County Hospital... Gen	County		43	19	10	220	970
Garrett, 4,285—De Kalb							
Sacred Heart Hospital.....	Gen	Church	42	25	6	62	663
Gary, 111,719—Lake							
Lincoln Hospital.....	Gen	NPAasn	40	12	6	39	281
Methodist Hospital*.. Gen	Church		100	90	25	856	3,967
St. John Hospital.....	Gen	Indiv	17	3	6	40	302
St. Mary's Mercy Hosp.*.. Gen	Church		211	164	49	1,556	6,446
Greencastle, 4,872—Putnam							
Putnam County Hospital... Gen	County		46	30	8	131	1,860
Greensburg, 6,065—Decatur							
Decatur County Memorial Hospital.....	Gen	County	23	17	10	103	646
Hammond, 70,184—Lake							
Mount Mercy Sanitarium.... N&M	Church		32	22	..	..	170
St. Margaret Hospital*.. Gen	Church		215	161	50	1,407	5,883
Hartford City, 6,946—Blackford							
Blackford County Hospital. Gen	County		30	14	5	179	561
Huntington, 13,903—Huntington							
Huntington Hospital.....	Gen	County	30	19	10	158	697
.....	Ment	State	2,244	2,036	..	..	509
.....	Gen	Part	11	8	..	..	284
.....	N&M	Corp	50	26	..	..	160
.....	Gen	City	632	518	41	909	11,530
Center*.. Gen	State		506	464	38	957	9,359
James Whitcomb Riley Hospital for Children.....	Unit of Indiana University Medical Center						
Kiwanis Home.....	Unit of Indiana University Medical Center						
Methodist Hospital*.. Gen	Church		519	469	59	1,830	17,633
"Norways" Sterne Memorial Hospital.....	N&M	Corp	30	13	..	..	135
Rob.....	Unit of Indiana University Medical Center						
Rot.....	Unit of Indiana University Medical Center						
St.....	Gen	Church	285	201	48	1,330	7,162
Sunnyside Sanatorium*.. TB	County		260	260	..	..	189
Veterans Admin. Facility*.. Gen	Vet		346	272	..	..	2,721
William H. Coleman Hospital for Women.....	Unit of Indiana University Medical Center						
Jeffersonville, 11,493—Clark							
Clark County Memorial Hospital.....	Gen	County	35	16	7	107	626
.....	Gen	City	28	20	12	144	783
.....	Gen	Church	85	48	15	377	2,293
.....	Gen	NPAasn	120	81	25	444	3,010
.....	Gen	Church	225	128	30	673	4,750
William Ross Sanatorium... TB	County		40	34	..	..	49

Key to symbols and abbreviations is on page 1083

INDIANA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
La Porte, 16,180—La Porte Fairview Hospital	Gen	NPAasn	28	18	8	129	525
Lebanon, 6,529—Boone Witham Memorial Hospital. Gen	County	County	56	31	12	258	1,110
Linton, 6,263—Greene Freeman Greene County Hos- pital	Gen	County	40	18	8	144	806
Logansport, 20,177—Cass Cass County Hospital*..... Gen	County	County	58	42	10	240	1,555
Logansport State Hosp.*..... Ment	State	2,027	1,945	..	422	..	..
St. Joseph's Hospital..... Gen	Church	50	36	10	141	1,031	..
Madison, 6,923—Jefferson Kings Daughters Hospital.. Gen	NPAasn	50	19	6	81	862	..
Marion, 26,767—Grant Marion General Hospital*.. Gen	NPAasn	55	35	10	306	1,514	..
Veterans Admin. Facility... See Veterans Admin. Hospital, Ind.							
Martinsville, 5,009—Morgan Morgan County Memorial Hospital	Gen	County	18	8	6	65	556
Michigan City, 26,476—La Porte Clinie Hospital*..... Gen	Corp	50	28	12	65	1,471	..
St. Anthony's Hospital*..... Gen	Church	100	41	19	349	1,556	..
Mishawaka, 28,298—St. Joseph St. Joseph Hospital*..... Gen	Church	100	65	20	608	3,814	..
Muncie, 49,730—Delaware Ball Memorial Hosp.*+*..... Gen	NPAasn	217	146	25	913	4,878	..
New Albany, 25,414—Floyd St. Edward's Hospital*..... Gen	Church	100	47	14	273	1,682	..
"Silvercrest" Southern Indi- ana Tuberculosis Hospital. TB	State	152	..	..	Estab. 1940	..	..
Newcastle, 16,620—Henry Chnie Hospital..... Gen	Part	18	13	6	112	644	..
Henry County Hospital*..... Gen	County	61	38	9	188	1,342	..
North Madison, 316—Jefferson Madison State Hospital..... Ment	State	1,580	1,577	..	..	296	..
Peru, 12,432—Miami Dukes-Miami County Memo- rial Hospital	Gen	County	48	..	No data supplied	..	..
Wabash Railroad Employees Hospital	Indus	NPAasn	50	29	..	..	482
Plymouth, 5,713—Marshall Parkview Hospital	Gen	NPAasn	30	20	7	228	1,122
Portland, 6,362—Jay Jay County Hospital..... Gen	County	35	23	8	154	1,198	..
Princeton, 7,786—Gibson Methodist Hospital*..... Gen	Church	30	17	6	111	667	..
Rensselaer, 3,214—Jasper Jasper County Hospital..... Gen	County	38	28	10	245	1,075	..
Richmond, 35,147—Wayne Reid Memorial Hospital*..... Gen	NPAasn	128	77	22	420	3,793	..
Richmond State Hospital... Ment	State	1,686	1,626	..	..	370	..
Smith-Esteb Memorial Hosp. TB	County	45	34	..	..	46	..
Rochester, 3,835—Fulton Woodlawn Hospital	Gen	Indiv	31	8	5	80	441
Rockville, 2,208—Parke Indiana State Sanatorium... TB	State	250	227	..	..	244	..
Rushville, 5,960—Rush City Hospital	Gen	City	11	5	6	102	402
Seymour, 8,620—Jackson Schneek Memorial Hospital. Gen	County	26	25	9	148	877	..
Shelbyville, 10,791—Shelby W. S. Major Hospital..... Gen	City	41	22	6	127	962	..
South Bend, 101,268—St. Joseph Epworth Hospital*+*..... Gen	NPAasn	155	125	37	919	4,826	..
Healthwin Hospital..... TB	County	205	185	..	..	268	..
St. Joseph Hospital*+*..... Gen	Church	123	90	24	719	3,479	..
Sullivan, 5,077—Sullivan Mary Sherman Memorial Hos- pital*..... Gen	County	50	29	7	130	963	..
Tell City, 5,392—Perry Parkview Hospital	Gen	Indiv	14	3	2	6	223
Terre Haute, 62,603—Vigo St. Anthony's Hospital*+*..... Gen	Church	176	110	23	409	3,581	..
Union Hospital*..... Gen	NPAasn	178	115	20	431	3,989	..
U	Gen	Indiv	15	7	3	77	442
V Porter Memorial Hospital.. Gen	County	52	27	15	200	934	..
Veterans Administration Hospital, 2,300—Grant Veterans Admin. Facility*.. Ment	Vet	1,509	1,521	..	..	288	..
Vincennes, 18,228—Knox Good Samaritan Hospital*.. Gen	County	92	66	11	239	2,265	..
Hillcrest Tuberculosis Hosp. TB	County	65	31	..	..	57	..
Wabash, 9,653—Wabash Wabash County Hospital... Gen	County	50	25	11	218	1,198	..
Warsaw, 6,378—Kosciusko McDonald Hospital	Indiv	31	18	8	266	902	..
Murphy Hospital	Indiv	12	7	10	61	505	..
Washington, 9,312—Davless Davless County Hospital... Gen	County	92	55	15	227	2,000	..
Williamsport, 1,222—Warren Maris Hospital	Gen	Part	22	13	5	57	429
Winchester, 5,303—Randolph Randolph County Hospital. Gen	County	32	22	8	181	1,037	..
Wolfake, 250—Noble Luckey Hospital	Gen	Part	20	8	4	16	140

Related Institutions

Anderson, 41,572—Madison Ella B. Kehr Hospital..... TB	County	50	25	..	..	36	..
Hoppes Lying-In Hospital.. Mat	Corp	10	7	10	108	258	..
Butler, 266—Jennings Muscatatuck Colony	McDe	885	867	..	..	146	..

INDIANA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Evansville, 97,062—Vanderburgh French Hospital	Proct	NPAasn	6	4	..	..	237
Fort Wayne, 118,410—Allen Fort Wayne State School... MeDe	State	1,900	1,948	..	..	105	..
Grace Convalescent Hospital Conv	Indiv	20	14	..	..	62	..
Medical Center Hospital... Gen	Indiv	16	10	7	184	515	..
Greencastle, 4,872—Putnam Indiana State Farm Hosp... Inst	State	47	23	..	..	892	..
Greensburg, 6,065—Decatur Odd Fellows Home Hospital Inst	NPAasn	75	65	..	..	125	..
Indianapolis, 386,972—Marion Indianapolis Orphan Asylum Inst	NPAasn	9	3	..	..	159	..
Suemma Coleman Home..... Mat	NPAasn	20	16	20	53	59	..
Knightstown, 2,323—Henry Indiana Sailors' and Soldiers' Children's Home	Inst	State	35	10	..	..	1,241
Kramer, 1,200—Warren Mudlavia Springs Hotel and Sanitarium	Conv	Corp	65	35	..	..	1,060
LaFayette, 28,798—Tippecanoe Indiana State Soldiers' Home Hospital	Inst	State	140	65	..	..	348
Martinsville, 5,009—Morgan Home Lawn Mineral Springs Conv	Corp	164	75	..	..	1,736	..
Martinsville Sanitarium ... Conv	Corp	100	42	..	..	1,000	..
Michigan City, 26,476—La Porte Indiana Hospital for Insane Criminals	Ment	State	291	287	..	..	26
Indiana State Prison Hosp. Inst	State	120	98	..	..	773	..
Michigan City Sanitarium... Conv	Corp	31	10	..	..	575	..
Mooreville, 1,970—Morgan Comer's Sanitarium	Proct	Indiv	15	8	..	..	220
Newcastle, 16,620—Henry Indiana Village for Epileptics Epil	State	1,055	926	..	..	105	..
Pendleton, 1,681—Madison Indiana State Reformatory Hospital	Inst	State	115	37	..	..	2,272
Plainfield, 1,811—Hendricks Indiana Boys School Hosp.. Inst	State	32	3	..	..	394	..
Rome City, 300—Noble Kneipp Springs Sanatorium. Conv	Church	200	..	..	..	1,572	..
Terre Haute, 62,603—Vigo Hoover's Sanatorium	Gen	Indiv	10	3	2	9	170
Wilkinson, 336—Hancock Dr. Charles Titus Hospital.. ENT	Indiv	7	1	..	..	370	..

IOWA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admis- sions †
Akron, 1,314—Plymouth							
Akron Hospital	Gen	Indiv	14	4	3	48	247
Albia, 5,157—Monroe							
Miner's Hospital	Gen	Indiv	25	6	5	33	428
Algona, 4,954—Kossuth							
Kossuth Hospital	Gen	Indiv	30	17	6	143	601
Alta, 1,269—Buena Vista							
Alta Community Hospital..	Gen	NPAasn	13	5	5	22	155
Ames, 12,555—Story							
Iowa State College Hosp.▲..	Gen	State	75	16	..	41	1,508
Anamosa, 4,069—Jones							
Mercy Hospital	Gen	Church	30	15	9	179	538
Atlantic, 5,802—Cass							
Atlantic Hospital	Gen	Corp	44	21	6	146	759
Battle Creek, 827—Ida							
Battle Creek Hospital.....	Gen	Part	17	6	4	34	232
Boone, 12,373—Boone							
Boone County Hospital.....	Gen	County	38	20	10	284	985
Burlington, 25,832—Des Moines							
Burlington Protestant Hos- pital▲○	Gen	NPAasn	105	82	20	261	2,300
Mercy Hospital▲○	Gen	Church	125	54	20	230	1,392
St. Francis Hospital.....	Gen	Church	30	35	10	135	688
Carroll, 5,389—Carroll							
St. Anthony Hospital▲○	Gen	Church	108	69	22	452	2,484
Cedar Falls, 9,349—Black Hawk							
Sartori Memorial Hospital▲..	Gen	City	35	20	8	191	820
Cedar Rapids, 62,120—Linn							
Mercy Hospital▲○	Gen	Church	150	90	25	586	2,916
St. Luke's Methodist Hos- pital▲○	Gen	Church	130	90	20	580	4,384
Centerville, 8,413—Appanoose							
St. Joseph's Mercy Hosp.▲..	Gen	Church	47	33	6	170	1,495
Chariton, 5,754—Lucas							
Yocom Hospital	Gen	Indiv	16	10	5	49	520
Charles City, 8,681—Floyd							
Cedar Valley Hospital.....	Gen	City	45	30	11	213	1,163
Cherokee, 7,469—Cherokee							
Cherokee State Hospital....	Ment	State	1,600	1,646	..	..	285
Sioux Valley Hospital.....	Gen	NPAasn	35	21	12	157	1,046
Clarinda, 4,905—Page							
Clarinda Municipal Hospital	Gen	City	40	15	10	121	992
Clarinda State Hospital....	Ment	State	1,701	1,659	..	..	695
Clinton, 26,270—Clinton							
Jane Lamb Memorial Hosp.○	Gen	NPAasn	92	60	15	243	2,101
St. Joseph Mercy Hospital○	Gen	Church	73	57	12	243	1,517
Colfax, 2,252—Jasper							
Colfax Sanitarium	Gen	Corp	18	7	1	15	199

IOWA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassineets	Number of Births	Admissions †
Council Bluffs, 41,439—Pottawattamie							
Jennie Edmundson Memorial Hospital* ¹⁰	Gen	NPAasn	119	75	16	309	2,369
Mercy Hospital* ¹⁰	Gen	Church	135	94	12	282	3,335
St. Bernard's Hospital* ¹⁰	N&M	Church	220	150	..	..	267
Cresco, 3,530—Howard							
St. Joseph Mercy Hospital..	Gen	Church	35	10	8	76	414
Creston, 8,633—Union							
Greater Community Hosp...	Gen	County	50	25	7	88	1,249
Davenport, 66,639—Scott							
Mercy Hospital* ¹⁰	Gen	Church	135	98	30	718	3,878
Pine Knoll Sanitarium.....	TB	County	111	76	..	..	90
St. Elizabeth's and St. John's Hospitals							
St. Luke's Hospital* ¹⁰	Unit of Mercy Hospital	Church	80	61	20	623	2,637
Decorah, 5,303—Winneshiek							
Decorah Hospital* ¹⁰	Gen	NPAasn	26	16	8	183	717
Denison, 4,361—Crawford							
Denison Hospital.....	Gen	Indiv	15	4	3	50	360
Des Moines, 159,819—Polk							
Broadlawn Polk County Public Hospital* ¹⁰	Gen	County	102	109	16	365	4,712
Broadlawn Polk County Public Hospital.....	Iso	County	49	15	..	..	395
Broadlawn Polk County Public Hospital* ¹⁰	TB	County	100	66	..	..	97
Iowa Lutheran Hospital* ¹⁰	Gen	Church	125	88	20	437	3,534
Iowa Methodist Hospital* ¹⁰	Gen	Church	239	192	40	963	7,451
Mercy Hospital* ¹⁰	Gen	Church	166	104	24	624	4,129
The Retreat.....	N&M	Corp	50	35	..	..	116
Veterans Admin. Facility* ¹⁰	Gen	Vet	310	277	..	..	2,656
Dubuque, 43,892—Dubuque							
Finley Hospital* ¹⁰	Gen	NPAasn	100	47	18	294	1,966
St. Joseph Mercy Hosp.* ¹⁰	Gen	Church	130	85	22	558	3,018
St. Joseph Sanitarium.....	N&M	Church	200	208	..	..	538
Sunny Crest Sanatorium* ¹⁰	TB	County	70	66	..	..	63
Eldora, 3,533—Hardin							
Eldora Memorial Hospital..	Gen	City	23	13	7	78	602
Emmetsburg, 3,374—Palo Alto							
Gen	NPAasn	24	7	8	92	462	
Gen	NPAasn	35	18	7	164	1,005	
Gen	County	24	18	6	148	797	
Gen	Indiv	14	9	5	133	387	
Irish Hospital.....	Gen	Indiv	14	9	5	133	387
Fort Des Moines, 2,000—Polk							
Station Hospital* ¹⁰	Gen	Army	73	59	4	35	1,161
Fort Dodge, 22,904—Webster							
Lutheran Hospital* ¹⁰	Gen	Church	100	63	20	402	3,086
St. Joseph Mercy Hosp.* ¹⁰	Gen	Church	120	64	15	281	2,357
Fort Madison, 14,063—Lee							
Aitchison, Topeka & Santa Fe Railway Employees' Hosp.	Indus	NPAasn	40	16	..	..	300
Sacred Heart Hospital.....	Gen	Church	50	30	10	131	1,171
Gen	NPAasn	64	19	6	123	884	
Gen	Church	32	14	10	80	502	
Hamburg, 2,187—Fremont							
Hamburg Hospital.....	Gen	Indiv	16	11	4	57	788
Hampton, 4,006—Franklin							
Lutheran Hospital.....	Gen	Church	46	30	8	130	1,073
Hartley, 1,503—O'Brien							
Hand Hospital.....	Gen	Indiv	12	5	4	61	285
Hull, 1,072—Sioux							
Hull Hospital.....	Gen	Corp	15	9	3	18	442
Ida Grove, 2,238—Ida							
Ida Grove General Hospital..	Gen	Part	12	4	4	26	106
Independence, 4,342—Buchanan							
State Hospital Ment	State	1,800	1,679	..	..	..	426
Gen	NPAasn	32	18	8	151	671	
Iowa State Psychopathic Hospital* ¹⁰	Unit of University Hospitals	State	60	36	..	..	328
Mercy Hospital* ¹⁰	Gen	Church	100	73	20	409	2,061
University Hospitals* ¹⁰	Gen	State	900	697	54	1,799	18,551
Iowa Falls, 4,425—Hardin							
Ellsworth Municipal Hosp...	Gen	City	45	21	10	150	1,130
Keokuk, 15,076—Lee							
Graham Protestant Hosp.* ¹⁰	Gen	NPAasn	75	42	10	139	1,808
St. Joseph's Hospital* ¹⁰	Gen	Church	110	67	15	273	2,669
Knoxville, 6,926—Marion							
Veterans Admin. Facility* ¹⁰	Ment	Yet	1,208	1,143	..	..	534
Lake City, 2,216—Calhoun							
Davidson Hospital.....	Gen	Indiv	12	8	4	18	238
McCrory Hospital.....	Gen	Indiv	25	9	6	72	470
McVay Memorial Hospital...	Gen	Part	15	10	5	68	375
Le Mars, 5,353—Plymouth							
Sacred Heart Hospital* ¹⁰	Gen	Church	40	24	10	180	1,097
Leon, 2,307—Decatur							
Decatur County Hospital...	Gen	County	30	11	5	72	611
Manning, 1,748—Carroll							
Wyatt Memorial Hospital...	Gen	NPAasn	20	4	4	35	103
Maquoketa, 4,076—Jackson							
Gen	Indiv	20	14	5	51	295	
Gen	Church	150	101	20	422	2,837	
Gen	Church	63	45	15	229	1,119	
St. Thomas Mercy Hospital* ¹⁰	Gen	Corp	53	35	16	292	1,532
Mason City, 27,080—Cerro Gordo							
Park Hospital* ¹⁰	Gen	Church	88	74	22	463	2,619
St. Joseph's Mercy Hosp.* ¹⁰	Gen	Church	88	74	22	463	2,619
McGregor, 1,309—Clayton							
McGregor Hospital.....	Gen	Indiv	10	5	3	21	156

IOWA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassineets	Number of Births	Admissions †
Monticello, 2,546—Jones							
John McDonald Hospital....	Gen	NPAasn	30	20	10	140	648
Mt. Pleasant, 4,610—Henry							
Mt. Pleasant State Hospital Ment	State	1,022	1,489	..	..	..	495
Muscatine, 18,286—Muscatine							
Bellevue Hospital.....	Gen	NPAasn	42	24	12	157	1,137
Benjamin Hershey Memorial Hospital.....	Gen	NPAasn	50	22	8	164	1,306
Neyada, 3,353—Story							
Iowa Sanitarium and Hosp. Gen	Church	35	14	4	108	484	
New Hampton, 2,933—Chickasaw							
St. Joseph's Hospital* ¹⁰	Gen	Church	51	22	9	144	978
Newton, 10,462—Jasper							
Mary Frances Skiff Memorial Hospital.....	Gen	City	50	26	9	152	792
Oakdale, —Johnson							
State Sanatorium* ¹⁰	TB	State	428	397	..	..	322
Oelwein, 7,801—Fayette							
Mercy Hospital.....	Gen	Church	30	22	10	199	960
Onawa, 3,438—Monona							
Onawa Hospital.....	Gen	Indiv	21	6	5	32	301
Oseola, 3,281—Clarke							
Bates Hospital.....	Gen	Indiv	17	6	2	8	171
Harken Hospital.....	Gen	Indiv	20	10	6	42	395
Oseola Hospital.....	Gen	Part	20	7	4	74	433
Oskaloosa, 11,024—Malaska							
Mercy Hospital.....	Gen	Part	30	16	5	80	609
Ottumwa, 31,570—Wapello							
Ottumwa Hospital.....	Gen	NPAasn	62	35	16	223	1,507
St. Joseph Hospital* ¹⁰	Gen	Church	78	42	12	280	1,797
Sunnyslope Sanatorium* ¹⁰	TB	County	166	101	..	..	136
Perry, 5,977—Dallas							
Kings Daughters Hospital...	Gen	NPAasn	21	14	6	83	614
Pleasantville, 895—Marion							
Community Hospital.....	Gen	Indiv	10	3	2	7	150
Rockwell City, 2,391—Calhoun							
Rockwell City Hospital.....	Gen	Indiv	11	7	5	55	210
Sheldon, 3,768—O'Brien							
Sheldon Good Samaritan Hospital.....	Gen	Church	16	10	5	23	284
Shenandoah, 6,846—Page							
Hand Memorial Hospital....	Gen	NPAasn	38	21	8	165	1,144
Sibley, 2,256—Oseola							
Oseola Hospital.....	Gen	Part	16	8	6	43	396
Sigourney, 2,352—Keokuk							
Sigourney Hospital.....	Gen	Indiv	11	2	3	10	94
Sioux City, 82,361—Woodbury							
Lutheran Hospital* ¹⁰	Gen	Church	105	66	10	248	2,084
Methodist Hospital* ¹⁰	Gen	Church	109	68	16	395	2,993
St. Joseph Mercy Hosp.* ¹⁰	Gen	Church	200	122	20	533	5,263
St. Vincent's Hospital* ¹⁰	Gen	Church	116	85	14	315	4,505
Spencer, 6,599—Clay							
Spencer Municipal Hospital. Gen	City	20	10	9	196	756	
Spirit Lake, 2,161—Dickinson							
Spirit Lake Hospital.....	Gen	Part	15	7	3	74	463
Storm Lake, 5,274—Buena Vista							
Porath Hospital.....	Gen	Indiv	9	7	5	109	286
Toledo, 2,073—Tama							
Sae and Fox Sanatorium....	GenTb	IA	74	47	3	..	146
Vinton, 4,163—Benton							
Virginia Gay Hospital.....	Gen	City	25	13	6	108	465
Washington, 5,227—Washington							
Washington County Hosp.* ¹⁰	Gen	County	35	20	11	172	958
Waterloo, 61,743—Black Hawk							
Gen	NPAasn	75	61	15	521	2,091	
Gen	NPAasn	34	25	10	150	1,002	
Gen	Church	64	47	16	452	2,078	
West Union, 2,039—Fayette							
West Union Community Hospital.....	Gen	City	15	10	3	38	237
Williamsburg, 1,305—Iowa							
Miller Hospital.....	Gen	Indiv	8	2	2	26	150
Related Institutions							
Anamosa, 4,663—Jones							
Men's Reformatory Hospital Inst	State	21	5	..	..	..	499
Belmond, 2,109—Wright							
Belmond Hospital.....	Gen	Part	11	6	4	60	316
Council Bluffs, 41,439—Pottawattamie							
Iowa School for the Deaf	Inst	State	60	15	..	..	811
Infirmary.....							
Davenport, 66,639—Scott							
Iowa Soldiers' Orphans' Home	Inst	State	66	53	..	..	1,061
Des Moines, 159,819—Polk							
Benedict Home.....	Mat	NPAasn	30	18	15	20	21
Junior League Convalescent Home for Children.....	Conv	NPAasn	20	14	..	..	86
Salvation Army Booth Memorial Hospital.....	Mat	Church	50	28	30	76	81
Eldora, 3,533—Hardin							
Iowa Training School for Boys Hospital.....	Inst	State	30	14	..	..	1,742
Fort Madison, 14,063—Lee							
Iowa State Penitentiary Hospital.....	Inst	State	36	21	..	..	510
Glenwood, 4,501—Mills							
Glenwood State School.....	MeDe	State	1,920	1,841	..	..	87
Harlan, 3,737—Shelby							
Harlan Hospital.....	Gen	Indiv	14	7	5	74	336
Manchester, 3,762—Delaware							
Drs. Jones and Clark Hosp. Gen	Part	10	8	3	25	235	

IOWA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Marshalltown, 19,240—Marshall	Inst	State	170	95	..	...	242
Iowa Soldiers' Home Hosp..	Inst	State	170	95	..	...	242
Odebolt, 1,350—Sac	Gen	Indiv	9	3	3	20	95
Odebolt Hospital	Gen	Indiv	9	3	3	20	95
Orange City, 1,920—Sioux	Gen	Indiv	6	2	1	12	145
Doornink Hospital	Gen	Indiv	6	2	1	12	145
Postville, 1,194—Allamakee	Gen	Corp	13	7	3	33	219
Postville Community Hosp..	Gen	Corp	13	7	3	33	219
Re	MeDe	Part	56	45	..	...	6
Sac City, 3,165—Sac	Gen	Indiv	10	2	3	14	228
Sac City Hospital	Gen	Indiv	10	2	3	14	228
Sioux City, 82,364—Woodbury	Mat	NPAasn	39	23	35	58	71
Florence Crittenton Home..	Mat	NPAasn	39	23	35	58	71
Toledo, 2,073—Tama	Inst	State	32	6	..	...	242
State Juvenile Home Hosp..	Inst	State	32	6	..	...	242
Waukon, 2,973—Allamakee	Mat	Indiv	4	1	4	48	48
Hall Hospital	Mat	Indiv	4	1	4	48	48
Rominger and Jeffries Emer-	Gen	Part	8	2	..	3	227
gency Hospital	Gen	Part	8	2	..	3	227
Winterset, 3,631—Madison	Gen	Indiv	13	6	4	54	409
Winterset Hospital	Gen	Indiv	13	6	4	54	409
Woodward, 895—Dallas	MeDe	State	1,500	1,462	..	...	163
Hospital for Epileptics and	MeDe	State	1,500	1,462	..	...	163
School for Feeble-minded..	MeDe	State	1,500	1,462	..	...	163

KANSAS

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Abilene, 5,671—Dickinson	Gen	NPAasn	30	14	6	129	807
Dickinson County Memorial	Gen	NPAasn	30	14	6	129	807
Hospital	Gen	NPAasn	30	14	6	129	807
Anthony, 2,873—Harper	Gen	Indiv	13	8	3	65	584
Community Hospital	Gen	Indiv	13	8	3	65	584
Galloway Hospital	Gen	Indiv	32	30	7	137	1,239
Arkansas City, 12,732—Cowley	Gen	NPAasn	40	11	8	183	622
Mercy Hospital	Gen	NPAasn	40	11	8	183	622
Stricklen Hospital	Gen	NPAasn	28	3	5	11	1,138
Atchison, 12,648—Atchison	Gen	NPAasn	33	15	8	290	817
Atchison Hospital	Gen	NPAasn	33	15	8	290	817
Axtell, 545—Marshall	Gen	Indiv	12	6	5	48	286
Axtell Hospital	Gen	Indiv	12	6	5	48	286
Bellevue, 2,550—Republic	Gen	Indiv	20	7	4	28	210
Patterson Memorial Hosp..	Gen	Indiv	20	7	4	28	210
Beloit, 3,765—Mitchell	Gen	NPAasn	49	16	6	142	740
Community Hospital▲	Gen	NPAasn	49	16	6	142	740
Chanute, 10,142—Neosho	Gen	Corp	50	21	5	87	754
Johnson Hospital▲	Gen	Corp	50	21	5	87	754
Coffeyville, 17,355—Montgomery	Gen	Indiv	10	4	2	...	127
Coffeyville General Hospital	Gen	Indiv	10	4	2	...	127
Medical Center Hospital....	Gen	NPAasn	18	9	4	65	834
Southeast Kansas Hospital▲	Gen	NPAasn	23	8	5	91	623
Columbus, 3,402—Cherokee	Gen	City	19	10	2	8	339
Maude Norton Memorial City	Gen	City	19	10	2	8	339
Hospital	Gen	City	19	10	2	8	339
Concordia, 6,255—Cloud	Gen	Church	35	7	4	12	206
Concordia Hospital	Gen	Church	35	7	4	12	206
St. Joseph's Hospital▲	Gen	Church	75	61	10	161	1,610
Council Grove, 2,575—Morris	Gen	Indiv	13	3	1	11	151
Neosho Street Hospital....	Gen	Indiv	13	3	1	11	151
Dodge City, 8,487—Ford	Gen	Church	80	44	14	193	1,539
St. Anthony Hospital▲	Gen	Church	80	44	14	193	1,539
El Dorado, 10,045—Butler	Gen	NPAasn	50	32	8	221	1,507
Susan B. Allen Memorial	Gen	NPAasn	50	32	8	221	1,507
Hospital▲	Gen	NPAasn	50	32	8	221	1,507
Elkhart, 902—Morton	Gen	Indiv	18	5	4	15	91
Tucker Hospital	Gen	Indiv	18	5	4	15	91
Ellsworth, 2,227—Ellsworth	Gen	Corp	36	24	7	111	772
Ellsworth Hospital▲	Gen	Corp	36	24	7	111	772
Emporia, 13,188—Lyon	Gen	County	65	37	14	240	1,484
Newman Memorial County	Gen	County	65	37	14	240	1,484
Hospital▲	Gen	County	65	37	14	240	1,484
St. Mary's Hospital▲	Gen	Church	49	33	10	112	916
Fort Leavenworth, 4,982—Leavenworth	Gen	Army	155	81	5	24	1,632
Station Hospital▲	Gen	Army	155	81	5	24	1,632
Fort Riley, 3,500—Geary	Gen	Army	181	106	8	108	2,429
Station Hospital▲	Gen	Army	181	106	8	108	2,429
Fort Scott, 10,557—Bourbon	Gen	Church	110	75	12	254	2,564
Mercy Hospital▲	Gen	Church	110	75	12	254	2,564
Garden City, 6,285—Finney	Gen	Church	43	24	7	167	1,218
St. Oatherine's Hospital▲	Gen	Church	43	24	7	167	1,218
Girard, 2,554—Crawford	Gen	City	18	6	3	43	276
Girard General Hospital....	Gen	City	18	6	3	43	276
Goessel, 250—Marion	Gen	Church	16	9	5	43	172
Menonite Bethesda Hosp..	Gen	Church	16	9	5	43	172
Goodland, 3,306—Sherman	Gen	Church	19	9	4	88	654
Boothroy Memorial Hosp..	Gen	Church	19	9	4	88	654
Great Bend, 9,044—Barton	Gen	Church	106	61	19	467	2,761
St. Rose Hospital▲	Gen	Church	106	61	19	467	2,761
Halstead, 1,397—Harvey	Gen	Church	150	111	8	52	3,253
Halstead Hospital▲	Gen	Church	150	111	8	52	3,253
Harper, 1,135—Harper	Gen	Indiv	10	5	4	43	197
Harlin Hospital	Gen	Indiv	10	5	4	43	197
Hays, 6,385—Ellis	Gen	Church	38	9	5	49	585
Hays Protestant Hospital..	Gen	Church	38	9	5	49	585
St. Anthony's Hospital▲	Gen	Church	100	83	22	363	2,696

KANSAS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Herington, 3,804—Dickinson							
Mercy Hospital	Gen	NPAasn	20	10	5	31	204
Hillsboro, 1,580—Marion							
Salem Hospital	Gen	Church	22	10	7	86	396
Hoisington, 3,719—Barton							
Hoisington Hospital	Gen	NPAasn	15	7	3	37	541
Horton, 2,872—Brown							
Horton Hospital	Gen	Part	25	17	6	196	689
Hutchinson, 30,013—Reno							
Grace Hospital ^o	Gen	Church	107	51	18	502	2,430
St. Elizabeth Mercy Hosp. ^o ..	Gen	Church	63	39	12	341	1,307
Independence, 11,565—Montgomery							
Mercy Hospital ^o	Gen	Church	56	43	10	129	1,183
Iola, 7,244—Allen							
St. John's Hospital	Gen	Church	20	12	5	108	670
Junction City, 8,507—Geary							
Junction City Municipal							
Hospital	Gen	City	40	18	9	161	750
Kansas City, 121,458—Wyandotte							
Bell Memorial Hospital	Unit of	University of Kansas Hospitals					
Bethany Hospital+▲	Gen	Church	130	94	22	469	3,201
Douglas Hospital	Gen	Church	25	8	3	20	207
Grandview Sanitarium	N&M	Indiv	37	17	..	...	244
Providence Hospital+▲	Gen	Church	100	82	20	466	2,664
St. Margaret's Hospital+▲ ..	Gen	Church	225	150	26	376	4,126
University of Kansas Hos-							
pitals+▲	Gen	State	325	254	25	435	6,015
Larned, 3,533—Pawnee							
Larned State Hospital	Ment	State	1,425	1,260	..	...	765
Lawrence, 14,390—Douglas							
Lawrence Memorial Hosp.+▲	Gen	City	65	21	10	243	1,190
Leavenworth, 19,220—Leavenworth							
Cushing Memorial Hospital ^o ..	Gen	NPAasn	52	23	10	166	920
St. John's Hospital+▲	Gen	Church	65	50	10	151	926
Liberal, 4,410—Seward							
Epworth Hospital	Gen	Church	47	16	5	80	444
Lyons, 4,497—Rice							
Lyons Hospital	Gen	NPAasn	20	12	6	150	610
Manhattan, 11,659—Riley							
St. Mary Hospital ^o	Gen	Church	50	31	11	177	1,200
Marysville, 4,055—Marshall							
Marysville Hospital	Gen	Indiv	10	2	4	20	140
Randall Hospital	Gen	Indiv	16	7	3	30	250
McPherson, 7,194—McPherson							
McPherson County Hospital	Gen	County	60	27	10	252	1,001
Mulvane, 940—Sumner							
Atchison, Topeka & Santa Fe							
Railway Hospital+▲	Indus	NPAasn	50	25	..	...	331
Neodesha, 3,376—Wilson							
Wilson County Hospital....	Gen	County	30	16	6	78	667
Newton, 11,048—Harvey							
Axtell Christian Hospital+▲ ..	Gen	Church	53	33	12	165	1,359
Bethel Deaconess Hospital ^o ..	Gen	Church	62	35	12	158	1,234
Norton, 2,762—Norton							
Kenney Memorial Hospital..	Unit of	State Sanatorium for Tuberculosis					
Norton Hospital	Gen	City	25	12	6	71	437
State Sanatorium for Tuber-							
culosis+▲	TB	State	486	370	..	...	351
Oberlin, 1,878—Decatur							
Benton Memorial Hospital..	Gen	Indiv	14	5	3	19	272
Oswatomie, 4,145—Miami							
Oswatomie State Hospital, Ment	Gen	State	1,715	1,657	..	...	319
Ottawa, 10,193—Franklin							
Ransom Memorial Hospital, Gen	Gen	County	35	11	12	113	553
Parsons, 14,294—Labette							
Mercy Hospital+▲	Gen	Church	30	17	10	128	702
Missouri, Kansas, Texas Rail-							
road Employes' Hospital..	Indus	NPAasn	50	32	..	...	580
State Hospital for Epileptics	Epil	State	560	868	..	...	81
Pittsburg, 17,571—Crawford							
Mt. Carmel Hospital+▲	Gen	Church	75	44	8	188	1,728
Pratt, 6,591—Pratt							
Ninnescah Hospital ^o	Gen	Corp	20	13	5	47	459
Sabetha, 2,241—Nemaha							
St. Anthony Murdock Memo-							
rial Hospital+▲	Gen	Church	100	31	12	72	1,343
Salina, 21,073—Saline							
Asbury Protestant Hosp. ^o ..	Gen	Church	50	37	15	203	1,693
St. John's Hospital+▲	Gen	Church	60	43	15	247	1,311
Spearsville, 603—Ford							
Perkins Hospital	Gen	NPAasn	10	5	3	34	227
Stafford, 2,011—Stafford							
Feldhut Memorial Hospital, Gen	Gen	Part	25	12	5	63	315
Sterling, 2,215—Rice							
Sterling Hospital	Gen	NPAasn	17	11	5	48	601
Syracuse, 1,226—Hamilton							
Donohue Memorial Hospital	Gen	County	21	7	4	58	200
Topeka, 67,833—Shawnee							
Atchison, Topeka & Santa Fe							
Railway Hospital+▲	Indus	NPAasn	140	94	..	...	1,047
Christ's Hospital+▲	Gen	Church	95	69	20	225	1,811
Hillcrest Sanatorium	TB	CyCo	70	59	..	...	161
John C. Stornum Hosp.+▲ ..	N&M	NPAasn	80	57	20	384	1,957
Menninger Sanitarium+▲ ..	N&M	Corp	60	58	..	...	116
St. Francis Hospital+▲	Gen	Church	96	61	22	310	2,141
Topeka State Hospital	Ment	State	1,559	1,906	..	...	352
Wadsworth, —Leavenworth							
Veterans Admin. Facility+▲ ..	Gen	Vet	734	599	..	...	3,635
Wamego, 1,767—Pottawatomie							
Genn Hospital	Gen	City	15	10	6	60	283
Wellington, 5,246—Sumner							
Hatcher Hospital	Gen	NPAasn	20	8	7	65	510
St. Luke's Hospital	Gen	NPAasn	20	9	8	87	480

KANSAS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Wichita, 114,966—Sedgwick							
Coffman Hospital	Gen	Corp	15	4	2	14	241
St. Francis Hospital*+▲	Gen	Church	275	100	25	713	6,425
Sedgwick County Hospital..	Gen	County	80	59	5	78	2,009
Veterans Admin. Facility▲	Gen	Vet	240	101	..	..	2,192
Wesley Hospital*▲	Gen	Church	229	152	32	623	4,725
Wichita Hospital*▲	Gen	Church	105	94	15	474	2,706
Winfield, 9,506—Cowley							
St. Mary's Hospital▲	Gen	Church	50	36	6	97	1,012
William Newton Memorial Hospital▲	Gen	City	57	34	10	174	1,273
Related Institutions							
Ashland, 1,186—Clark							
Ashland Hospital	Gen	NPAssn	10	3	4	59	204
Caldwell, 1,962—Sumner							
Caldwell General Hospital...	Gen	Indiv	20	6	5	61	300
Ellsworth, 2,227—Ellsworth							
Mother Bickerdyke Home and Hospital	Inst	State	30	20	..	..	27
Fort Dodge, 615—Ford							
Kansas State Soldiers' Home Hospital	Inst	State	34	9	..	..	346
Fort Leavenworth, 4,988—Leavenworth							
Hospital, U. S. Disciplinary Barracks	Gen	Army	180	..	..	..	..
Lansing, 988—Leavenworth							
Kansas State Penitentiary Hospital	Inst	State	45	23	..	..	730
Lawrence, 14,300—Douglas							
Haskell Institute Hospital..	Inst	IA	40	7	..	..	378
Watkins Memorial Hosp.▲	Inst	State	62	20	..	..	1,414
Leavenworth, 19,220—Leavenworth							
U. S. Penitentiary Hospital▲	Inst	Fed	193	118	..	..	1,965
Little River, 603—Rice							
Hoffman Memorial Hospital	Gen	City	15	5	2	35	206
Manhattan, 11,659—Riley							
Kansas State College Hosp..	Inst	State	50	10	..	..	1,207
Norwich, 411—Kingman							
Wallace Hospital	Gen	Indiv	9	4	..	6	268
St. Francis, 1,041—Cheyenne							
St. Francis Hospital	Gen	Indiv	10	4	2	12	126
Scott City, 1,848—Scott							
Scott City Hospital	Gen	NPAssn	11	6	4	39	273
Topeka, 67,833—Shawnee							
Florence Crittenton Home..	Mat	NPAssn	20	13	12	23	32
Wichita, 114,966—Sedgwick							
Salvation Army Home and Hospital	Mat	Church	73	27	19	87	92
Sedgwick County Tuberculosis Sanitarium	TB	County	60	40	..	..	46
Suburban Rest Sanitarium..	Conv	Indiv	30	15	..	..	58
Winfield, 9,506—Cowley							
State Training School	McDe	State	1,317	1,241	..	..	106

KENTUCKY

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Anchorage, 690—Jefferson							
Hard's Sanitarium	N&M	Indiv	55	35	..	..	92
Ashland, 29,537—Boyd							
Kings Daughters Hospital..	Gen	NPAssn	86	67	15	408	2,202
Berea, 2,176—Madison							
Berea College Hospital▲	GenIso	NPAssn	125	34	5	54	2,756
Beverly, 69—Bell							
Red Bird Evangelical Hosp.	Gen	Church	9	4	4	51	168
Bowling Green, 14,535—Warren							
City Hospital	Gen	City	43	20	8	133	1,412
Campbellsville, 2,488—Taylor							
Campbellsville Hospital	Gen	NPAssn	8	4	2	15	181
Corbin, 7,893—Whitley							
Smith Hospital	Gen	Indiv	32	10	4	14	426
Covington, 62,018—Kenton							
St. Elizabeth Hospital*▲	Gen	Church	286	199	30	1,025	4,842
Wm. Booth Memorial Hosp.	Gen	Church	85	62	18	329	2,019
Cynthiana, 4,540—Harrison							
Harrison Memorial Hospital	Gen	NPAssn	30	12	6	40	306
Danville, 6,734—Boyle							
Ephraim McDowell Memorial Hospital	Gen	NPAssn	62	38	10	100	1,636
Dayton, 8,379—Campbell							
Speer's Memorial Hospital.	Gen	County	100	61	15	286	2,636
Fort Knox, 500—Hardin							
Station Hospital	Gen	Army	259	140	5	42	3,279
Fort Thomas, 11,034—Campbell							
Station Hospital	Gen	Army	142	86	3	14	1,304
Frankfort, 11,492—Franklin							
Kings Daughters Hospital..	Gen	NPAssn	75	30	15	100	1,278
Georgetown, 4,420—Scott							
John Graves Ford Memorial Hospital	Gen	CyCo	26	17	6	58	540
Gilbertsville, 329—Marshall							
Kentucky Dam Hospital...	Gen	Fed	20	10	7	6	548
Glasgow, 5,815—Barren							
T. J. Samson Community Hospital▲	Gen	NPAssn	51	45	9	72	2,351

KENTUCKY—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Greenville, 2,347—Muhlenberg							
Muhlenberg Community Hospital	Gen	NPAssn	30	19	5	36	1,100
Harlan, 5,122—Harlan							
Harlan Hospital	Gen	Corp	75	45	10	83	1,569
Harrodsburg, 4,673—Mercer							
A. D. Price Memorial Hosp.	Gen	NPAssn	20	10	5	27	498
Hartford, 1,385—Ohio							
Crowder Clinic	Gen	Indiv	5	2	2	27	139
Hazard, 7,397—Perry							
Hazard Hospital	Gen	Corp	80	32	8	61	2,007
Hurst-Snyder Hospital ...	Gen	Corp	25	13	5	26	669
Henderson, 13,160—Henderson							
Henderson Hospital	Gen	Corp	38	34	6	62	1,259
Hopkinsville, 11,724—Christian							
Jennie Stuart Memorial Hospital	Gen	NPAssn	20	22	4	39	929
Hyden, 1,471—Leslie							
Frontier Nursing Service Hospital	Gen	NPAssn	18	10	6	78	406
Jackson, 2,099—Brenthitt							
Bach Memorial Hospital...	Gen	Indiv	12	3	2	10	156
Jenkins, 9,428—Letcher							
Jenkins Hospital▲	Gen	NPAssn	65	37	6	41	1,334
Lebanon, 3,786—Marion							
Baute Infirmary	Gen	Indiv	15	9	5	66	462
Lexington, 49,304—Fayette							
Good Samaritan Hosp.*▲	Gen	Church	263	201	20	537	7,418
High Oaks Sanatorium...	N&M	Indiv	30	14	..	..	166
Julius Marks Sanatorium...	TB	County	105	100	..	..	163
St. Joseph Hospital*▲	Gen	Church	217	147	22	489	5,483
Shriners Hospital for Crippled Children▲	Orth	NPAssn	24	20	..	..	73
U. S. Public Health Service Hospital+	Drug	Fed	1,000	934	..	..	516
Veterans Admin. Facility▲	Ment	Vet	559	541	..	..	515
London, 2,263—Laurel							
Pennington General Hosp...	Gen	Corp	25	13	4	10	340
Louis, 2,023—Lawrence							
Riverview Hospital	Gen	Indiv	10	8	4	46	226
Louisville, 319,077—Jefferson							
Bel Air Sanatorium...	N&M	Indiv	12	6	..	..	42
Children's Free Hospital▲	Chil	NPAssn	75	50	..	..	1,146
Jewish Hospital*▲	Gen	NPAssn	85	47	15	167	1,716
Kentucky Baptist Hosp.*▲	Gen	Church	130	117	20	499	4,254
Kosair Crippled Children Hospital▲	Orth	NPAssn	125	103	..	..	919
Louisville City Hosp.*+▲	Gen	City	538	421	58	1,527	12,422
Louisville Neuropathic Sanatorium	N&M	Corp	20	19	..	..	380
Methodist Deaconess Hospital▲	Gen	Church	67	57	8	261	1,952
Norton Memorial Infirmary▲	Gen	NPAssn	140	106	25	408	3,957
..	N&M	Corp	21	6	..	..	387
..	Gen	NPAssn	60	15	8	18	389
..	Gen	Church	138	97	25	644	2,888
..	Gen	Church	300	183	25	498	6,187
..	Gen	Church	145	103	35	976	3,739
State Tuberculosis Sanat...	TB	State	130	99	..	..	298
Stokes Hospital	N&M	Indiv	30	18	..	..	90
U. S. Marine Hospital▲	Gen	USPHS	164	85	..	..	1,502
Lynch, 7,000—Harlan							
Lynch Hospital	Gen	NPAssn	50	31	4	130	1,132
Madisonville, 3,309—Hopkins							
Hopkins County Hospital...	Gen	NPAssn	75	15	6	81	918
Mayfield, 8,619—Graves							
Fuller-Gilliam Hospital	Gen	Corp	25	16	4	62	782
Mayfield Hospital	Gen	NPAssn	36	20	5	76	762
Maysville, 6,572—Mason							
Hayswood Hospital	Gen	NPAssn	53	21	8	94	1,041
..	Gen	Corp	50	30	8	103	1,372
..	Gen	Indiv	20	..	3	Estab.	1940
Murray, 3,773—Calloway							
Keys-Houston Clinic Hosp...	Gen	Part	27	10	8	57	631
Wm. Mason Memorial Hospital	Gen	NPAssn	95	22	5	51	997
Outwood, —Christian							
Veterans Admin. Facility▲	TB	Vet	375	322	..	..	878
Owensboro, 30,245—Davies							
Owensboro Davies County Hospital	Gen	CyCo	65	51	12	313	2,332
..	os-						
..	Unit of						
Illinois Central Hospital▲	Indus	NPAssn	95	33	2	4	1,470
Riverside Hospital▲	Gen	City	90	37	12	351	2,002
Paintsville, 2,324—Johnson							
Paintsville Clinic	Gen	Indiv	20	6	4	15	223
Paintsville Hospital	Gen	Corp	65	35	10	65	1,906
Paris, 6,697—Bourbon							
W. W. Massie Memorial Hospital▲	Gen	City	55	30	5	136	1,050
Pewee Valley, 625—Oldham							
Pewee Valley Sanitarium and Hospital	Gen	NPAssn	35	24	3	20	251
Pikeville, 4,185—Pike							
Methodist Hospital	Gen	Church	90	37	10	78	1,808
Pineville, 3,882—Bell							
Pineville Community Hosp..	Gen	Corp	69	42	4	20	1,324

Key to symbols and abbreviations is on page 1083

KENTUCKY—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Richmond, 7,335—Madison	Gen	Indiv	16	8	3	25	350
Gibson Hospital	Gen	Indiv	16	8	3	25	350
Irvine-McDowell Memorial Hospital for Treatment of Trachoma	Trach	State	38	26	..	..	312
Pattie A. Clay Infirmary	Gen	NPAasn	53	29	5	66	1,062
Russellville, 3,983—Logan	Gen	Corp	15	5	3	33	354
Russellville Hospital	Gen	Corp	15	5	3	33	354
Scottsville, 1,797—Allen	Gen	Indiv	17	5	2	51	238
Graves Infirmary	Gen	Indiv	17	5	2	51	238
Stanford, 1,940—Lincoln	Gen	Part	8	5	2	9	223
Stanford Hospital	Gen	Part	8	5	2	9	223
Versailles, 2,548—Woodford	Gen	CyCo	34	11	6	95	569
Woodford Memorial Hosp...	Gen	CyCo	34	11	6	95	569
Waverly Hills, —Jefferson	TB	CyCo	520	488	..	..	416
Waverly Hills Sanatorium	TB	CyCo	520	488	..	..	416
Winchester, 8,594—Clark	Gen	NPAasn	44	14	6	55	551
Clark County Hospital	Gen	NPAasn	44	14	6	55	551
Guerrant Clinic and Hosp...	Gen	NPAasn	20	7	4	7	168
Related Institutions							
Barbourville, 2,420—Knox	Gen	Corp	20	4	..	22	265
Logan Hospital	Gen	Corp	20	4	..	22	265
Covington, 62,018—Kenton	Gen	Corp	20	4	..	22	265
Covington-Kenton County Tuberculosis Sanatorium..	TB	County	17	15	..	..	16
Fleming, 1,193—Letcher	Indus	NPAasn	28	3	..	3	136
Fleming Hospital	Indus	NPAasn	28	3	..	3	136
Frankfort, 11,492—Franklin	State	State	768	740	..	..	37
State Institution for the Feeble-minded	State	State	768	740	..	..	37
Stewart Home Training School	Indiv	Indiv	120	..	..	..	..
Fulton, 3,308—Fulton	Gen	Part	15	6	4	76	448
Fulton Hospital	Gen	Part	15	6	4	76	448
Grayson, 1,176—Carter	Gen	Corp	20	8	3	31	318
J. Q. Stovall Memorial Hos- pital	Gen	Corp	20	8	3	31	318
Hopkinsville, 11,721—Christian	State	State	1,956	1,956	..	..	612
Western State Hospital	State	State	1,956	1,956	..	..	612
La Grange, 1,334—Oldham	State	State	104	42	..	..	1,247
State Reformatory Hospital	Inst	State	104	42	..	..	1,247
Lakeland, 55—Jefferson	State	State	2,491	2,427	..	..	630
Central State Hospital	State	State	2,491	2,427	..	..	630
Lexington, 49,304—Fayette	State	State	2,112	1,964	..	..	718
Eastern State Hospital	State	State	2,112	1,964	..	..	718
Louisville, 319,077—Jefferson	State	State	2,112	1,964	..	..	718
Kings Daughters Home for Incurables	Incur	NPAasn	100	87	..	..	19
Susan Speed Davis Home and Hospital	MatCh	Church	43	28	19	74	70
Princeton, 5,389—Caldwell	Gen	City	16	7	4	39	363
Princeton Hospital	Gen	City	16	7	4	39	363

LOUISIANA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Abbeville, 6,672—Vermilion	Gen	Part	12	5	3	141	459
Abbeville Clinic	Gen	Part	12	5	3	141	459
Alexandria, 27,066—Rapides	Gen	Church	87	40	10	201	2,464
Baptist Hospital	Gen	Church	87	40	10	201	2,464
Veterans Admin. Facility	Gen	Vet	621	548	..	..	3,820
Barksdale Field, —Bossier	Gen	Army	160	127	8	66	2,599
Station Hospital	Gen	Army	160	127	8	66	2,599
Bastrop, 6,626—Morehouse	Gen	Indiv	26	8	6	53	433
Bastrop General Hospital...	Gen	Indiv	26	8	6	53	433
Baton Rouge, 34,719—East Baton Rouge	Gen	NPAasn	69	40	17	316	2,364
Baton Rouge General Hos- pital	Gen	NPAasn	69	40	17	316	2,364
Our Lady of the Lake Sani- tarium	Gen	Church	125	95	24	718	5,636
Bt	Gen	Church	125	95	24	718	5,636
Hospital	Gen	NPAasn	84	67	12	251	3,234
Carville, 308—Iverville	Gen	NPAasn	84	67	12	251	3,234
U. S. Marine Hospital	Lepro	USPHS	454	366	..	..	64
Converse, 31—Sabine	Gen	Corp	26	5	8	50	500
Allen Sanatorium	Gen	Corp	26	5	8	50	500
Covington, 4,123—St. Tammany	Gen	Corp	26	5	8	50	500
New Fenwick Sanatorium...	N&M	Indiv	64	16	..	..	189
Crowley, 9,523—Acadia	Gen	Part	12	7	2	81	506
Acadia Hospital	Gen	Part	12	7	2	81	506
Crowley Sanatorium (Legion Memorial Hospital)	Gen	NPAasn	20	7	3	75	545
Delhi, 1,192—Richland	Gen	Part	12	3	2	42	240
Delhi Clinic and Sanatorium.	Gen	Part	12	3	2	42	240
De Ridder, 3,750—Beauregard	Gen	Indiv	25	12	3	66	256
Frazar Clinic and Hospital.	Gen	Indiv	25	12	3	66	256
Donaldsonville, 3,889—Ascension	Gen	Part	8	..	4	Estab.	1940
Donaldsonville General Hosp.	Gen	Part	8	..	4	Estab.	1940
Ferriday, 2,857—Concordia	Gen	Part	23	12	4	51	624
Ferriday Hospital	Gen	Part	23	12	4	51	624
Greenwell Springs, 130—East Baton Rouge	Gen	State	110	109	..	..	112
Greenwell Springs Sanat...	TB	State	110	109	..	..	112
Haynesville, 2,418—Claiborne	Gen	Corp	25	6	4	35	367
Haynesville Hospital	Gen	Corp	25	6	4	35	367
Houma, 9,052—Terrebonne	Gen	Part	23	12	4	160	702
Ellender Memorial Hospital.	Gen	Part	23	12	4	160	702

LOUISIANA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Independence, 1,498—Tangipahoa	Gen	State	65	40	11	490	6,333
Florida Parishes Charity Hospital	Gen	State	65	40	11	490	6,333
Jackson, 5,384—East Feliciana	Gen	State	4,324	4,000	..	..	927
East Louisiana State Hosp.	Gen	State	4,324	4,000	..	..	927
Parker Hospital	Unit of	East Louisiana State Hospital	..	..	..	..	..
Lafayette, 19,210—Lafayette	Gen	State	222	244	19	830	7,023
Lafayette Charity Hospital.	Gen	State	222	244	19	830	7,023
Lafayette Sanatorium	Gen	Corp	25	9	4	82	566
Lake Charles, 21,207—Calcasieu	Gen	Church	75	40	12	256	2,849
St. Patrick's Hospital	Gen	Church	75	40	12	256	2,849
Lecompte, 1,311—Rapides	Gen	Indiv	15	5	2	90	350
Lecompte Sanatorium	Gen	Indiv	15	5	2	90	350
Mansfield, 4,065—De Soto	Gen	Corp	32	7	2	14	401
Mansfield Sanatorium	Gen	Corp	32	7	2	14	401
Marksville, 1,811—Avoyelles	Gen	Indiv	11	6	3	46	310
Marksville Hospital	Gen	Indiv	11	6	3	46	310
Minden, 6,677—Webster	Gen	Corp	27	13	4	104	858
Minden Sanatorium	Gen	Corp	27	13	4	104	858
Monroe, 28,309—Ouachita	TB	NPAasn	49	32	..	..	81
G. B. Cooley Sanatorium...	TB	NPAasn	49	32	..	..	81
Riverside Sanatorium	Gen	Indiv	25	9	4	65	535
St. Francis' Sanatorium	Gen	Church	125	75	20	338	3,345
Vaughan - Wright - Bendel Clinic	Gen	Part	26	16	5	65	820
New Iberia, 13,747—Iberia	Gen	Indiv	27	9	6	164	879
Dauterive Hospital	Gen	Indiv	27	9	6	164	879
Iberia General Hospital	Gen	Indiv	15	4	3	45	447
New Orleans, 494,537—Orleans	Gen	State	2,982	2,462	151	5,476	57,594
Charity Hospital*+A	Gen	State	2,982	2,462	151	5,476	57,594
City Hospital for Mental Diseases	Ment	City	100	50	..	..	507
Delgado Memorial Hospital.	Unit of	Charity Hospital	..	..	..	..	..
De Paul Sanatorium	N&M	Church	350	250	..	..	346
Eye, Ear, Nose and Throat Hospital	ENT	NPAasn	80	40	..	..	3,824
Flinn Goodridge Hospital of Dillard University	Gen	NPAasn	88	49	12	242	1,878
French Hospital	Gen	NPAasn	63	29	12	176	1,187
Hotel Dieu Sisters' Hosp.	Gen	Church	250	214	33	831	9,820
Illinois Central Hospital	Indus	NPAasn	60	23	..	..	730
John Dibert Memorial Tuberculosis Hospital	Unit of	Charity Hospital	..	..	..	..	..
Mercy Hospital-Soniat Memo- rial	Gen	Church	118	64	24	680	3,845
New Orleans Hospital and Dispensary for Women and Children	Gen	NPAasn	38	23	12	397	1,340
Richard Milliken Memorial Hospital	Unit of	Charity Hospital	..	..	..	..	..
Southern Baptist Hosp.	Gen	Church	310	217	64	989	14,357
Touro Infirmary	Gen	NPAasn	400	306	40	1,140	11,818
U. S. Marine Hospital	Gen	USPHS	572	434	..	..	5,412
Opelousas, 8,980—St. Landry	Gen	Part	40	20	..	..	420
St. Rita's Infirmary	Gen	Part	40	20	..	..	420
Pineville, 4,297—Rapides	Gen	Part	40	20	..	..	420
Central Louisiana State Hospital	Ment	State	2,328	2,140	..	..	639
Fuqua Memorial Hospital	Unit of	Central Louisiana State Hospital	..	..	..	..	..
Huey P. Long Charity Hosp.	Gen	State	350	259	30	1,200	10,356
Plaquemine, 5,049—Iberville	Gen	NPAasn	25	8	6	144	906
Plaquemine Sanatorium	Gen	NPAasn	25	8	6	144	906
Port Sulphur, 25—Plaquemine	Gen	NPAasn	14	4	6	28	233
Port Sulphur Hospital	Gen	NPAasn	14	4	6	28	233
Ruston, 7,107—Lincoln	Gen	Corp	25	17	6	106	718
Ruston-Lincoln Sanatorium..	Gen	Corp	25	17	6	106	718
Shreveport, 18,167—Caddo	TB	Part	18	12	..	..	58
Gilmer Chest Hospital	TB	Part	18	12	..	..	58
Gowen Sanatorium	TB	NPAasn	30	21	..	..	69
Highland Sanatorium	Gen	Corp	100	76	16	390	3,821
North Louisiana Sanit.	Gen	Corp	100	60	10	238	2,836
Pines Sanatorium	TB	NPAasn	104	81	..	..	119
T. E. Schumpert Memorial Sanatorium	Gen	Church	100	70	14	325	3,321
Shreveport Charity Hosp.	Gen	State	774	661	75	2,445	23,294
Shriners Hospital for Crip- pled Children	Orth	NPAasn	60	60	..	..	191
Tri-State Hospital	Gen	Corp	100	79	19	347	4,207
Tallulah, 5,712—Madison	Gen	Indiv	15	7	4	30	200
Tallulah Hospital and Clinic	Gen	Indiv	15	7	4	30	200
Thibodaux, 5,851—La Fourche	Gen	Church	40	13	4	102	1,086
St. Joseph Hospital	Gen	Church	40	13	4	102	1,086
Winnsboro, 2,834—Franklin	Gen	Indiv	12	5	2	41	396
Rogers Clinic and Hospital.	Gen	Indiv	12	5	2	41	396
Related Institutions							
Alexandria, 27,066—Rapides	Gen	State	825	800	..	..	42
State Colony and Training School	McDe	State	825	800	..	..	42
Angola, 18—West Feliciana	Inst	State	21	10	..	..	230
Louisiana State Penitentiary	Inst	State	21	10	..	..	230
Breaux Bridge, 1,668—St. Martin	Gen	Indiv	10	2	1	8	110
St. Paul Hospital	Gen	Indiv	10	2	1	8	110
Hodge, 1,445—Jackson	Gen	Indiv	9	4	3	77	366
Hodge Clinic	Gen	Indiv	9	4	3	77	366
New Orleans, 494,537—Orleans	Gen	State	..	..	..	..	..
New Orleans Convalescent Home	Conv	NPAasn	32	20	..	..	223
Orleans Tuberculosis Hosp.	TB	NPAasn	100	50	..	..	113
Opelousas, 8,980—St. Landry	Gen	Corp	50	24	7	149	883
St. Landry Clinic	Gen	Corp	25	9	2	26	618

MAINE

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admis- sions †	
Augusta, 19,360—Kennebec								
Augusta General Hospital... Gen		NPAasn	65	48	15	319	1,479	
Augusta State Hospital..... Ment		State	1,633	1,535	..	...	188
Bangor, 29,822—Penobscot								
Bangor Sanatorium..... TB		NPAasn	30	18	..	...	24
Bangor State Hospital..... Ment		State	1,134	1,144	..	...	277
Eastern Maine General Hos- pital... Gen		NPAasn	213	167	30	190	4,281	
Paine Private Hospital..... Gen		Indiv	30	13	5	5	240	
Stinson Private Hospital... Gen		Indiv	20	8	11	70	387	
Bar Harbor, 4,378—Hancock								
Mount Desert Island Hosp.. Gen		NPAasn	58	25	10	74	927	
Bath, 10,235—Sagadahoc								
Bath Memorial Hospital... Gen		Corp	50	34	10	157	959	
Belfast, 5,540—Waldo								
Bradbury Memorial Hosp... Gen		NPAasn	15	4	5	5	96	
Waldo County General Hos- pital... Gen		NPAasn	38	24	5	67	610	
Biddeford, 19,750—York								
Trull Hospital Gen		Corp	40	30	10	120	948	
Webber Hospital Gen		NPAasn	54	49	13	237	1,490	
Blue Hill, 1,343—Hancock								
Blue Hill Memorial Hospital Gen		NPAasn	25	9	8	35	293	
Boothbay Harbor, 2,121—Lincoln								
St. Andrews Hospital..... Gen		Corp	26	8	5	32	281	
Brewer, 6,510—Penobscot								
Russell Hospital Gen		Indiv	13	9	10	187	289	
Brunswick, 7,603—Cumberland								
Brunswick Hospital Gen		Indiv	46	20	6	49	598	
Camden, 3,554—Knox								
Camden Community Hosp.. Gen		NPAasn	15	6	6	47	220	
Cape Cottage, 50—Cumberland								
Station Hospital... Gen		Army	54	42	..	...	842
Caribou, 8,218—Aroostook								
Cary Memorial Hospital... Gen		City	40	17	10	80	670	
Castine, 662—Hancock								
Castine Community Hosp... Gen		NPAasn	12	8	6	57	360	
Dover-Foxcroft, 4,015—Piscataquis								
Mayo Memorial Hospital... Gen		City	18	10	3	41	410	
Eastport, 3,346—Washington								
Quoddy Hospital Gen		Fed	20	4	1	2	295	
Fairfield, 5,294—Somerset								
Central Maine Sanatorium... TB		State	208	191	..	...	175
Farmington, 3,743—Franklin								
Franklin County Memorial Hospital... Gen		NPAasn	49	28	9	171	1,048	
Fort Fairfield, 5,607—Aroostook								
Fort Fairfield Clinic..... Gen		Corp	18	12	6	47	534	
Gardiner, 6,044—Kennebec								
Gardiner General Hospital... Gen		NPAasn	50	25	12	237	998	
Western Maine Sanat... TB		State	150	141	..	...	185
Houlton, 7,771—Aroostook								
Aroostook General Hospital Gen		NPAasn	40	27	12	116	877	
Madigan Memorial Hosp... Gen		Church	35	17	7	65	941	
Island Falls, 1,370—Aroostook								
Emma V. Milliken Memorial Hospital Gen		NPAasn	14	8	5	58	378	
Lewiston, 38,698—Androscoggin								
Central Maine General Hos- pital... Gen		NPAasn	203	182	28	570	4,023	
St. Mary's General Hosp... Gen		Church	150	131	15	323	3,210	
Mars Hill, 1,886—Aroostook								
Mars Hill Hospital..... Gen		Indiv	10	2	3	6	80	
Portland, 73,643—Cumberland								
Children's Hospital... Chil		NPAasn	100	78	..	...	430
Farrington Hospital Gen		City	186	140	16	126	1,781	
Dr. Leighton's Private Hos- pital GynOb		Indiv	14	11	12	81	407	
Maine Eye and Ear Infirmary... Gen		NPAasn	100	100	20	454	3,973	
Maine General Hospital... Gen		NPAasn	254	245	27	722	6,639	
Queen's Hospital... Gen		Church	50	45	12	129	838	
State Street Hospital... Gen		Corp	50	44	12	110	1,162	
U. S. Marine Hospital... Gen		USPHS	72	53	..	...	611
Presque Isle, 7,939—Aroostook								
Northern Maine Sanatorium... TB		State	125	118	..	...	139
Presque Isle General Hosp.. Gen		NPAasn	50	29	10	152	1,087	
Rockland, 8,899—Knox								
Knox County General Hos- pital... Gen		NPAasn	63	35	7	84	920	
Rumford, 10,230—Oxford								
Rumford Community Hos- pital... Gen		NPAasn	67	41	8	215	1,459	
Togus, —Kennebec								
Veterans Admin. Facility... Gen		Vet	294	252	..	...	2,055
		Gen	Church	80	67	17	237	4,413
		Gen	NPAasn	34	24	6	75	997
		Gen	NPAasn	22	8	7	88	423
Related Institutions								
Auburn, 19,817—Androscoggin								
Auburn Private Hospital... Gen		Indiv	10	3	6	51	140	
Bangor, 29,822—Penobscot								
Friendship Hospital Gen		Indiv	12	4	2	17	247	
Gay Private Hospital..... N&M		Indiv	18	10	..	...	132

Related Institutions

Auburn, 19,817—Androscoggin						
Auburn Private Hospital...	Gen	Indiv	10	3	6	51 140
Bangor, 29,822—Penobscot						
Friendship Hospital	Gen	Indiv	12	4	2	17 247
Gay Private Hospital	N&M	Indiv	18	10	..	... 132

MAINE—Continued

Related Institutions

Bar Mills, 500—York							
Buxton-Hollis Hospital.....	Gen	Indiv	12	...	No data supplied		
Eagle Lake, 1,891—Aroostook							
Northern Maine General Hos- pital.....	Gen	Church	42	36	..	...	624
Pownal, 575—Cumberland							
Pownal State School.....	MeDe	State	1,120	1,078	..	...	75
Union, 1,150—Knox							
Jones Sanitarium.....	N&M	Corp	30	11	..	...	5
Van Buren, 5,380—Aroostook							
Hotel Dieu Hospital.....	Gen	Church	15	0	4	33	358
York Village, 3,283—York							
York Hospital.....	Gen	NPAssn	21	6	7	71	267

MARYLAND

Hospitals and Sanatoriums

Aberdeen Proving Ground, —Harford	Gen	Army	12	3	..	..	192
Station Hospital.....	Gen						
Annapolis, 13,069—Anne Arundel							
Annapolis Emergency Hos-							
pital.....	Gen	NPAasn	85	44	15	293	1,920
U. S. Naval Hospital.....	Gen	Navy	192	79	..	..	1,876
Baltimore, 859,100—Baltimore City							
Baltimore City Hospitals***	Gen	City	1,379	1,102	80	2,293	8,269
Baltimore City Psychopathic							
Hospital.....	Unit of Baltimore City Hospitals						
Baltimore City Tuberculosis							
Hospital.....	Unit of Baltimore City Hospitals						
Baltimore Eye, Ear and Throat							
Charity Hospital+▲.....	ENT	NPAasn	60	40	..	..	2,923
Beck Diagnostic Clinic.....	Gen	Indiv	12	7	..	..	..
Bon Secours Hospital+▲.....	Gen	Church	150	120	25	676	3,832
Children's Hospital School.....	Orth	NPAasn	130	98	..	..	346
Church Home and Infirmary+▲.....	Gen	Church	156	111	22	437	3,358
Franklin Square Hosp.+▲.....	Gen	NPAasn	200	139	27	644	2,772
Gundry Sanitarium.....	N&M	Indiv	45	39	..	..	28
Hospital for Women+▲.....	Gen	NPAasn	124	90	38	652	2,681
James Lawrence Kernan Hos-							
pital and Industrial School							
for Crippled Children+▲.....	Orth	NPAasn	103	75	..	..	192
Johns Hopkins Hosp.+▲.....	Gen	NPAasn	900	756	72	1,506	16,141
Johnston Memorial Children's							
Hospital.....	Unit of Union Memorial Hospital						
Maryland General Hosp.+▲.....	Gen	Church	259	200	21	510	5,125
Mercy Hospital+▲.....	Gen	Church	291	230	35	720	7,652
Mount Hope Retreat.....	N&M	Church	600	576	..	..	107
Philips Psychiatric Clinic.....	Unit of Johns Hopkins Hospital						
Presbyterian Eye, Ear and							
Throat Charity Hospital.....	ENT	Church	40	8	..	..	1,805
Provident Hospital and Free							
Dispensary+▲.....	Gen	NPAasn	134	98	14	235	1,020
St. Agnes' Hospital+▲.....	Gen	Church	220	154	28	604	4,493
St. Joseph's Hospital+▲.....	Gen	Church	248	196	33	863	6,150
Sinai Hospital+▲.....	Gen	NPAasn	260	200	40	841	5,408
South Baltimore General Hos-							
pital+▲.....	Gen	NPAasn	153	116	17	320	3,435
Sydenham Hospital+.....	Iso	City	110	54	..	..	1,211
Union Memorial Hosp.+▲.....	Gen	NPAasn	328	237	24	481	6,866
U. S. Marine Hospital+▲.....	Gen	USPHS	531	422	..	..	5,597
University Hospital+▲.....	Gen	State	435	360	50	1,369	9,007
West Baltimore General Hos-							
pital+▲.....	Gen	Corp	134	102	35	603	3,739
.....	N&M	Corp	38	22	..	..	185
.....	en	Indiv	30	13	5	37	432
Cambridge-Maryland Hospi-							
tal+▲.....	Gen	NPAasn	70	35	15	189	1,034
Eastern State Hosp.....	Ment	State	507	452	..	..	180
Catonsville, 7,647—Baltimore							
Hanriem Lodge.....	N&M	Indiv	49	37	..	..	136
Spring Grove State Hosp.+	Ment	State	2,239	2,012	..	..	561
Chestertown, 2,760—Kent							
Kent and Upper Queen Anne's							
General Hospital.....	Gen	NPAasn	25	12	6	80	431
Crisfield, 3,908—Somerset							
Edward W. McCready Memo-							
rial Hospital.....	Gen	County	35	17	5	82	519
Crownsville, —Anne Arundel							
Crownsville State Hospital.....	Ment	State	1,496	1,427	..	..	433
Hospital for Colored Feeble-							
minded Children.....	Unit of Crownsville State Hospital						
.....	Gen						
.....	Gen	Church	110	84	35	558	2,753
Memorial Hospital+▲.....	Gen	CyCo	166	110	26	505	3,860
Easton, 4,528—Talbot							
Emergency Hospital+▲.....	Gen	NPAasn	125	63	19	207	2,029
Edgewood, 300—Harford							
Station Hospital.....	Gen	Army	66	23	..	..	753
Elkton, 3,518—Cecil							
Union Hospital of Cecil							
County.....	Gen	NPAasn	45	25	8	244	1,043
Fort George G. Meade, —Anne Arundel							
Station Hospital+▲.....	Gen	Army	113	68	5	27	1,382

MARYLAND—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Frederick, 15,802—Frederick Emergency Hospital	Gen	County	50	30	10	259	640
Frederick City Hospital*	Gen	NPAasn	110	59	15	182	2,063
Frostburg, 7,650—Allegany Miners Hospital	Gen	State	39	23	10	147	638
Glenn Dale, 205—Prince Georges							
Glenn Dale Sanatorium	See Tuberculosis Sanat., Washington, D. C.						
Hagerstown, 32,491—Washington Washington County Hos-							
pital*	Gen	NPAasn	142	91	24	338	3,162
Hayre de Grace, 4,967—Harford Harford Memorial Hospital	Gen	NPAasn	42	34	8	112	618
Henryton, 15—Carroll Maryland Tuberculosis Sana-							
torium	TB	State	378	337	..	..	515
Ijamsville, 72—Frederick Riggs Cottage Sanitarium..	N&M	Indiv	30	28	..	..	38
Laurel, 2,823—Prince Georges District Training School....	See Washington, D. C.						
Laurel Sanitarium	N&M	Indiv	75	59	..	..	260
Mt. Wilson, 225—Baltimore Mt. Wilson Branch, Mary-							
land Tuberculosis Sanat..	TB	State	183	181	..	..	130
Olney, 100—Montgomery Montgomery County General							
Hospital	Gen	NPAasn	40	37	14	188	1,324
Perry Point, 80—Cecil Veterans Admin. Facility*..	Ment	Vet	1,390	1,317	..	..	313
Prince Frederick, 200—Calvert Calvert County Hospital....	Gen	NPAasn	23	12	9	60	516
Reisterstown, 1,635—Baltimore "Mt. Pleasant"	TB	NPAasn	60	55	..	..	39
Relay, 2,016—Baltimore Relay Sanitarium	Ment	Part	35	23	..	..	102
Rockville, 2,047—Montgomery Chestnut Lodge Sanitarium..	N&M	Indiv	45	41	..	..	115
Salisbury, 13,313—Wicomico Maryland Tuberculosis Sana-							
torium, Eastern Shore Branch	TB	State	78	72	..	..	105
Peninsula General Hosp.*	Gen	NPAasn	93	86	16	358	2,822
Silver Spring, 5,000—Montgomery Cedarcroft Sanatorium	N&M	Part	42	35	..	..	185
State Sanatorium, 200—Frederick Maryland Tuberculosis Sana-							
torium	TB	State	510	495	..	..	599
Sykesville, 806—Carroll Springfield State Hospital*	Ment	State	2,967	2,869	..	..	624
Towson, 2,074—Baltimore Aigburth Manor	Nerv	Indiv	23	17	..	..	28
Hospital for Consumptives (Eudowood Sanatorium)..	TB	NPAasn	196	187	..	..	213
Sheppard and Enoch Pratt Hospital*	N&M	NPAasn	285	290	..	..	385
Western Port, 3,565—Allegany Reeves Clinic	Gen	Part	16	6	5	48	414

Related Institutions

Baltimore, 859,100—Baltimore City Baltimore City Jail Hosp...	Inst	City	28	10	..	..	486
Happy Hills Convalescent Home for Children	Conv	NPAasn	80	71	..	..	308
Home for Incurables	Incur	NPAasn	144	144	..	..	49
Maryland Penitentiary Hos-							
pital	Inst	State	50	20	..	..	245
Jessups, 161—Anne Arundel Maryland House of Correc-							
tion Hospital	Inst	State	47	18	..	..	569
La Plata, 488—Charles Physicians Memorial Hosp..	Gen	County	30	18	7	82	467
Leonardtown, 668—St. Marys St. Mary's Hospital	Gen	NPAasn	30	11	6	77	498
Owings Mills, 130—Baltimore Rosewood State Training							
School	MeDe	State	1,200	1,190	..	..	45
Rockville, 2,047—Montgomery Christ Child Farm for Con-							
valescent Children	Conv	NPAasn	32	35	..	..	110
Sparrows Point, —Baltimore Sparrows Point Hospital....	Indus	NPAasn	24	5	..	..	52

MASSACHUSETTS

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Acushnet (New Bedford P.O.), 4,145—Bristol Acushnet Hospital	Gen	NPAasn	55	27	17	180	919
Adams, 12,608—Berkshire W. B. Plunkett Memorial							
Hospital	Gen	City	50	24	15	200	948
Aldenville (Chicopee Falls P.O.), —Hamden Chicopee Hospital	Gen	Indiv	35	12	6	55	330
Amesbury, 10,862—Essex Amesbury Hospital*	Gen	City	30	19	6	121	1,288
Arlington, 40,013—Middlesex Ring Sanatorium and Hosp. N&M							
Symmes Arlington Hosp.*	Gen	NPAasn	60	42	..	..	259
			60	57	20	173	2,456

MASSACHUSETTS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Attleboro, 22,071—Bristol Bristol County Tuberculosis							
Hospital	TB	County	60	57	..	..	138
Sturdy Memorial Hosp.*	Gen	NPAasn	101	57	24	643	1,914
Ayer, 3,572—Middlesex Community Memorial Hos-							
pital*	Gen	NPAasn	22	11	7	98	254
Bedford, 3,807—Middlesex Veterans Admin. Facility*..	Ment	Vet	1,484	1,244	..	..	333
Belmont, 26,867—Middlesex McLean Hospital*	N&M	NPAasn	232	208	..	..	193
Beverly, 25,537—Essex Beverly Hospital*	Gen	NPAasn	141	124	20	513	2,937
Boston, 770,816—Suffolk Adams House (Adams Ner-							
vine)	Nerv	NPAasn	15	13	..	..	54
Beth Israel Hospital*	Gen	NPAasn	215	188	..	..	6,051
Boston City Hospital*	Gen	City	2,392	1,389	117	3,177	43,620
Boston Floating Hosp.*	Chil	NPAasn	50	37	..	..	1,077
Boston Lying-in Hosp.*	Mat	NPAasn	144	118	144	2,659	3,351
Boston Psychopathic Hos-							
pital*	Ment	State	109	96	..	..	2,171
Boston State Hospital*	Ment	State	2,439	2,355	..	..	1,165
Carney Hospital*	Gen	Church	210	161	30	575	4,624
Channing Home	TB	NPAasn	27	23	..	..	36
Children's Hospital*	Chil	NPAasn	283	200	..	..	5,808
Collis P. Huntington Memo-							
rial Hospital*	SkCa	NPAasn	25	14	..	..	1,491
Emerson Hospital	Gen	Corp	67	12	10	60	310
Evangeline Booth Maternity Hospital and Home*	Mat	Church	70	53	60	446	719
Faulkner Hospital*	Gen	NPAasn	145	132	25	565	4,023
Glenside Hospital	N&M	Corp	125	97	..	..	221
Harley Private Hospital*	Gen	Corp	59	24	21	213	936
House of the Good Samar-							
itan*	Card	NPAasn	78	77	..	..	207
Infants' Hospital	Chil	NPAasn	45	43	..	..	792
Jewish Memorial Hospital..	Gen	NPAasn	79	75	..	..	211
Joseph H. Pratt Diagnostic Hospital*	IntMed	NPAasn	43	29	..	..	1,539
Long Island Hospital*	Gen	City	578	556	4	37	1,083
Massachusetts Eye and Ear Infirmary*	ENT	NPAasn	223	143	..	..	7,042
Massachusetts General Hos-							
pital*	Gen	NPAasn	466	394	..	3	7,591
Massachusetts General Hos-							
pital, Baker Memorial*	Gen	NPAasn	284	232	46	478	6,138
Massachusetts General Hos-							
pital, Phillips House*	Gen	NPAasn	102	88	22	209	2,450
Massachusetts Memorial Hos-							
pital*	Gen	NPAasn	391	260	38	758	6,935
Massachusetts Women's Hos-							
pital*	Gen	NPAasn	60	41	22	345	1,440
New England Baptist Hos-							
pital*	Gen	NPAasn	250	155	25	215	5,744
New England Deaconess Hos-							
pital*	Gen	Church	309	283	..	..	7,778
New England Hospital for Women and Children*	Gen	NPAasn	185	134	75	1,511	4,029
Palmer Memorial Hospital*..	Unit of New England Deaconess Hospital						
Peter Bent Brigham Hos-							
pital*	Gen	NPAasn	247	206	..	..	5,348
Robert Breck Brigham Hos-							
pital*	Gen	NPAasn	110	85	..	..	974
Robert Dawson Evans Memo-							
rial*	Unit of Massachusetts Memorial Hospitals						
St. Elizabeth's Hospital*	Gen	Church	252	178	50	946	5,034
St. Margaret's Hospital	Gen	Church	75	69	34	661	1,630
St. Mary's Maternity Hosp.	MatCh	Church	62	30	12	136	150
Sanatorium Division of Bos-							
ton City Hospital*	TB	City	616	514	1	3	555
U. S. Marine Hospital*	Gen	USPHS	336	164	..	..	2,076
Vincent Memorial Hospital..	Gen	NPAasn	21	14	..	..	266
Brookline, 62,343—Plymouth Brockton Hospital*	Gen	NPAasn	126	96	29	440	2,615
Goddard Hospital*	Corp	Corp	63	53	20	465	1,865
Moore Hospital	Gen	Indiv	22	16	8	85	461
Brookline, 49,786—Norfolk Bellevue Hospital	Gen	NPAasn	30	14	6	45	1,210
Bourne Wood Hospital	N&M	Indiv	14	8	..	..	..
Brooks Hospital*	Gen	NPAasn	53	45	..	..	1,464
Corey Hill Hospital	Corp	Corp	55	..	..	..	..
Free Hospital for Women*	Gyn	NPAasn	101	75	..	..	2,574
Trumbull Hospital	Gen	NPAasn	50	33	11	122	1,237
Cambridge, 110,879—Middlesex Cambridge City Hosp.*	Gen	City	300	221	32	1,080	7,459
Cambridge Hospital*	Gen	NPAasn	213	161	65	921	5,048
Cambridge Sanatorium	TB	City	85	76	..	..	96
Charlesgate Hospital	Gen	Corp	85	31	10	170	1,255
Chester Hospital	Gen	Corp	40	19	20	103	681
Canton, 6,381—Norfolk Massachusetts Hosp. School Orth							
Chelsea, 41,259—Suffolk Captain John Adams Hos-							
pital at Soldiers' Home*	Gen	State	261	251	..	..	2,610
Chelsea Memorial Hosp.*	Gen	Corp	90	74	25	576	2,014
U. S. Naval Hospital*	Gen	Navy	452	368	9	62	3,703
Clinton, 12,440—Worcester Clinton Hospital*	Gen	NPAasn	63	31	20	243	1,406
Concord, 7,972—Middlesex Emerson Hospital*	Gen	NPAasn	37	19	12	224	841
Valleyhead	Nerv	Indiv	20	13	..	..	162
Danvers, 14,179—Essex Hunt Memorial Hospital....	Gen	City	20	9	6	63	221

MASSACHUSETTS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Winchester, 15,081—Middlesex							
Winchester Hospital	Gen	NPAssn	65	51	20	314	1,527
Winthrop, 16,768—Suffolk							
Station Hospital*	Gen	Army	118	68	6	59	432
Winthrop Community Hospital*	Gen	NPAssn	44	38	20	390	1,363
Woburn, 19,751—Middlesex							
Charles Choate Memorial Hospital*	Gen	NPAssn	43	27	19	240	1,119
Worcester, 193,694—Worcester							
Belmont Hospital*	TbIso	City	250	124	..	..	647
Fairlawn Hospital*	Gen	NPAssn	50	34	18	194	985
Harvard Private Hospital	Gen	Corp	25	3	5	33	356
Memorial Hospital*+*	Gen	NPAssn	185	152	30	704	5,852
St. Vincent Hospital*+*	Gen	Church	242	201	25	593	4,777
Worcester City Hosp.*+*	Gen	City	450	375	60	1,382	10,321
Worcester County Sanat.*	TB	County	130	129	..	..	101
Worcester Hanneemann Hospital*	Gen	NPAssn	111	73	29	526	2,234
Worcester State Hospital*+*	Ment	State	2,440	2,412	8	8	777
Wrentham, 4,674—Norfolk							
Pondville Hospital at Norfolk*	Cancer	State	147	127	..	..	1,510

Related Institutions

Andover, 11,122—Essex							
Isham Infirmary	Inst	NPAssn	50	12	..	..	1,017
Baldwinsville, 2,360—Worcester							
Hospital Cottages for Children*	Chil	NPAssn	135	113	..	..	30
Belchertown, 3,503—Hampshire							
Belchertown State School	MeDe	State	1,318	1,294	..	..	86
Boston, 770,816—Suffolk							
Audubon Hospital	Gen	Corp	32	18	5	129	672
Bay State Hospital	Gen	Part	17	10	6	27	411
Boston Home for Incurables	ChrOr	NPAssn	56	54	..	..	23
Deer Island Hospital, Suffolk County House of Correction	Inst	CyCo	30	14	..	..	427
Doctors Hospital	Gen	Corp	27	10	10	70	400
Florence Crittenton Home and Hospital	Mat	NPAssn	21	10	33	96	121
New England Home for Little Wanderers	Inst	NPAssn	20	10	6	..	460
Prendergast Preventorium	TB	NPAssn	75	54	..	..	275
Riverbank Hospital	Gen	Indiv	20	2	6	6	104
Talitha Cumi Home	Mat	NPAssn	34	27	18	61	75
Dr. Taylor's Private Hosp.	Drug	Indiv	18	4	..	..	137
Washingtonian Hospital	Alcoh	NPAssn	35	12	..	..	587
Braintree, 16,378—Norfolk							
Braintree Convalescent Hospital	Conv	Indiv	23	23	1	..	25
Brockton, 62,343—Plymouth							
Smith Sunshine Hospital	Conv	Indiv	12	10	..	..	52
Brookline, 49,786—Norfolk							
Board of Health Hospital*	TbIso	City	55	30	..	..	44
Cambridge, 110,879—Middlesex							
Holy Ghost Hospital for Incurables	Incur	Church	215	203	..	..	147
Egypt, 340—Plymouth							
Children's Sunlight Hospital	Orth	NPAssn	50	47	..	..	104
Falmouth, 6,878—Barnstable							
High Fields	Conv	NPAssn	22	10	..	..	55
Frammingham, 23,214—Middlesex							
Woodside Cottages	Conv	Corp	21	18	..	..	55
Greenfield, 15,672—Franklin							
Greenfield Isolation Hospital	TbIso	City	20	2	..	..	46
Haverhill, 46,752—Essex							
Haverhill City Infirmary	Inst	City	72	70	..	..	103
Haverhill Municipal Hospitals	Iso	City	40	4	..	..	79
Holbrook, 3,330—Norfolk							
Elmhurst Hospital and Sanatorium	Conv	Indiv	15	8	..	..	30
Lowell, 101,380—Middlesex							
Lowell Isolation Hospital	TbIso	City	90	..	No data supplied	..	..
Lynn, 98,123—Essex							
Lynn Health Department Hospital	Iso	City	75	11	..	..	159
Marblehead, 10,856—Essex							
Children's Island Sanit.	Conv	NPAssn	94	94	..	..	99
Methuen, 21,880—Essex							
Mary E. McGowan Memorial Hospital	Gen	Corp	28	18	9	240	636
Norfolk, 2,294—Norfolk							
Hospital of Norfolk State Prison Colony*	Inst	State	75	33	..	..	627
Pittsfield, 49,684—Berkshire							
Pittsfield Anti-Tuberculosis Hospital	TB	NPAssn	14	9	..	..	12
Quincy, 73,810—Norfolk							
Wellington Hospital Home	Conv	Corp	30	20	..	..	37
Salem, 41,213—Essex							
Health Department Hospital for Contagious Diseases	Iso	City	60	8	..	..	129
Somerville, 102,177—Middlesex							
Somerville Contagious Disease Hospital	Iso	City	40	15	..	..	173
Springfield, 119,334—Hampden							
Buseall Nursing Home	Conv	Indiv	25	16	..	..	41
City of Springfield Infirmary	Inst	City	124	90	..	..	429
Swampscott, 10,761—Essex							
Ocean View Hospital	Gen	Part	14	11	13	112	190

MASSACHUSETTS—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Waltham, 40,020—Middlesex							
Teresian Lying-in Hospital	Mat	Indiv	10	6	9	222	219
Waltham Baby Hospital	Chil	NPAssn	22	2	..	..	38
Waverley, Middlesex							
Walter E. Fernald State School	MeDe	State	1,540	1,926	..	..	95
Wellesley, 15,127—Norfolk							
Convalescent Home of the Children's Hospital	Conv	NPAssn	73	66	..	..	399
Simpson Infirmary of Wellesley College	Inst	NPAssn	20	11	..	..	635
West Concord, 1,851—Middlesex							
Massachusetts Reformatory Hospital	Inst	State	32	7	..	..	1,332
Whitman, 7,759—Plymouth							
Whitman Hospital	Gen	Indiv	15	6	6	25	58
Williamstown, 4,294—Berkshire							
Williams College Infirmary	Inst	NPAssn	21	6	..	..	424
Wrentham, 4,674—Norfolk							
Wrentham State School	MeDe	State	2,075	1,966	..	..	118

MICHIGAN

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Adrian, 14,230—Lenawee							
Emma L. Bixby Hospital	Gen	City	62	33	15	345	1,425
Albion, 8,345—Calhoun							
James W. Sheldon Memorial Hospital	Gen	City	40	14	10	96	697
Allegan, 4,526—Allegan							
Allegan Health Center	Gen	NPAssn	30	..	6	Estab. 1940	..
Alma, 7,202—Gratiot							
Carney-Wilcox Hospital	Gen	Part	32	20	7	84	470
R. B. Smith Memorial Hosp.	Gen	NPAssn	27	14	6	150	787
Alpena, 12,808—Alpena							
Alpena General Hospital	Gen	City	55	..	10	Estab. 1940	..
Ann Arbor, 29,815—Washtenaw							
Mercurywood Neuropsychiatric Hospital	N&M	Church	40	27	..	..	191
St. Joseph's Mercy Hosp.*+*	Gen	Church	210	111	27	439	3,320
State Psychopathic Hospital	Unit of	University Hospital	1,330	786	35	565	16,525
University Hospital*+*	Gen	State	..	..	..	..	..
Bad Axe, 2,624—Huron							
Hubbard Memorial Hospital	Gen	NPAssn	25	20	6	88	576
Battle Creek, 43,453—Calhoun							
American Legion Hospital*	TB	NPAssn	350	181	..	..	174
Battle Creek Sanitarium	Gen	NPAssn	500	134	..	..	2,950
Calhoun County Public Hospital	TB	County	75	54	..	..	71
Community Hospital*	Gen	NPAssn	100	48	24	654	4,291
Leila Y. Post Montgomery Hospital*	Gen	Church	144	76	17	399	3,360
Bay City, 47,956—Bay							
Bay City General Hospital*	Gen	City	73	47	13	369	1,644
Bay City Samaritan Hosp.	Gen	NPAssn	43	24	4	34	1,131
Mercy Hospital*+*	Gen	Church	119	77	21	394	4,953
Benton Harbor, 16,668—Berrien							
Mercy Hospital*	Gen	NPAssn	65	49	17	260	1,668
Berrien Center, 241—Berrien							
Berrien County Hospital	Gen	County	60	48	5	35	905
Big Rapids, 4,987—Mecosta							
Community Hospital	Gen	City	33	12	9	104	557
Brighton, 1,353—Livingston							
Mellus Hospital	Gen	Indiv	12	7	4	25	266
Cadillac, 9,855—Wexford							
Mercy Hospital*	Gen	Church	52	34	15	148	1,234
Calumet, 1,460—Houghton							
Calumet and Hecla Hospital	Indus	NPAssn	21	7	..	..	334
Caro, 3,070—Tuscola							
Caro Community Hospital	Gen	City	16	8	5	133	500
Charlevoix, 2,299—Charlevoix							
Charlevoix Hospital	Gen	NPAssn	32	10	7	85	579
Charlotte, 5,544—Eaton							
Hayes-Green Memorial Hosp.	Gen	CyCo	23	11	6	176	661
Clare, 1,844—Clare							
Clare County General Hosp.	Gen	Indiv	17	11	3	47	418
Coldwater, 7,343—Branch							
Community Health Center	Gen	County	56	19	12	152	866
Crystal Falls, 2,641—Iron							
Crystal Falls Municipal Hospital	Gen	City	17	8	5	60	203
Dearborn, 63,554—Wayne							
St. Joseph's Retreat*	N&M	Church	361	343	..	..	596
Veterans Admin. Facility	Gen	Vet	390	329	..	..	2,525
Detroit, 1,623,432—Wayne							
Alexander Blain Hospital*+*	Gen	NPAssn	60	47	5	44	1,625
Bethesda Hospital	TB	NPAssn	83	73	..	..	101
Charles Godwin Jennings Hospital*	Gen	NPAssn	78	37	12	159	1,748
Chenik Hospital*	TB	NPAssn	54	46	..	..	74
Children's Hospital*+*	Chil	NPAssn	239	184	..	..	7,117
City of Detroit Receiving Hospital*+*	Gen	City	646	740	4	19	18,826
City of Detroit Receiving Hospital (Redford Branch)	Gen	City	50	24	2	..	1,541
Cottage Hospital*	Gen	NPAssn	45	23	13	344	1,501
Delray General Hospital*	Gen	NPAssn	75	64	18	693	2,923
Detroit Tuberculosis Sanat.*	TB	NPAssn	150	117	..	..	170

MICHIGAN—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassnets	Number of Births	Admissions †
Powers, 258—Menominee Pincerest Sanatorium	TB	County	145	125	..	...	133
Reed City, 1,845—Osceola	Gen	City	30	14	6	85	460
River Rouge, 17,008—Wayne Sidney A. Sumbly Memorial Hospital	Gen	NPAasn	30	24	5	56	381
Royal Oak, 25,087—Oakland	Gen	Indiv	19	16	4	55	574
Saginaw, 82,794—Saginaw County Convalescent Home	Gen	County	26	...	5	...	...
Saginaw County Hospital*	TbIso	County	175	138	...	...	341
Saginaw General Hosp.*	Gen	NPAasn	129	108	23	676	3,559
St. Luke's Hospital*	Gen	Church	54	44	15	480	1,811
St. Mary's Hospital*	Gen	Church	165	136	27	716	4,689
St. Johns, 4,422—Clinton Clinton Memorial Hospital*	Gen	NPAasn	54	35	13	185	1,534
St. Joseph, 8,963—Berrien St. Joseph Sanitarium	Gen	NPAasn	32	22	12	175	1,203
Sault Ste. Marie, 15,847—Chippewa Chippewa County War Memorial Hospital*	Gen	County	92	74	25	437	2,763
Station Hospital*	Gen	Army	45	35	..	...	545
South Haven, 4,745—Van Buren City Hospital	Gen	City	30	20	6	136	783
Penoyar Memorial Hospital	Gen	Indiv	12	1	6	6	62
Stambaugh, 2,081—Iron General Hospital Company of Iron River District	Gen	NPAasn	27	11	6	116	620
Sturgis, 7,214—St. Joseph Sturgis Memorial Hospital	Gen	City	40	28	10	267	1,015
Tecumseh, 2,921—Lenawee Tecumseh Hospital	Gen	City	24	17	8	130	563
Three Rivers, 6,710—St. Joseph Three Rivers Hospital*	Gen	City	30	18	6	121	831
Traverse City, 14,455—Grand Traverse Central Michigan Children's Clinic	Chil	State	26	11	..	...	330
James Decker Munson Hospital*	Gen	State	105	65	17	208	1,890
Traverse City State Hospital*	Ment	State	2,400	2,403	..	...	383
Trimountain, 2,541—Houghton Copper Range Hospital	Gen	NPAasn	20	9	5	53	344
Wayne, 4,223—Wayne Wayne Clinic	Gen	NPAasn	11	8	5	63	407
Wayne General Hospital	Gen	NPAasn	32	16	9	133	801
West Branch, 1,962—Ogemaw Tolfree Memorial Hospital	Gen	City	20	10	5	72	483
Wyandotte, 30,618—Wayne Wyandotte General Hosp.*	Gen	City	160	104	32	918	4,341
Ypsilanti, 12,121—Washtenaw Beyer Memorial Hospital	Gen	City	38	26	9	294	946
Hull Memorial City Hospital Unit of Beyer Memorial Hospital	Gen	City	38	26	9	294	946
Leland Sanatorium*	TB	NPAasn	135	60	..	...	30
Ypsilanti State Hospital*	Ment	State	2,970	2,894	..	...	744
Zeeland, 3,007—Ottawa Thomas G. Huizinga Memorial Hospital	Gen	NPAasn	14	8	3	61	301
Related Institutions							
Adrian, 14,230—Lenawee Lenawee County Tuberculosis Sanatorium	TB	County	30	27	..	...	62
Alma, 7,392—Gratiot Michigan Masonic Home and Hospital	Inst	NPAasn	45	26	..	...	150
Caro, 3,070—Tuscola Caro State Hospital for Epileptics	Epil	State	1,395	1,053	..	...	374
Coldwater, 7,343—Branch Coldwater State Home and Training School	MeDe	State	310	234	..	...	5
Crystal Falls, 2,641—Iron Iron County Infirmary	Gen	County	14	7	..	...	193
Detroit, 1,633,452—Wayne Burns Home Sanitarium	TB	Indiv	78	65	..	...	131
DeNike Sanitarium	Alcoh	Corp	33	8	..	...	125
Doctor's Hospital	Conv	Indiv	40	30	..	...	94
McGregor Health Foundation Conv Mercy General Hospital	Gen	NPAasn	30	16	..	...	140
William Booth Memorial Hospital	Mat	Church	53	32	10	389	410
Douglas, 421—Allegan Community Hospital	Gen	Indiv	11	4	3	41	158
East Grand Rapids (Grand Rapids P.O.), 4,899—Kent O'Keefe Sanitarium	Conv	Corp	25	18	..	...	60
Farmington, 1,510—Oakland Children's Hospital Convalescent Home	Conv	NPAasn	240	91	..	...	308
Ferndale, 22,523—Oakland Ardmore Hospital	Gen	Indiv	14	7	8	167	310
Flint, 151,543—Genesee Genesee County Hospital and Infirmary	Gen	County	100	81	17	171	1,003
Grand Rapids, 164,292—Kent Kent County Receiving Hosp. Ment Mary Free Bed Guild Convalescent Home and Orthopedic Center	Orth	NPAasn	90	78	10	...	430
Municipal Isolation Hospital City Salvation Army Evangeline Booth Home and Hospital	Mat	Church	40	30	25	117	155

MICHIGAN—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Bassnets	Number of Births	Admissions †
Hazel Park, —Oakland Helene Meinke Hospital	Gen	Indiv	12	6	8	71	313
Ionia, 6,392—Ionia Michigan State Reformatory	Inst	State	22	11	..	...	564
Jackson, 49,656—Jackson Florence Crittenton Home and Hospital	Mat	NPAasn	25	17	12	53	51
Jackson County Isolation Hospital	Iso	County	35	10	..	1	236
Southern Michigan Prison Hospital	Inst	State	200	108	..	...	3,107
Lansing, 78,753—Ingham Boys' Vocational School	Inst	State	50	6	..	...	477
Lansing City Hospital	Iso	CyCo	48	13	..	...	380
Lapeer, 5,365—Lapeer Lapeer City Hospital	Gen	Part	18	7	4	45	411
Lapeer State Home and Training School	MeDe	State	3,938	3,888	..	...	347
Marquette, 15,928—Marquette Hospital of the State House of Correction and Branch Prison	Inst	State	24	4	..	...	189
Milan, 2,340—Washtenaw Federal Correctional Institution	Inst	Fed	21	12	..	...	375
Mt. Clemens, 14,389—Macomb Sigma Gamma Hosp. School Orth	Orth	NPAasn	50	40	..	...	107
Mt. Pleasant, 8,413—Isabella Mt. Pleasant State Home and Training School	MeDe	State	335	314	..	...	28
Northville, 3,032—Wayne Wayne County Training School	MeDe	County	835	648	..	...	143
Otter Lake, 515—Lapeer American Legion Children's Billet	TB	NPAasn	120	120	..	...	285
Plymouth, 5,360—Wayne Plymouth Hospital	Gen	Part	10	5	3	50	320
Pontiac, 66,626—Oakland Oakland County Infirmary	Inst	County	225	164	..	...	973
Port Huron, 32,759—St. Clair Port Huron Emergency Hospital	Iso	City	18	3	6	...	40
Rochester, 3,759—Oakland Haven Sanitarium	N&M	Corp	50	32	..	...	151
Romeo, 2,627—Macomb Wehenkel Sanatorium	TB	Indiv	40	41	..	...	80
St. Clair, 3,471—St. Clair St. Clair Community Hosp.	Gen	City	16	7	5	94	500
Shelby, 1,367—Oceana Shelby Hospital	Gen	City	10	6	4	53	223
Stockbridge, 832—Ingham Rowe Memorial Hospital	Gen	Part	9	5	3	49	200
Traverse City, 14,455—Grand Traverse Grand Traverse County Hospital	Gen	County	20	12	2	34	288
Vicksburg, 1,774—Kalamazoo Franklin Memorial Hospital	Gen	City	10	4	2	30	240

MINNESOTA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassnets	Number of Births	Admissions †
Ada, 1,938—Norman Norman County Memorial Hospital	Gen	NPAasn	11	6	3	58	251
Adrian, 1,066—Nobles Adrian Hospital	Gen	NPAasn	14	6	5	94	267
.. .. .	TB	State	480	401	..	...	480
Naevie Hospital	Gen	NPAasn	72	53	18	507	3,031
Alexandria, 5,051—Douglas Douglas County Hospital*	Gen	NPAasn	30	11	6	59	346
St. Luke's Hospital	Gen	Indiv	20	10	5	60	384
Appleton, 1,877—Swift Kaufman Hospital	Gen	Indiv	20	9	5	34	515
Austin, 18,307—Mower St. Olaf Lutheran Hospital	Gen	Church	61	48	20	413	1,635
Battle Lake, 623—Otter Tail Otter Tail County Sanat.	TB	County	46	42	..	...	42
Bemidji, 9,427—Beltrami Lutheran Hospital*	Gen	NPAasn	60	38	12	264	1,511
Benson, 2,729—Swift Swift County Hospital	Gen	NPAasn	20	10	5	104	511
Blwabik, 1,304—St. Louis Blwabik Hospital	Gen	Indiv	12	5	5	63	284
Blue Earth, 3,702—Faribault Blue Earth Hospital	Gen	Indiv	10	5	4	54	250
Brainerd, 12,071—Crow Wing St. Joseph's Hospital*	Gen	Church	75	46	15	283	2,011
Breckenridge, 2,745—Wilkin St. Francis Hospital*	Gen	Church	69	40	10	201	1,653
Buffalo, 1,635—Wright Catlin Hospital	Gen	Part	12	2	4	20	101
Canby, 2,009—Yellow Medicine John Swenson Memorial Hospital	Gen	City	18	7	5	57	351

MINNESOTA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
St. John's Hospital.....	Gen	Church	75	40	15	252	2,117
St. Joseph's Hospital*.....	Gen	Church	248	228	32	844	9,169
St. Luke's Hospital*.....	Gen	NPAasn	150	...	No data supplied	...	...
West Side General Hospital*.....	Gen	Church	55	44	15	287	1,622
St. Peter, 5,870—Nicollet	Gen	City	30	18	12	200	850
St. Peter State Hospital*.....	Ment	State	2,306	2,211	...	...	631
Shakopee, 2,418—Scott	Gen	City	30	18	12	200	850
St. Francis Hospital.....	Gen	Church	12	6	4	96	240
Shakopee Hospital.....	Gen	Indiv	15	6	6	31	273
Slayton, 1,587—Murray	Gen	NPAasn	25	14	6	81	609
Home Hospital.....	Gen	NPAasn	25	14	6	81	609
Springfield, 2,361—Brown	Gen	Church	19	12	5	117	504
St. John's Hospital.....	Gen	Church	19	12	5	117	504
Spring Grove, 967—Houston	Gen	Corp	15	6	7	80	237
Spring Grove Hospital.....	Gen	Corp	15	6	7	80	237
Staples, 2,952—Todd	Gen	City	22	9	5	71	410
Municipal Hospital.....	Gen	City	22	9	5	71	410
Starbuck, 972—Pope	Gen	NPAasn	15	12	4	66	337
Minnewaska Hospital.....	Gen	NPAasn	15	12	4	66	337
Stillwater, 7,013—Washington	Gen	CyCo	42	24	8	184	1,116
Lakeview Memorial Hosp.*.....	Gen	CyCo	42	24	8	184	1,116
Thief River Falls, 6,019—Pennington	Gen	NPAasn	24	14	10	198	613
Mercy Hospital.....	Gen	NPAasn	24	14	10	198	613
Oakland Park Sanatorium... TB	Gen	Counties	65	62	...	...	30
St. Luke's Hospital*.....	Gen	NPAasn	41	25	6	86	907
Tracy, 3,085—Lyon	Gen	Part	14	6	5	47	260
Clinic Hospital.....	Gen	Part	14	6	5	47	260
Tracy Hospital.....	Gen	NPAasn	30	15	8	124	692
Two Harbors, 4,046—Lake	Gen	Part	30	20	6	79	703
Two Harbors Hospital.....	Gen	Part	30	20	6	79	703
Tyler, 1,005—Lincoln	Gen	NPAasn	36	16	10	163	857
Tyler Hospital.....	Gen	NPAasn	36	16	10	163	857
Virginia, 12,264—St. Louis	Gen	City	100	37	25	317	1,868
Virginia Municipal Hospital.....	Gen	City	100	37	25	317	1,868
Wabasha, 2,363—Wabasha	Gen	Counties	30	26	...	...	31
Buena Vista Sanatorium... TB	Gen	Church	59	26	6	96	679
St. Elizabeth's Hospital.....	Gen	Church	59	26	6	96	679
Waconia, 1,315—Carver	Gen	Indiv	18	6	3	18	211
Nagel Hospital.....	Gen	Indiv	18	6	3	18	211
Wadena, 2,016—Wadena	Gen	Counties	36	34	...	...	22
Fair Oaks Lodge Sanat... TB	Gen	Church	43	24	10	102	1,012
Wesley Hospital*.....	Gen	Church	43	24	10	102	1,012
Walker, 939—Cass	Gen	Indiv	12	4	4	50	193
Walker Hospital.....	Gen	Indiv	12	4	4	50	193
Warren, 1,639—Marshall	Gen	Church	30	13	6	83	638
Warren Hospital*.....	Gen	Church	30	13	6	83	638
Warroad, 1,309—Roseau	Gen	City	16	8	6	48	297
Warroad Hospital.....	Gen	City	16	8	6	48	297
Waseca, 4,270—Waseca	Gen	City	26	16	12	175	806
Waseca Memorial Hospital..	Gen	City	26	16	12	175	806
White Earth, 415—Becker	Gen	IA	26	20	4	153	819
White Earth Indian Hosp... Gen	Gen	IA	26	20	4	153	819
Willmar, 7,623—Kandiyohi	Gen	City	35	29	12	204	1,069
Rico Memorial Hospital.....	Gen	City	35	29	12	204	1,069
Willmar Hospital*.....	Gen	NPAasn	35	16	4	46	301
Willmar State Hospital.....	Ment	State	1,450	1,431	...	...	256
Windom, 2,807—Cottonwood	Gen	NPAasn	15	7	5	68	313
Windom Hospital.....	Gen	NPAasn	15	7	5	68	313
Winona, 22,490—Winona	Gen	Part	11	5	4	63	242
Winona General Hospital*.....	Gen	NPAasn	112	49	17	426	1,708
Worthington, 5,918—Nobles	Gen	Counties	54	46	...	...	37
Southwestern Minnesota Sanatorium	Gen	Part	27	10	8	182	1,143
Worthington Clinic Hospital Gen	Gen	Part	27	10	8	182	1,143
Related Institutions							
Anoka, 6,426—Anoka	Gen	Indiv	10	6	5	63	261
Anoka Hospital.....	Gen	Indiv	10	6	5	63	261
Anoka State Hospital*.....	Ment	State	1,490	1,439	...	...	101
Bertha, 578—Todd	Gen	NPAasn	20	10	8	108	484
Thiel Hospital.....	Gen	NPAasn	20	10	8	108	484
Braham, 578—Isanti	Gen	Indiv	16	8	4	50	355
Braham Hospital.....	Gen	Indiv	16	8	4	50	355
Buhl, 1,600—St. Louis	Gen	County	44	36	...	...	643
Range Hospital.....	Gen	County	44	36	...	...	643
Caledonia, 1,985—Houston	Gen	Indiv	15	...	No data supplied	...	...
Caledonia Hospital.....	Gen	Indiv	15	...	No data supplied	...	...
Cambridge, 1,592—Isanti	Gen	State	1,108	1,100	...	...	34
Minnesota Colony for Epileptics	Gen	State	1,108	1,100	...	...	34
Cokato, 1,175—Wright	Gen	Indiv	12	6	4	57	262
Cokato Hospital.....	Gen	Indiv	12	6	4	57	262
Ellsworth, 660—Nobles	Gen	Indiv	10	3	3	20	97
Ellsworth Hospital.....	Gen	Indiv	10	3	3	20	97
Ely, 5,970—St. Louis	Gen	City	19	1	...	...	27
Detention Hospital.....	Gen	City	19	1	...	...	27
Faribault, 14,527—Rice	Gen	State	2,335	2,400	17	26	250
Minnesota School for Feeble-minded	Gen	State	2,335	2,400	17	26	250
Greenbush, 556—Roseau	Gen	Indiv	9	5	3	93	234
General Hospital.....	Gen	Indiv	9	5	3	93	234
Hastings, 5,662—Dakota	Gen	State	1,138	1,056	...	...	85
Hastings State Hospital....	Ment	State	1,138	1,056	...	...	85
Latto Hospital.....	Gen	Indiv	20	10	5	45	150
St. Francis Hospital.....	Gen	Part	18	6	4	37	240
Long Prairie, 2,311—Todd	Gen	Part	18	10	6	32	362
Long Prairie Hospital.....	Gen	Part	18	10	6	32	362
Madelia, 1,652—Watsonwan	Gen	Indiv	13	7	4	77	264
Madelia Hospital.....	Gen	Indiv	13	7	4	77	264

MINNESOTA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Minneapolis, 492,370—Hennepin	ChrConv	NPAasn	60	57	...	...	560
Franklin Hospital*.....	ChrConv	NPAasn	60	57	...	...	560
Glenwood Hills Hospitals... N&M	NPAasn	NPAasn	58	...	...	...	...
Homewood Hospital.....	Unit of Glenwood Hills Hospitals	NPAasn	58	...	...	...	...
Lymanhurst Health Center..	CardChil City	Indiv	40	29	...	...	82
Minneapolis Sanitarium....	N&M	Indiv	24	20	...	...	40
Minnesota Soldiers' Home	Inst	State	85	67	...	...	344
Parkview Sanatorium.....	Chr	City	175	153	...	...	606
Rest Hospital.....	N&M	Part	19	17	...	...	181
Vocational Nursing Home... Conv	NPAasn	NPAasn	42	37	...	...	83
Women's Welfare League	Conv	NPAasn	25	17	...	...	79
Home for Convalescents... Conv	NPAasn	NPAasn	25	17	...	...	79
Morris, 3,214—Stevens	Gen	NPAasn	20	12	6	80	487
Stevens County Hospital... Gen	NPAasn	NPAasn	20	12	6	80	487
Nicollet, 434—Nicollet	Gen	Indiv	10	1	3	19	78
Nicollet Hospital.....	Gen	Indiv	10	1	3	19	78
Owatonna, 8,694—Steele	Inst	State	60	12	...	...	645
Minnesota State Public School	Inst	State	60	12	...	...	645
Pelican Rapids, 1,560—Otter Tail	Gen	Indiv	8	3	4	30	82
Dr. Boysen's Hospital.....	Gen	Indiv	7	3	3	37	92
Pelican Rapids Hospital... Gen	Indiv	Indiv	7	3	3	37	92
Pipestone, 4,682—Pipestone	Gen	IA	42	20	4	18	377
Pipestone Indian Hospital..	Gen	IA	42	20	4	18	377
Red Wing, 9,962—Goodhue	Inst	State	27	20	...	...	1,490
Minnesota State Training School for Boys.....	Inst	State	27	20	...	...	1,490
St. Cloud, 24,173—Stearns	Inst	State	46	35	...	...	563
Minnesota State Reformatory	Inst	State	46	35	...	...	563
St. Paul, 287,736—Ramsey	Children's Preventorium of Ramsey County	CyCo	80	76	...	...	41
Mrs. Robbins Rest Home... N&M	Indiv	Indiv	12	10	...	...	18
Salvation Army Booth Memorial Hospital.....	Mat	Church	75	45	11	142	208
Samaritan Hospital.....	Gen	NPAasn	26	10	7	145	404
Sauk Centre, 3,016—Stearns	Long Hospital	Gen	8	1	4	23	77
Shakopee, 2,418—Scott	Conv	Corp	75	24	...	...	1,076
Mudcura Sanitarium.....	Conv	Corp	75	24	...	...	1,076
Stillwater, 7,013—Washington	Inst	State	65	27	...	...	665
Minnesota State Prison Hospital*.....	Inst	State	65	27	...	...	665
Wayzata, 1,473—Hennepin	Gen	NPAasn	15	5	3	15	186
Minnetonka Hospital.....	Gen	NPAasn	15	5	3	15	186
Wheaton, 1,700—Traverse	Gen	Indiv	15	5	5	40	160
Wheaton Hospital.....	Gen	Indiv	15	5	5	40	160

MISSISSIPPI

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Aberdeen, 4,746—Monroe	Gen	NPAasn	25	5	4	22	391
Aberdeen Hospital.....	Gen	NPAasn	25	5	4	22	391
Amory, 3,727—Monroe	Gen	NPAasn	35	17	8	32	693
Glimore Sanitarium*.....	Gen	NPAasn	35	17	8	32	693
Bloxi, 47,475—Harrison	Gen	NPAasn	42	28	9	181	1,230
New Bloxi Hospital*.....	Gen	NPAasn	42	28	9	181	1,230
Veterans Admin. Facility*..	Gen	Vet	207	193	...	...	1,571
Booneville, 1,893—Prentiss	Gen	NPAasn	40	18	2	43	890
North East Mississippi Hospital*.....	Gen	NPAasn	35	16	7	74	840
Station Hospital.....	Gen	Army	1,000	...	...	Estab. 1910	...
Charleston, 2,100—Tallahatchie	Gen	Part	28	10	4	56	617
Tallahatchie Hospital.....	Gen	Part	28	10	4	56	617
Clarksdale, 12,168—Coahoma	Gen	NPAasn	32	6	10	91	563
Clarksdale Hospital.....	Gen	NPAasn	32	6	10	91	563
Cleveland, 4,189—Bolivar	Gen	City	22	10	4	53	469
City Hospital.....	Gen	City	22	10	4	53	469
Columbia, 6,604—Marion	Gen	NPAasn	35	21	3	31	1,316
Columbia Clinic Hospital*..	Gen	NPAasn	35	21	3	31	1,316
Columbus, 13,645—Lowndes	Gen	NPAasn	25	6	5	65	392
Columbus Hospital.....	Gen	NPAasn	25	6	5	65	392
Doster Hospital*.....	Gen	Indiv	35	16	5	25	569
Corinth, 7,818—Alcorn	Gen	Indiv	18	7	4	63	399
Corinth Hospital.....	Gen	Indiv	18	7	4	63	399
McRae Hospital*.....	Gen	NPAasn	50	12	4	31	541
Greenville, 20,892—Washington	Gen	NPAasn	100	60	14	176	2,350
Kings Daughters Hospital*..	Gen	NPAasn	100	60	14	176	2,350
Greenwood, 14,767—Leflore	Gen	CyCo	55	27	8	148	1,252
Greenwood-Leflore Hospital* Gen	Gen	CyCo	55	27	8	148	1,252
Victoria Butler Hospital... Gen	Indiv	Indiv	20	...	No data supplied	...	...
Grenada, 5,631—Grenada	Gen	Part	55	21	5	72	1,296
Grenada General Hospital*..	Gen	Part	55	21	5	72	1,296
Gulport, 15,195—Harrison	Gen	NPAasn	75	27	7	252	1,425
Kings Daughters Hospital*..	Gen	NPAasn	75	27	7	252	1,425
Veterans Admin. Facility*..	Ment	Vet	759	793	...	...	590
Hattiesburg, 21,026—Forrest	Gen	Church	75	42	16	290	2,255
Methodist Hospital*.....	Gen	Church	75	42	16	290	2,255
South Mississippi Infirmary*..	Gen	Indiv	65	20	14	56	685

MISSISSIPPI—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Houston, 1,729—Chickasaw							
Houston Hospital [▲] Gen		NPAasn	35	18	5	28	911
Indianola, 3,604—Sunflower							
Kings Daughters Hospital.. Gen		NPAasn	22	7	3	40	560
Jackson, 62,107—Hinds							
Jackson Infirmary [▲] Gen		NPAasn	74	46	12	291	3,108
Mississippi Baptist Hosp. [▲] .. Gen		Church	160	120	22	511	6,381
Mississippi State Charity Hospital [○] Gen		State	85	64	4	53	1,050
Welch's Sanitarium..... N&M		Corp	22	8	...	...	130
Dr. Willis Walley Hospital [○] .. Gen		Indiv	70	12	6	26	700
Kosciusko, 4,291—Attala							
Montfort Jones Hospital... Gen		CyCo	25	15	2	46	809
Lambert, 1,016—Quitman							
Lambert Hospital..... Gen		Indiv	12	...	4	...	...
Laurel, 20,508—Jones							
Laurel General Hospital [○] ... Gen		Indiv	50	23	6	273	1,830
South Mississippi Charity Hospital [○] Gen		State	80	40	5	96	2,361
Lexington, 2,930—Holmes							
Holmes County Community Hospital..... Gen		County	25	10	2	47	624
Lumberton, 1,485—Lamar							
City Hospital..... Gen		Indiv	20	8	4	52	342
Macon, 2,261—Noxubee							
Macon Hospital..... Gen		NPAasn	25	11	4	23	527
Marks, 1,818—Quitman							
Marks Hospital..... Gen		Indiv	20	5	3	91	375
McComb, 9,898—Pike							
McComb City Hospital [○] Gen		NPAasn	27	13	4	83	910
McComb Infirmary [○] Gen		NPAasn	26	...	No data supplied	...	...
Meridian, 35,481—Lauderdale							
Anderson Infirmary [○] Gen		NPAasn	45	13	5	91	854
East Mississippi State Hosp. Ment		State	830	770	...	...	362
Hayes's Sanitarium..... N&M		NPAasn	26	12	...	...	923
Mattie Hersee Hospital [○] Gen		State	80	55	10	118	2,283
Meridian Sanitarium [▲] Gen		Indiv	65	26	15	141	1,710
Riley's Hospital..... Gen		Indiv	45	16	4	65	792
Rush's Infirmary [▲] Gen		NPAasn	70	33	6	84	1,039
Morton, 934—Scott							
Scott County Hospital..... Gen		Part	21	10	3	55	681
Natchez, 15,296—Adams							
Natchez Charity Hospital [○] .. Gen		State	80	50	14	405	2,462
Natchez Sanatorium [○] Gen		Corp	50	...	No data supplied	...	...
New Albany, 3,602—Union							
Mayes Hospital..... Gen		NPAasn	30	15	2	80	360
New Albany Hospital and Clinic..... Gen		NPAasn	10	6	2	38	351
Newton, 1,800—Newton							
Newton Infirmary..... Gen		NPAasn	25	8	2	26	472
Oxford, 3,433—Lafayette							
Bramlett Hospital [○] Gen		Corp	45	20	6	48	633
Oxford Hospital [○] Gen		Indiv	30	23	5	88	1,300
Pascagoula, 5,900—Jackson							
Jackson County Hospital... Gen		County	35	10	6	90	609
Philadelphia, 3,711—Neshoba							
Choctaw-Mississippi Indian Hospital..... Gen		IA	35	18	7	62	744
Philadelphia Hospital..... Gen		NPAasn	28	18	8	45	713
Picayune, 5,129—Pearl River							
Martin Sanatorium..... Gen		Indiv	24	4	2	37	246
Poplarville, 1,664—Pearl River							
Poplarville Hospital..... Gen		County	26	11	2	23	812
Sanatorium, 200—Simpson							
Mississippi State Tuberculosis Hospital..... TB		State	425	328	...	...	435
Tupelo, 8,212—Lee							
North Mississippi Community Hospital [▲] Gen		NPAasn	49	29	10	179	2,008
T..... Gen		NPAasn	15	8	2	67	650
..... Gen		NPAasn	22	9	4	84	584
Union, 1,543—Newton							
Laird's Hospital..... Gen		NPAasn	18	14	6	116	633
Vicksburg, 24,460—Warren							
Mississippi State Charity Hospital [○] Gen		State	73	62	12	336	3,006
Vicksburg Hospital [○] Gen		NPAasn	50	36	10	87	1,677
Vicksburg Infirmary [▲] Gen		NPAasn	50	40	4	66	1,782
Vicksburg Sanitarium [▲] Gen		NPAasn	95	48	9	119	2,354
Water Valley, 3,340—Yalobusha							
Water Valley Hospital..... Gen		Part	25	6	4	30	434
..... a.l. Ment		State	3,500	3,342	...	...	2,037
..... Gen		NPAasn	30	15	2	38	612
..... Gen		NPAasn	30	12	3	50	645
Kings Daughters Hospital... Gen		Part	20	...	...	Estab. 1940	...
Yazoo Clinic and Hospital... Gen							
Related Institutions							
Baldwyn, 1,279—Lee							
Baldwyn Hospital..... Gen		Indiv	10	5	1	16	226
Bay St. Louis, 4,138—Hancock							
Kings Daughters and Sons Hospital..... Gen		NPAasn	9	7	6	83	640
..... mc							
..... Inst		State	50	48	...	...	25
..... Gen		Indiv	23	...	2	50	...
..... Gen		Indiv	10	5	2	50	180

MISSISSIPPI—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Ellisville, 2,607—Jones							
Ellisville State School..... McDe		State	372	354	...	...	...
Greenville, 20,592—Washington							
Colored Kings Daughters Hospital..... Gen		Indiv	60	40	2	25	830
Greenwood, 14,767—Leflore							
Greenwood Colored Hospital Gen		Indiv	16	13	2	6	384
Magee, 1,221—Simpson							
Magee General Hospital.... Gen		Indiv	28	12	3	59	671
Meridian, 35,481—Lauderdale							
Kings Daughters Tuberculosis Hospital..... TB		NPAasn	50	23	...	...	26
Lewis Hospital..... Gen		Indiv	12	5	4	26	365
Okolona, 2,117—Chickasaw							
City Hospital..... Gen		Indiv	16	5	4	10	136
Pontotoc, 1,832—Pontotoc							
Pontotoc Clinic..... Gen		Part	15	4	2	27	231
Raymond, 641—Hinds							
Hinds County Tuberculosis Hospital..... TB		County	34	30	...	...	32
Rosedale, 2,063—Bollivar							
Dr. Nobles' Clinic..... Gen		Indiv	22	14	...	2	525
Rosedale-Bollivar County Hospital..... Gen		City	18	5	3	12	290
Shelby, 1,956—Bollivar							
Hall Clinic and Hospital... Gen		NPAasn	10	3	2	10	125
State College, 230—Oktibbeha							
James Z. George Memorial Hospital [▲] Inst		State	44	8	...	...	523
University, 15—Lafayette							
University of Mississippi Hospital..... Inst		State	15	5	...	...	451

MISSOURI

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Bonne Terre, 3,730—St. Francois							
Bonne Terre Hospital..... Gen		NPAasn	32	20	5	106	811
Boonville, 1,893—Cooper							
St. Joseph's Hospital [○] Gen		Church	75	35	14	90	1,091
Brookfield, 6,174—Linn							
Brookfield Hospital..... Gen		NPAasn	11	4	3	14	142
Butler, 2,958—Bates							
Butler Memorial Hospital... Gen		Indiv	20	8	4	88	571
..... Indiv			33	14	2	2	1,017
..... Church			100	57	15	285	2,563
..... NPAasn			70	37	12	171	1,575
..... Ment			38	26	6	158	1,487
..... Gen			9	5	4	48	314
..... Gen			175	142	35	585	3,926
..... Gen			48	22	5	106	1,049
..... Gen			85	64	...	...	481
..... Gen			150	51	8	78	2,003
..... Gen			38	12	4	20	331
..... Gen			252	207	...	...	1,702
..... Gen			1,775	1,680	...	...	661
..... Gen			20	12	4	21	480
..... Gen			30	19	7	119	650
..... Gen			2,528	2,566	...	...	567
..... Gen			90	41	15	188	1,726
..... Gen			75	58	15	271	2,110
..... Gen			68	52	12	387	2,186
..... Gen			27	18	5	73	623
..... Gen			177	110	6	10	1,654
..... Gen			512	439	...	...	3,829
..... Gen			100	58	16	257	2,269
..... Gen			75	33	10	169	1,651
..... Gen			100	70	10	388	2,016
..... Gen			145	130	...	...	3,129
..... Gen			50	30	24	149	148
..... Gen			600	425	40	1,016	11,254

MISSOURI—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Kansas City General Hospital No. 2+▲	Gen	City	268	155	24	399	3,449
Kansas City Municipal Tuberculosis Hospital	TB	City	276	196	..	..	278
Major Clinic	N&M	Indiv	35	13	..	..	140
Menorah Hospital+▲	Gen	NPAssn	132	107	23	335	3,709
Neurological Hospital	N&M	NPAssn	49	28	..	..	330
Ralph Sanitarium	Drug	Indiv	20	7	..	..	130
Research Hospital+▲	Gen	NPAssn	186	146	25	510	5,271
St. Joseph Hospital+▲	Gen	Church	239	192	38	1,012	6,864
St. Luke's Hospital+▲	Gen	Church	236	199	30	699	5,676
St. Mary's Hospital+▲	Gen	Church	150	142	25	576	4,499
St. Vincent's Hospital	Mat	Church	42	14	35	388	381
Trinity Lutheran Hosp.+▲	Gen	Church	110	94	24	424	3,256
Wesley Hospital	Gen	Church	50	20	10	47	636
Wheatley-Provident Hosp.+▲	Gen	NPAssn	67	33	3	60	774
Willows Maternity Sanit.	Mat	Indiv	75	29	75	142	145
Kennett, 4,335—Dunklin	Gen	Part	17	12	6	40	622
Presnell Hospital	Gen	Part	17	12	6	40	622
Kirkville, 10,080—Adair	Gen	Part	17	12	6	40	622
Grim-Smith Hospital and Clinic	Gen	Corp	36	31	6	50	1,106
Stickler Hospital	Gen	Corp	25	10	5	34	300
Kirkwood, 12,132—St. Louis	Gen	Corp	12	7	..	..	17
Oakland Park Hospital	N&M	Corp	144	115	..	..	1,402
U. S. Marine Hospital+▲	Gen	USPHS	144	115	..	..	1,402
Koch, 700—St. Louis	TB	City	703	527	..	..	444
Lamar, 2,692—Barton	Gen	NPAssn	9	3	3	88	188
Lamar Hospital	Gen	NPAssn	9	3	3	88	188
Lebanon, 5,025—Laclede	Gen	NPAssn	24	17	5	70	995
Louise G. Wallace Hospital	Gen	NPAssn	24	17	5	70	995
Little Blue, 50—Jackson	Gen	County	39	22	8	197	850
Rural Jackson County Emergency Hospital	Gen	County	39	22	8	197	850
Louisiana, 4,669—Pike	Gen	County	50	23	11	67	884
Pike County Hospital	Gen	County	50	23	11	67	884
Marceline, 3,206—Linn	Gen	Indiv	10	4	4	20	175
B. B. Putman Memorial Hospital	Gen	Indiv	10	4	4	20	175
Marshall, 8,533—Saline	Gen	Indiv	10	4	4	20	175
Georgia Brown Blosser Home for Crippled Children	Orth	NPAssn	60	27	..	..	181
John Fitzgibbon Memorial Hospital	Gen	NPAssn	32	12	5	58	691
Maryville, 6,700—Nodaway	Gen	Church	75	32	12	192	1,352
St. Francis Hospital+▲	Gen	Church	75	32	12	192	1,352
Mexico, 9,033—Audrain	Gen	County	50	30	8	126	932
Audrain Hospital	Gen	County	50	30	8	126	932
Moberly, 12,920—Randolph	Gen	Indiv	25	14	5	37	551
McCormick Hospital	Gen	NPAssn	35	14	..	..	383
Wabash Employes' Hosp.+▲	Indus	Corp	35	24	5	84	790
Woodland Hospital	Gen	Corp	35	24	5	84	790
Monett, 4,395—Barry	Gen	Indiv	18	8	3	20	176
Dr. William M. West's Hosp.	Gen	Indiv	18	8	3	20	176
Mt. Vernon, 1,982—Lawrence	Gen	Indiv	18	8	3	20	176
Missouri State Sanatorium+▲	TB	State	740	723	..	..	774
Neosho, 5,338—Newton	Gen	Part	24	6	6	89	639
Sale-Bowman Hospital	Gen	Part	24	6	6	89	639
Nevada, 8,181—Vernon	Gen	City	27	13	6	67	588
Nevada Hospital	Gen	City	27	13	6	67	588
State Hospital No. 3A	Ment	State	1,990	1,419	..	..	488
Pine Lawn (St. Louis P.O.), —St. Louis	Gen	Indiv	20	8	4	12	110
Tiernon Hospital and Clinic	Gen	Indiv	20	8	4	12	110
Poplar Bluff, 11,163—Butler	Gen	Indiv	45	15	5	22	490
Brandon Hospital	Gen	Indiv	35	34	11	117	1,225
Lucy Lee Hospital	Gen	Indiv	70	41	10	93	1,000
Poplar Bluff Hospital	Gen	Indiv	70	41	10	93	1,000
Robertson, 500—St. Louis	TB	NPAssn	108	65	..	..	70
Jewish Sanatorium	TB	NPAssn	108	65	..	..	70
Rolla, 5,141—Phelps	Gen	State	65	14	..	..	159
Missouri Trachoma Hosp...	Trach	State	65	14	..	..	159
Nelle McFarland Memorial Hospital	Gen	Indiv	46	27	10	51	825
St. Charles, 10,803—St. Charles	Gen	Church	55	43	10	189	1,512
St. Joseph's Hospital+▲	Gen	Church	55	43	10	189	1,512
St. James, 1,812—Phelps	Gen	Indiv	17	5	7	38	145
St. James Hospital	Gen	Indiv	17	5	7	38	145
St. Joseph, 75,711—Buchanan	Gen	Church	150	100	20	360	3,776
Missouri Methodist Hosp.+▲	Gen	Church	148	82	20	397	3,057
St. Joseph's Hospital+▲	Gen	Church	148	82	20	397	3,057
State Hospital No. 2+▲	Ment	State	2,952	2,765	..	..	830
St. Louis, 816,048—St. Louis City	Gen	Church	175	108	..	..	1,453
Alexian Brothers Hosp.+▲	Gen	Church	175	108	..	..	1,453
Barnard Free Skin and Cancer Hospital+▲	SkCancer	NPAssn	44	38	..	..	1,174
Barnes Hospital+▲	Gen	Church	400	301	..	..	10,933
Bethesda General Hospital+▲	Gen	NPAssn	100	62	20	237	1,500
Central Hospital	Gen	NPAssn	32	24	11	122	761
Christian Hospital+▲	Gen	NPAssn	95	55	25	354	2,042
City Isolation Hospital+▲	TbIso	City	200	100	..	..	1,081
City Sanitarium+▲	Ment	City	3,500	3,457	..	..	231
De Paul Hospital+▲	Gen	Church	250	210	35	1,049	8,804
Evangelical Deaconess Home and Hospital+▲	Gen	Church	174	153	35	853	6,225
Faith Hospital	Gen	NPAssn	35	12	6	38	467
Firmen Desloge Hosp.+▲	Gen	Church	223	199	28	779	4,830
Frisco Employes' Hospital+▲	Indus	NPAssn	100	47	..	..	1,195
Homer G. Phillips Hospital+▲	Gen	City	653	563	57	1,325	9,008
Jewish Hospital+▲	Gen	NPAssn	250	179	33	531	6,944
Josephine Helfkamp Memorial Hospital+▲	Gen	Church	40	30	10	262	1,254
Lutheran Hospital+▲	Gen	Church	150	107	30	605	4,482

MISSOURI—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Missouri Baptist Hosp.+▲	Gen	Church	400	244	30	412	6,083
Missouri Pacific Hospital+▲	Indus	NPAssn	300	125	..	..	4,314
Mt. St. Rose Sanatorium+▲	TB	Church	135	124	..	..	172
Peoples Hospital+▲	Gen	NPAssn	45	27	5	56	815
Robert Koch Hospital	See Koch, Missouri	..	..	..	..	..	..
St. Ann's Lying-In Hosp.+▲	Mat	Church	50	18	35	465	693
St. Anthony's Hospital+▲	Gen	Church	200	147	50	1,213	5,008
St. John's Hospital+▲	Gen	Church	285	239	34	736	6,593
St. Louis Children's Hospital+▲	Chil	NPAssn	195	124	..	..	3,547
St. Louis City Hospital+▲	Gen	City	1,000	760	60	1,679	16,178
St. Louis Maternity Hospital+▲	Mat	NPAssn	98	61	98	1,840	2,139
St. Luke's Hospital+▲	Gen	Church	174	140	32	544	5,073
St. Mary's Hospital+▲	Gen	Church	315	244	30	692	6,433
St. Mary's Infirmary+▲	Gen	Church	130	75	20	237	1,814
St. Vincent's Sanitarium+▲	N&M	Church	250	223	..	..	188
Shriners Hospital for Crippled Children+▲	Orth	NPAssn	100	102	..	..	435
Sedalia, 20,428—Pettis	Gen	City	60	31	12	232	1,240
John H. Bothwell Memorial Hospital	Gen	City	60	31	12	232	1,240
Smithville, 772—Clay	Gen	NPAssn	15	8	3	51	395
Smithville Community Hospital	Gen	NPAssn	15	8	3	51	395
Springfield, 61,233—Greene	Gen	Church	75	58	10	330	2,187
Burgo Hospital+▲	Gen	Church	75	58	10	330	2,187
Medical Center for Federal Prisoners+▲	MentTb	Fed	692	657	..	..	522
St. John's Hospital+▲	Gen	Church	100	81	15	397	2,778
Springfield Baptist Hosp.+▲	Gen	NPAssn	90	47	10	157	1,961
Trenton, 7,046—Grundy	Gen	Indiv	14	..	..	..	No data supplied
Cullers Hospital	Gen	Indiv	14	..	..	..	No data supplied
Wright Memorial Hospital	Gen	NPAssn	17	6	4	30	245
Washington, 6,756—Franklin	Gen	Church	40	23	10	146	888
St. Francis Hospital	Gen	Church	40	23	10	146	888
Webb City, 7,033—Jasper	Gen	Indiv	15	7	1	20	227
Jasper County Tuberculosis Hospital	TB	County	115	113	..	..	139
Webster Groves, 18,394—St. Louis	Gen	Corp	75	42	..	..	92
Glenwood Sanatorium	N&M	Corp	75	42	..	..	92
West Plains, 4,026—Howell	Gen	Indiv	15	7	1	20	227
Christa Hogan Hospital	Gen	Indiv	15	7	1	20	227
Related Institutions							
Independence, 16,006—Jackson	N&M	Corp	31	18	..	..	31
Vaile Sanitarium	N&M	Corp	31	18	..	..	31
Jefferson City, 24,268—Cole	Inst	State	230	84	..	..	2,880
Missouri State Penitentiary Hospital+▲	Inst	State	230	84	..	..	2,880
Kansas City, 359,178—Jackson	Conv	Indiv	25	13	..	..	50
Cresthaven Convalescent Home	Conv	Indiv	25	13	..	..	50
Florence Crittenton Home	Mat	NPAssn	23	14	8	21	37
Florence Home for Colored Girls	Mat	NPAssn	51	27	0	55	80
Trowbridge Training School for Nervous and Backward Children	MeDe	Indiv	25	14	..	..	18
Liberty, 3,598—Clay	Inst	NPAssn	85	62	..	..	618
Missouri Odd Fellows Home	Inst	NPAssn	85	62	..	..	618
Marshall, 8,533—Saline	MeDe	State	1,650	1,550	..	..	137
Missouri State School—Epilepsy and Feeble-minded	MeDe	State	1,650	1,550	..	..	137
Marthasville, 321—Warren	MeDe	Church	100	98	..	..	7
Evangelical Emmaus Home for Epileptics and Feeble-minded	MeDe	Church	100	98	..	..	7
Mountain Grove, 2,431—Wright	Gen	Indiv	10	3	3	12	75
Ryan Hospital	Gen	Indiv	10	3	3	12	75
Rolla, 5,141—Phelps	Inst	State	14	2	..	..	295
Missouri School of Mines Hospital	Inst	State	14	2	..	..	295
St. Charles, 10,803—St. Charles	MeDe	Church	150	133	..	..	23
Evangelical Emmaus Home for Epileptics and Feeble-minded	MeDe	Church	150	133	..	..	23
St. James, 1,812—Phelps	Inst	State	50	30	..	..	155
State Federal Soldiers Home	Inst	State	50	30	..	..	155
St. Louis, 816,048—St. Louis City	Mat	Church	105	34	10	102	167
Booth Memorial Hospital	Inst	City	95	90	..	..	..
City Infirmary	Inst	City	95	90	..	..	..
Hospital of Masonic Home	Inst	NPAssn	123	65	..	..	379
Mother of Good Counsel Home and Hospital	Cancer	Church	68	60	..	..	49
St. Louis Training School	MeDe	City	625	469	..	..	29
Sedalia, 20,428—Pettis	Gen	City	5	5	..	2	69
City Hospital No. 2	Gen	City	25	8	2	84	511
Springfield, 61,233—Greene	Gen	City	25	8	2	84	511
City Hospital	Gen	City	25	8	2	84	511
Valley Park, 2,001—St. Louis	Unit of St. Louis Children's Hospital	..	..	..	..	..	..
Ridge Farm	..	..	..	..	..	..	..
Warrensburg, 5,668—Johnson	Gen	Part	10	2	1	14	127
Warrensburg Clinic	Gen	Part	10	2	1	14	127
West Plains, 4,026—Howell	Gen	Indiv	7	2	4	25	73
Cottage Hospital	Gen	Indiv	7	2	4	25	73

MONTANA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Helena, 15,050—Lewis and Clark Florence Crittenton Home.. Mat Lewis and Clark County Hospital	Mat	NPAssn	19	2	6	37	69
L		County	90	52	2	19	250
Polson, 2,156—Lake Hotel Dieu Hospital.....	Gen	Church	17	15	4	57	369
Scobey, 1,311—Daniels Scobey Clinic Hospital.....	Gen	Indiv	20	12	6	49	376
Shelby, 2,538—Toole New Shelby Hospital.....	Gen	Indiv	15	7	4	53	266
Terry, 1,012—Prairie Lutheran Good Samaritan Hospital	Gen	Church	20	6	6	73	347
			18	7	6	47	257
NEBRASKA							
Hospitals and Sanatoriums							
Ainsworth, 1,833—Brown Ainsworth Hospital	Gen	Part	18	10	5	139	644
Alliance, 6,253—Box Butte St. Joseph's Hospital*.....	Gen	Church	110	68	18	209	2,036
Auburn 3,630—Nemaha Auburn Hospital	Gen	Indiv	18	7	6	55	354
Tusbia General Hospital.....	Gen	Indiv	15	7	5	59	326
Aurora, 2,419—Hamilton Aurora Hospital	Gen	Indiv	16	6	6	27	176
Beatrice, 10,880—Gage Lutheran Hospital*.....	Gen	Church	45	23	8	222	918
Memmonite Deaconess Home and Hospital	Gen	Church	30	20	10	167	781
Blair, 3,289—Washington Blair Hospital	Gen	Indiv	16	1	4	50	288
Broken Bow, 2,968—Custer Broken Bow Hospital.....	Gen	Indiv	25	9	4	3	275
Burwell, 1,412—Garfield Dr. Roy S. Cram's Hospital. Gen	Gen	Indiv	10	3	5	31	111
Cambridge, 1,034—Furnas Republican Valley Hospital. Gen	Gen	Indiv	25	5	2	8	127
Chadron, 4,262—Dawes Chadron Municipal Hospital Gen	Gen	City	25	11	7	41	1,381
Columbus, 7,632—Platte Lutheran Good Samaritan Hospital	Gen	Church	30	12	5	74	395
St. Mary's Hospital*.....	Gen	Church	125	27	12	157	980
David City, 2,272—Butler David City Hospital.....	Gen	NPAssn	13	3	4	33	196
Fairbury, 6,304—Jefferson Fairbury Hospital	Gen	Indiv	15	9	4	54	350
Falls City, 6,146—Richardson Our Lady of Perpetual Help Hospital	Gen	Church	35	11	5	24	437
Fort Crook, 75—Sargy Station Hospital*.....	Gen	Army	50	32	..	..	603
Genoa, 1,231—Nance Genoa Hospital	Gen	Indiv	10	3	4	22	83
Grand Island, 19,130—Hall Grand Island Lutheran Hospital	Gen	Church	32	15	8	127	601
St. Francis Hospital*.....	Gen	Church	140	75	16	172	1,754
Hastings, 15,145—Adams Mary Lanning Memorial Hospital*.....	Gen	NPAssn	90	50	15	249	1,906
	Gen	Indiv	18	8	5	47	334
	Gen	NPAssn	14	9	4	141	475
	Ment	State	1,700	1,738	..	..	381
	Gen	Church	55	30	12	261	1,317
Hosp. for the Tuberculous.. TB	State	195	155	..	..	..	163
Kimball, 1,725—Kimball Flett Hospital	Gen	Indiv	10	4	5	53	263
	p. Gen	Corp	25	9	6	149	399
	Gen	Church	100	67	20	337	1,085
Green Gables, Dr. Benj. F. Bailey Sanatorium	Gen	Corp	120	103	6	13	574
Lincoln General Hospital*.....	Gen	City	204	92	26	400	2,923
Lincoln State Hospital*.....	Ment	State	1,240	1,237	..	..	139
Nebraska Orthopedic Hospital*.....	Orth	State	110	92	..	..	571
St. Elizabeth Hospital*.....	Gen	Church	175	109	25	536	3,812
Veterans Admin. Facility*.....	Gen	Vet	251	224	..	..	2,148
Loup City, 1,675—Sherman Loup City Hospital.....	Gen	Indiv	10	7	4	60	313
Lynch, 487—Boyd Sacred Heart Hospital.....	Gen	Church	18	6	3	32	235
McCook, 6,212—Redwillow St. Catherine of Sienna Hospital	Gen	Church	60	10	10	115	811
	Gen	Indiv	12	5	10	65	268
Nebraska City, 7,339—Otoe St. Mary's Hospital.....	Gen	Church	58	31	12	269	1,322
Norfolk, 10,490—Madison Lutheran Hospital	Gen	Church	65	30	10	171	1,693
Norfolk State Hospital*.....	Ment	State	1,120	1,081	..	..	155
Our Lady of Lourdes Hosp. Gen	Gen	Church	31	13	8	84	501
Verges Sanitarium	Gen	Indiv	30	21	5	29	246

Key to symbols and abbreviations is on page 1083

NEBRASKA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
North Platte, 12,429—Lincoln	Gen	Church	65	31	10	155	1,133
St. Mary Hospital.....	Gen	Church	12	5	3	62	267
Oakland, 1,380—Burt	Gen	Indiv	138	100	12	266	3,411
Oakland Community Hosp..	Gen	Church	372	235	39	1,055	8,386
Omaha, 223,844—Douglas	Gen	County	400	343	15	63	2,646
Bishop Clarkson Memorial Hospital**	Gen	Church	120	93	32	602	3,440
Creighton Memorial St. Joseph's Hospital**	Gen	Church	100	61	10	227	2,068
Douglas County Hospital**	Gen	Church	160	110	20	446	4,174
Douglas County Psychiatric Hospital.....	Gen	NPAasn	85	58	15	186	4,308
Immanuel Deaconess Institute**	Gen	Church	165	82	25	499	3,497
Lutheran Hospital.....	Gen	Church	210	171	20	491	3,448
Nebraska Methodist Hospital and Deaconess Home**	Gen	State	15	6	2	18	230
Nicholas Sonn Hospital.....	Gen	Indiv	14	6	5	38	246
St. Catherine's Hospital**	Gen	Indiv	26	13	4	79	584
University of Nebraska Hospital**	Gen	Indiv	12	5	5	53	229
Ord, 2,240—Valley	Gen	Indiv	30	27	6	177	1,116
Ord Hospital.....	Gen	Church	50	32	12	221	1,407
Oxford, 1,141—Furnas	Gen	Part	25	8	8	36	422
Oxford General Hospital...	Gen	Indiv	15	4	6	45	186
Pawnee City, 1,647—Pawnee	Gen	Indiv	18	7	5	52	389
Pawnee Hospital.....	Gen	Part	18	8	5	92	429
Pender, 1,135—Thurston	Gen	Indiv	8	4	2	16	161
Logan Valley Hospital.....	Gen	Indiv	20	10	3	56	355
Scottsbluff, 12,037—Scotts Bluff	Gen	Indiv	15	8	5	54	434
Fairacres Hospital.....	Gen	Indiv	20	11	10	85	508
Western Nebraska Methodist Episcopal Hospital	Gen	IA	61	39	9	85	910
Seward, 2,826—Seward	Gen	Church	60	19	10	125	781
Seward Clinic Hospital.....	Gen	Part	25	8	8	36	422
Seward Hospital.....	Gen	Indiv	15	4	6	45	186
Sidney, 3,388—Cheyenne	Gen	Indiv	18	7	5	52	389
Roche Hospital.....	Gen	Part	18	8	5	92	429
Taylor Hospital.....	Gen	Indiv	8	4	2	16	161
Stromsburg, 1,127—Polk	Gen	Indiv	20	10	3	56	355
Stromsburg Hospital.....	Gen	Indiv	15	8	5	54	434
Stuart, 760—Holt	Gen	Indiv	20	11	10	85	508
Wilson Hospital.....	Gen	Indiv	61	39	9	85	910
Valentine, 2,188—Cherry	Gen	Indiv	60	19	10	125	781
General Hospital.....	Gen	Indiv	20	11	10	85	508
Wahoo, 2,648—Saunders	Gen	Indiv	61	39	9	85	910
Community Hospital.....	Gen	Indiv	60	19	10	125	781
Winnebago, 800—Thurston	Gen	IA	61	39	9	85	910
Winnebago Indian Hospital.	Gen	IA	61	39	9	85	910
York, 5,383—York	Gen	Church	60	19	10	125	781
Lutheran Hospital.....	Gen	Church	60	19	10	125	781
Related Institutions							
Beatrice, 10,883—Gage	Gen	State	1,717	1,450	..	..	165
Nebraska Institution for Feeble-minded.....	MeDe	State	10	1	2	9	72
Beemer, 585—Cuming	Gen	Indiv	10	3	3	43	231
Beemer Hospital.....	Gen	Indiv	10	2	4	20	479
Dalton, 358—Cheyenne	Gen	Indiv	12	4	4	57	122
Pioneer Memorial Hospital..	Gen	City	20	..	..	..	No data supplied
Farnam, 346—Dawson	Gen	Indiv	6	2	3	35	99
Reeves Memorial Hospital...	Gen	Part	20	7	5	48	462
Friend, 1,169—Saline	Gen	Indiv	10	4	4	25	231
Warren Memorial Hospital..	Gen	Part	24	5	..	..	720
Geneva, 1,888—Fillmore	Gen	State	9	6	12	53	54
Geneva General Hospital....	Gen	State	11	7	5	48	250
Genoa, 1,231—Nance	Gen	Indiv	40	5	..	..	95
Emergency Hospital.....	Gen	Church	71	37	18	97	98
Hebron, 1,909—Thayer	Gen	Indiv	10	1	3	9	69
Blue Valley Hospital.....	Gen	Indiv	8	2	1	28	229
Kimball, 1,725—Kimball	Gen	Indiv	12	5	3	30	166
Kimball Hospital.....	Gen	Indiv	8	4	4	25	117
Lincoln, 81,954—Lancaster	Gen	Indiv	12	3	2	23	172
Nebraska State Penitentiary Hospital.....	Inst	State	12	5	3	22	141
Milford, 759—Seward	Gen	State	10	3	3	14	147
Nebraska Industrial Home..	Inst	State	9	6	12	53	54
Odell, 404—Gage	Gen	Indiv	11	7	5	48	250
Odell General Hospital.....	Gen	Indiv	40	5	..	..	95
Omaha, 223,844—Douglas	Gen	City	71	37	18	97	98
City Emergency Hospital... Iso	Gen	Church	10	1	3	9	69
Salvation Army Booth Memorial Hospital.....	Mat	Church	8	2	1	28	229
Orchard, 493—Antelope	Gen	Indiv	12	5	3	30	166
Orchard Hospital.....	Gen	Indiv	8	4	4	25	117
Plainview, 1,411—Pierce	Gen	Indiv	12	3	2	23	172
Plainview General Hospital.	Gen	Indiv	12	5	3	22	141
Stratton, 630—Hitchcock	Gen	Indiv	10	3	3	14	147
Stewart Hospital.....	Gen	Indiv	14	6	4	17	66
Sutherland, 862—Lincoln	Gen	Indiv	16	10	4	53	416
Sutherland Hospital.....	Gen	Indiv	16	10	4	53	416
Sutton, 1,403—Clay	Gen	Indiv	16	10	4	53	416
Sutton Hospital.....	Gen	Indiv	16	10	4	53	416
Tecumseh, 2,104—Johnson	Gen	Indiv	16	10	4	53	416
Tecumseh Hospital.....	Gen	Indiv	16	10	4	53	416
Tilden, 984—Madison	Gen	Indiv	16	10	4	53	416
Tilden Hospital.....	Gen	Indiv	16	10	4	53	416
Walthill, 1,204—Thurston	Gen	Indiv	16	10	4	53	416
Dr. Picotte Memorial Hosp..	Gen	Indiv	16	10	4	53	416
Westpoint, 2,310—Cuming	Gen	Indiv	16	10	4	53	416
St. Joseph Home and Hos-	Inst	Gen Church	16	10	4	53	416
pital.....	Inst	Gen Church	16	10	4	53	416

NEVADA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Caliente, 1,400—Lincoln	Gen	County	15	8	4	44	243
Lincoln County Hospital....	Gen	County	15	8	4	44	243
East Ely, 600—White Pine	Gen	NPAasn	40	18	7	84	319
Steptoe Valley Hospital**	Gen	NPAasn	40	18	7	84	319
Elko, 4,094—Elko	Gen	County	50	22	8	120	689
Elko General Hospital**	Gen	County	50	22	8	120	689
Ely, 4,140—White Pine	Gen	County	50	22	8	120	689
White Pine County and Gen-eral Hospital.....	Gen	County	50	22	8	120	689
Las Vegas, 8,422—Clark	Gen	Corp	31	25	11	147	1,167
Las Vegas Hospital.....	Gen	Corp	31	25	11	147	1,167
Reno, 21,317—Washoe	Gen	Corp	31	25	11	147	1,167
Nevada State Hospital for Mental Diseases.....	Ment	State	340	345	..	..	94
St. Mary's Hospital**	Gen	Church	75	59	15	233	1,934
Veterans Admin. Facility....	Gen	Yet	26	17	..	..	246
Washoe General Hospital...	Gen	County	200	161	20	373	2,939
Schurz, 75—Mineral	Gen	County	34	24	3	42	396
Walker River Indian Hosp..	Gen	IA	34	24	3	42	396
Stewart, 412—Ormsby	Gen	IA	32	23	5	26	406
Carson Indian Hospital....	Gen	IA	32	23	5	26	406
Tonopah, 2,485—Nye	Gen	NPAasn	20	10	3	35	280
Tonopah Mines Hospital...	Gen	NPAasn	20	10	3	35	280
Winnemucca, 2,485—Humboldt	Gen	County	50	27	8	80	900
Humboldt County General Hospital.....	Gen	County	50	27	8	80	900
Related Institutions							
Hawthorne, 750—Mineral	Gen	County	14	14	3	25	165
Mineral County Hospital....	Gen	County	14	14	3	25	165
Owyhee, 25—Elko	Gen	IA	27	15	4	25	472
Western Shoshone Hospital.	Gen	IA	27	15	4	25	472
Stewart, 412—Ormsby	Gen	IA	34	10	..	..	341
Carson Indian School Hosp. Inst	Inst	IA	34	10	..	..	341
Yerington, 964—Lyon	Gen	County	16	12	1	10	60
Lyon County Hospital.....	Gen	County	16	12	1	10	60
NEW HAMPSHIRE							
Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Berlin, 19,084—Coos	Gen	Church	87	54	16	186	1,625
St. Louis Hospital**	Gen	Church	87	54	16	186	1,625
Claremont, 12,144—Sullivan	Gen	NPAasn	59	28	11	146	1,051
Claremont General Hosp.**	Gen	NPAasn	59	28	11	146	1,051
Concord, 27,171—Merrimack	Gen	NPAasn	105	69	18	258	2,122
Margaret Pillsbury General Hospital**	Gen	NPAasn	105	69	18	258	2,122
New Hampshire Memorial Hospital**	Gen	NPAasn	51	31	14	257	972
New Hampshire State Hospital**	Gen	NPAasn	51	31	14	257	972
Dover, 14,900—Strafford	Gen	State	2,343	2,225	..	..	644
Wentworth Hospital**	Gen	State	2,343	2,225	..	..	644
East Derry, 300—Rockingham	Gen	City	69	44	15	242	1,460
Alexander-Eastman Hospital	Gen	City	69	44	15	242	1,460
Epping, 1,618—Rockingham	Gen	NPAasn	23	9	5	68	333
Mitchell Memorial Hospital**	Gen	NPAasn	23	9	5	68	333
Exeter, 5,398—Rockingham	Gen	County	42	30	6	126	676
Exeter Hospital**	Gen	County	42	30	6	126	676
Franklin, 6,749—Merrimack	Gen	NPAasn	65	32	19	243	1,192
Franklin Hospital.....	Gen	NPAasn	65	32	19	243	1,192
Glencoff, 118—Grafton	Gen	NPAasn	48	30	12	150	840
New Hampshire State Sanatorium.....	TB	State	140	108	..	..	64
Grasmere, 200—Hillsboro	Gen	County	124	100	18	290	1,939
Hillsborough County General Hospital**	Gen	County	124	100	18	290	1,939
Hanover, 3,425—Grafton	Gen	County	124	100	18	290	1,939
Mary Hitchcock Memorial Hospital**	Gen	County	124	100	18	290	1,939
Keene, 13,832—Cheshire	Gen	NPAasn	178	128	18	369	4,086
Elliot Community Hosp.**	Gen	NPAasn	178	128	18	369	4,086
Laconia, 13,484—Belknap	Gen	NPAasn	85	64	15	320	2,173
Laconia Hospital**	Gen	NPAasn	85	64	15	320	2,173
Lancaster, 3,095—Coos	Gen	NPAasn	80	62	25	301	1,977
Lancaster Hospital.....	Gen	NPAasn	80	62	25	301	1,977
Littleton, 4,571—Grafton	Gen	NPAasn	18	15	6	80	460
Littleton Hospital.....	Gen	NPAasn	18	15	6	80	460
Manchester, 77,685—Hillsboro	Gen	NPAasn	50	18	8	103	649
Balch Hospital.....	Gen	NPAasn	50	18	8	103	649
Elliot Hospital**	Gen	NPAasn	120	84	32	471	2,188
Lucy Hastings Hospital....	Gen	NPAasn	25	14	6	9	218
Notre-Dame de Lourdes Hospital**	Gen	Church	93	65	15	269	1,917
Our Lady of Perpetual Help Maternity Hospital.....	Gen	Church	93	65	15	269	1,917
Sacred Heart Hospital**	Gen	Church	112	77	21	315	2,224
Nashua, 32,927—Hillsboro	Gen	Church	112	77	21	315	2,224
Nashua Memorial Hosp.**	Gen	Church	112	77	21	315	2,224
St. Joseph's Hospital**	Gen	Church	84	62	16	272	1,868
St. Joseph's Hospital**	Gen	Church	84	62	16	272	1,868
Nottingham, 2,000—Merrimack	Gen	NPAasn	20	10	6	66	348
Nottingham Hospital.....	Gen	NPAasn	20	10	6	66	348
Nottingham Hospital.....	Gen	NPAasn	23	14	8	72	387
Nottingham Hospital.....	Gen	NPAasn	23	14	8	72	387
Memorial Hospital.....	Gen	NPAasn	37	28	10	118	770
Pembroke (Suncook P.O.), 2,760—Merrimack	Gen	Corp	100	78	..	..	109
Pembroke Sanatorium.....	Gen	Corp	100	78	..	..	109

NEW HAMPSHIRE—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Peterborough, 2,470—Hillsboro							
Peterborough Hospital	Gen	NPAssn	30	20	9	99	688
Plymouth, 2,533—Grafton							
Emily Balch and Soldiers and Sailors Memorial Hospital	Gen	NPAssn	31	24	7	110	632
Portsmouth, 14,821—Rockingham							
Portsmouth Hospital*	Gen	NPAssn	92	62	18	298	2,002
U. S. Naval Hospital*	Gen	NPAssn	152	43	..	..	578
Rochester, 12,012—Strafford							
Frishie Memorial Hospital	Gen	NPAssn	28	23	8	270	1,232
Whitefield, 1,834—Coos							
Morrison Hospital	Gen	NPAssn	56	11	8	36	207
Wolfeboro, 2,636—Carroll							
Huggins Hospital*	Gen	NPAssn	36	27	6	124	918
Woodsville, 1,500—Grafton							
Cottage Hospital	Gen	NPAssn	28	10	8	110	491
Related Institutions							
Epping, 1,618—Rockingham							
Rockingham County Farm Hospital	Inst	County	67	48	..	..	82
Exeter, 5,398—Rockingham							
Lamont Infirmary	Inst	NPAssn	53	8	..	..	576
Laconia, 13,481—Belknap							
Laconia State School	McDe	State	616	622	..	..	68
Lebanon, 7,590—Grafton							
Alice Peck Day Memorial Hospital	Gen	NPAssn	18	9	8	109	384
Manchester, 77,683—Hillsboro							
Manchester Isolation Hosp. Iso	City	City	67	5	..	..	66
Portsmouth, 14,821—Rockingham							
Mark H. Wentworth Home for Chronic Invalids	Incur	NPAssn	61	49	..	..	14
West Stewartstown, 350—Coos							
Coos County Hospital	Gen	County	42	35	5	63	386
Woodsville, 1,500—Grafton							
Grafton County Hospital	InstGen	County	32	30	4	22	327

NEW JERSEY

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Allentown, 766—Monmouth							
Dr. Farmer's Private Hosp.	Gen	Indlv	25	12	5	46	519
Allenwood, 166—Monmouth							
Allenwood Sanatorium and Monmouth County Hospital for Tuberculosis	TB	County	100	91	..	..	103
Atlantic City, 64,094—Atlantic							
Atlantic City Hospital*	Gen	NPAssn	260	100	40	924	5,563
Children's Seashore House at Atlantic City for Invalid Children	Orth	NPAssn	375	187	..	..	2,235
Municipal Hospital	Iso	City	40	4	..	..	80
Bayonne, 79,198—Hudson							
Bayonne Hospital and Dispensary*	Gen	NPAssn	220	169	30	582	4,893
Swiney Sanatorium	Gen	Indlv	16	5	6	62	246
Beach Haven, 746—Ocean							
Seashore Branch of Babies' Hospital	Unit of Babies' Hospital, Philadelphia, Pa.						
Bellemont, 51—Somerset							
Belle Mead Sanatorium and Farm	N&M	Corp	65	46	..	..	116
Belleville, 28,107—Essex							
Essex County Hospital for Contagious Diseases*	Iso	County	510	181	..	..	4,121
Bernardsville, 3,405—Somerset							
Bernardsville, 3,405—Somerset	Conv	Corp	30	14	..	..	125
Shannon Lodge	Gen	NPAssn	40	18	10	54	602
Bound Brook, 7,616—Somerset							
Bound Brook Hospital*	Gen	NPAssn	89	63	16	303	1,710
..							
..	TB	NPAssn	64	60	..	..	86
..	Gen	NPAssn	32	15	9	316	800
..	Gen	NPAssn	315	251	60	1,529	6,771
Cooper Hospital*							
Marion Childs Hospital for Children	Unit of West Jersey Homeopathic Hospital						
West Jersey Homeopathic Hospital*	Gen	NPAssn	277	146	53	1,161	5,216
Cedar Grove, 1,887—Essex							
Essex County Hospital*	Ment	County	2,545	2,434	..	..	516
Dover, 10,491—Morris							
Dover General Hospital*	Gen	NPAssn	83	55	21	421	1,981
Dumont, 7,556—Bergen							
Dumont Private Hospital	Gen	Indlv	11	3	5	21	158
East Orange, 68,945—Essex							
East Orange General Hospital*	Gen	NPAssn	120	84	30	543	2,946
Elizabeth, 109,912—Union							
Alexian Brothers Hosp.	Gen	Church	160	129	..	..	2,623
Elizabeth General Hospital	Gen	NPAssn	226	177	33	1,025	6,314
..	Gen	Church	218	163	44	974	4,343
..	Gen	NPAssn	196	161	42	974	4,790

NEW JERSEY—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Fort Dix, —Burlington							
Station Hospital*	Gen	Army	450	61	..	1	1,865
Fort Hancock, —Monmouth							
Station Hospital	Gen	Army	175	13	2	..	523
Franklin, 4,009—Sussex							
Franklin Hospital*	Gen	NPAssn	26	14	6	93	437
Glen Gardner, 636—Hunterdon							
New Jersey Sanatorium for Tuberculous Diseases*	TB	State	475	443	..	..	342
Grenloch, 255—Camden							
Camden County General Hospital	Gen	County	169	163	..	..	1,328
Camden County Hospital for Mental Diseases	Ment	County	725	770	..	..	181
Lakeland Sanatorium*	TB	County	245	208	..	..	178
Greystone Park, —Morris							
New Jersey State Hosp.*	Ment	State	5,400	5,437	..	..	1,330
Hackensack, 26,279—Bergen							
Hackensack Hospital*	Gen	NPAssn	230	251	42	1,297	8,018
Hansbrouck Heights, 6,716—Bergen							
Hansbrouck Heights Hospital Orth	NPAssn	31	21	..	..	529	
Hoboken, 50,115—Hudson							
St. Mary Hospital*	Gen	Church	375	261	25	486	6,695
Irvington, 55,328—Essex							
Irvington General Hospital*	Gen	City	79	65	17	331	2,381
Jersey City, 391,173—Hudson							
Christ Hospital*	Gen	Church	225	169	21	855	4,773
Fairmount Hospital	Gen	NPAssn	65	39	15	154	1,066
Greenville Hospital	Gen	NPAssn	60	50	16	206	980
Hudson County Tuberculosis Hospital*	TB	County	500	479	..	..	690
Jersey City Hospital*	Gen	City	900	878	..	..	18,841
Jersey City Hospital for Communicable Diseases*	Unit of Jersey City Hospital						
Margaret Hague Maternity Hospital*	Mat	County	275	181	284	5,180	6,100
Psychopathic Hospital	Unit of Jersey City Hospital						
St. Francis' Hospital*	Gen	Church	226	157	14	213	3,526
Kearny (Arlington P.O.), 33,467—Hudson							
West Hudson Hospital*	Gen	NPAssn	63	48	17	223	1,632
Lakewood, 5,000—Ocean							
Paul Kimball Hospital*	Gen	NPAssn	64	43	11	180	1,274
Long Branch, 17,408—Monmouth							
Dr. E. C. Hazard Hospital, Gen	NPAssn	95	75	30	243	3,881	
Monmouth Memorial Hospital*	Gen	NPAssn	181	167	30	728	5,025
Lyons, —Somerset							
Veterans Admin. Facility*	Ment	Vet	1,750	1,326	..	..	575
Marlboro, 500—Monmouth							
New Jersey State Hospital*	Ment	State	2,501	2,355	..	..	908
Metuchen, 6,567—Middlesex							
Roosevelt Hospital*	TB	County	221	221	..	..	270
Midland Park, 4,323—Bergen							
Christian Sanatorium	N&M	NPAssn	190	166	..	..	290
Millville, 14,896—Cumberland							
Millville Hospital	Gen	NPAssn	37	31	6	156	902
Montclair, 33,807—Essex							
Montclair Community Hospital*	Gen	NPAssn	56	41	20	309	1,337
Mountainside Hospital*	Gen	NPAssn	288	191	42	717	6,015
St. Vincent's Hospital*	Gen	Church	60	33	12	247	1,125
Morris Plains, 2,018—Morris							
Children's Heart Unit of Victoria Foundation	Card	NPAssn	24	..	..	..	Estab. 1940
Morristown, 15,270—Morris							
All Souls Hospital*	Gen	Church	115	73	29	355	2,363
Morristown Memorial Hospital*	Gen	NPAssn	137	112	18	296	3,224
Shongum Mountain Sanat. TB	County	76	48	..	..	50	
Mount Holly, 6,573—Burlington							
Burlington County Hospital	Gen	NPAssn	127	90	18	534	2,391
..	Gen	NPAssn	154	138	35	782	4,326
..	Chil	NPAssn	60	30	..	..	1,250
..	Gen	NPAssn	69	54	24	544	2,436
..	Gen	NPAssn	26	22	4	14	396
Hospital and Home for Crippled Children*	Orth	NPAssn	110	70	..	..	412
Hospital of St. Barnabas and for Women and Children*	Gen	Church	203	170	27	631	5,124
Newark Beth Israel Hospital*	Gen	NPAssn	381	246	74	1,701	10,637
Newark City Hospital*	Gen	City	700	604	40	1,774	14,956
Newark Eye and Ear Infirmary*	ENT	NPAssn	65	27	..	..	2,141
Newark Memorial Hosp.*	Gen	NPAssn	135	80	30	438	2,639
..	Gen	NPAssn	224	180	53	973	6,616
..	Gen	Church	129	66	21	462	2,893
..	Gen	Church	318	212	32	655	6,014
..	en	NPAssn	105	64	20	522	2,292
..	en	Church	191	131	48	772	4,014
New Lisbon, 213—Burlington							
Fairview Sanatorium	TB	County	114	98	..	..	115
Newton, 5,533—Sussex							
Newton Memorial Hospital*	Gen	NPAssn	42	26	11	183	915
Northfield, 2,848—Atlantic							
Atlantic County Hospital for Mental Diseases	Ment	County	400	356	..	..	156

Key to symbols and abbreviations is on page 1083

NEW JERSEY—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Atlantic County Hospital for Tuberculous Diseases (Pine Rest Sanatorium)	TB	County	50	50	..	...	56
Orange, 35,717—Essex							
New Jersey Orthopaedic Hospital and Dispensary*.....	Orth	NPAssn	24	26	..	...	442
Orange Memorial Hosp.*..	Gen	NPAssn	364	230	75	1,247	7,328
St. Mary's Hospital*..	Gen	Church	120	89	30	509	2,984
Passaic, 61,394—Passaic							
Beth Israel Hospital.....	Gen	NPAssn	75	47	20	347	1,901
Passaic General Hosp.*..	Gen	NPAssn	200	142	25	826	4,115
St. Mary's Hospital*..	Gen	Church	182	148	37	1,000	4,814
Paterson, 139,656—Passaic							
Nathan and Miriam Barnert Memorial Hospital*..	Gen	NPAssn	116	165	29	691	3,147
Paterson General Hosp.*..	Gen	NPAssn	284	222	44	1,261	7,060
St. Joseph's Hospital*..	Gen	Church	386	226	47	1,062	6,240
Valley View Sanatorium*..	TB	County	234	228	..	...	253
Perth Amboy, 41,242—Middlesex							
Perth Amboy General Hospital*..	Gen	NPAssn	102	122	28	656	4,513
Phillipsburg, 18,314—Warren							
Warren Hospital	Gen	NPAssn	75	55	14	284	1,859
Pinevald (Bayville P.O.),—Ocean							
Royal Pines Hospital.....	Gen	NPAssn	85	38	12	82	1,652
Plainfield, 37,469—Union							
Muhlenberg Hospital*..	Gen	NPAssn	261	191	44	1,177	6,017
Point Pleasant, 2,082—Ocean							
Point Pleasant Hospital*..	Gen	NPAssn	26	22	10	110	666
Preakness (Paterson P.O.),—Passaic							
Hopa Dell Hospital.....	Gen	County	412	119	..	...	112
Princeton, 7,719—Mercer							
Princeton Hospital*..	Gen	NPAssn	64	40	11	127	1,205
Rahway, 17,498—Union							
Rahway Hospital*..	Gen	NPAssn	80	53	20	443	1,985
Red Bank, 10,974—Monmouth							
Riverview Hospital	Gen	NPAssn	29	18	13	130	668
Station Hospital*..	Gen	Army	54	18	4	21	830
Ridgewood, 14,948—Bergen							
Bergen Pines, Bergen County Hospital*..	IsoTb	County	500	324	..	...	811
Riverside, 4,000—Burlington							
Zurbrugg Memorial Hosp.*..	Gen	NPAssn	41	30	15	343	1,356
Salem, 8,618—Salem							
Salem County Memorial Hospital	Gen	NPAssn	40	40	8	366	1,790
Scotch Plains, 3,500—Union							
Bonnie Burn Sanatorium*..	TB	County	407	349	..	...	322
Secaucus, 9,754—Hudson							
Hudson County Contagious Disease Hospital	Iso	County	176	54	..	...	981
Hudson County Hospital.....	Gen	County	282	228	..	...	347
Hudson County Hospital for Mental Diseases*..	Ment	County	1,785	1,667	..	...	363
Skillman, 23—Somerset							
New Jersey State Village for Epileptics	Epil	State	1,550	1,531	..	...	100
Somers Point, 1,992—Atlantic							
Shore Memorial Hospital.....	Gen	NPAssn	65	21	9	115	984
Somerville, 8,720—Somerset							
Somerset Hospital*..	Gen	NPAssn	96	83	20	554	2,817
South Amboy, 7,802—Middlesex							
South Amboy Memorial Hospital	Gen	NPAssn	35	25	12	184	1,044
Summit, 16,165—Union							
Fair Oaks Sanatorium.....	Nerv	Corp	38	29	..	...	134
Overlook Hospital*..	Gen	NPAssn	122	117	26	515	3,019
Sussex, 1,478—Sussex							
Alexander Linn Hospital.....	Gen	NPAssn	22	9	5	58	503
Teaneck, 3,260—Bergen							
Holy Name Hospital*..	Gen	Church	182	140	43	1,024	4,249
Trenton, 124,697—Mercer							
F. W. Donnelly Memorial Hospital	TbIso	City	369	232	..	...	468
Glenwood Sanitarium	N&M	Indiv	24	18	..	...	74
Mercer Hospital*..	Gen	NPAssn	229	137	32	934	4,705
New Jersey State Hospital*..	Ment	State	3,000	2,925	..	...	868
Orthopaedic Hospital and Dispensary	Orth	NPAssn	45	27	..	...	223
St. Francis Hospital*..	Gen	Church	289	218	39	965	5,687
Trenton General Hospital.....	Gen	NPAssn	50	24	10	50	680
William McKinley Memorial Hospital*..	Gen	NPAssn	124	88	33	504	2,636
Union City, 56,173—Hudson							
Union City General Hospital	Gen	NPAssn	30	9	10	49	474
Verona, 8,937—Essex							
Essex Mountain Sanat.*..	TB	County	446	421	..	...	500
Vineland, 7,914—Cumberland							
Newcomb Hospital*..	Gen	NPAssn	87	46	15	345	1,631
Weehawken (Union City P.O.), 14,363—Hudson							
North Hudson Hospital*..	Gen	NPAssn	173	105	18	349	3,270
Westfield, 18,458—Union							
Children's Country Home*..	Orth	NPAssn	75	47	..	...	164
Woodbury, 8,306—Gloucester							
Brewer Memorial Hospital.....	Gen	Indiv	16	10	5	70	372
Underwood Hospital*..	Gen	NPAssn	50	49	20	303	2,102

Related Institutions

Atlantic City, 64,094—Atlantic							
Dr. Leonard's Private Sanit. Drug	Indiv	25	...	...	...	...	54
Bridgeton, 15,992—Cumberland							
Cumberland County Hospital for Insane.....	Ment	County	300	251	..	...	62

NEW JERSEY—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Browns Mills, 313—Burlington							
Browns Mills Nursing Cottage	TB	Corp	56	40	..	...	47
Manor Nursing Cottage.....	TB	Indiv	40	34	..	...	30
Sycamore Hall Sanatorium.....	TB	Indiv	34	28	..	...	36
Caldwell, 4,932—Essex							
Theresa Grotta Home for Convalescents	CardConv	NPAssn	40	30	..	...	337
Camden, 117,536—Camden							
Municipal Hospital for Contagious Diseases	Iso	City	100	28	..	...	537
Cranford, 6,001—Union							
Brookside Nursing Home... Conv	Corp	Corp	27	25	..	...	31
Farmingdale, 609—Monmouth							
Tuberculosis Preventorium for Children	TB	NPAssn	256	183	..	...	608
Jamesburg, 2,128—Middlesex							
New Jersey State Home for Boys	Inst	State	25	10	..	...	730
Jersey City, 301,173—Hudson							
Salvation Army Door-of-Hope Home and Hospital.....	Mat	Church	8	6	7	56	85
Longport, 303—Atlantic							
Betty Bacharach Home for Afflicted Children	Orth	NPAssn	100	57	..	...	39
Menlo Park, 355—Middlesex							
New Jersey Home for Disabled Soldiers	Inst	State	20	8	..	...	54
Morrisstown, 15,270—Morris							
Aurora Institute	Conv	Corp	90	32	..	...	429
Newark, 429,760—Essex							
Flourance Crittenton Home... Mat	NPAssn	27	25	35	62	107	
Newark City Almshouse.....	Inst	City	100	16	..	...	288
Newark Convalescent Hosp. Conv	City	145	142	..	...	70	
New Brunswick, 33,180—Middlesex							
Mary Kingsland Macy Willets Infirmary	Inst	State	22	1	..	...	161
Rutgers Infirmary	Inst	NPAssn	12	3	..	...	241
Newfoundland, 600—Morris							
Idylle Sanatorium	TB	Corp	50	24	..	...	26
New York							
.....	Ment	County	301	251	..	...	49
.....	Inst	Church	15	15	..	...	22
.....							
Passaic Municipal Hospital.....	Iso	City	25	3	2	...	76
Paterson, 139,656—Passaic							
Paterson City Hospital.....	TbIso	City	110	49	..	...	248
Princeton, 7,719—Mercer							
Isabella McCosh Infirmary of Princeton University	Inst	NPAssn	54	10	..	...	1,166
Rahway, 17,498—Union							
New Jersey Reformatory Hospital	Inst	State	18	5	..	...	305
Roseland, 1,556—Essex							
Mountain View Rest.....	N&M	Corp	22	21	..	...	105
Sea Isle City, 773—Cape May							
Sea Isle Hospital and Training School	N&M	Corp	80	65	..	...	705
Totowa (Little Falls P.O.), 5,130—Passaic							
North Jersey Training School	MeDe	State	685	625	..	...	49
Trenton, 124,697—Mercer							
New Jersey State Prison Hospital*..	Inst	State	42	28	..	...	664
State Home for Girls.....	Inst	State	50	28	3	24	368
Upper Montclair, —Essex							
Montclair Sanitarium	Conv	Part	10	6	..	...	30
Vineland, 7,914—Cumberland							
Maplehurst School	MeDe	Indiv	17	17	..	...	...
New Jersey Memorial Home for Disabled Soldiers, Sailors, Marines and Their Wives and Widows.....	Inst	State	65	28	..	...	233
Training School at Vineland	MeDe	NPAssn	550	541	..	...	40
Vineland State School.....	MeDe	State	1,530	1,510	..	...	71
Woodbine, 2,111—Cape May							
Woodbine Colony for Feeble-minded Males	MeDe	State	730	677	..	...	48

NEW MEXICO

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Albuquerque, 35,449—Bernalillo							
Ahepa Silver District Sanat. TB	NPAssn	46	38	..	...	29	
Albuquerque Indian Sanat.* TB	IA	104	87	..	...	102	
Atchison, Topeka and Santa Fe Hospital	Indus	NPAssn	67	24	..	...	377
Children's Home and Hosp. Orth	NPAssn	30	15	..	...	295	
Methodist Sanatorium	TB	Church	65	45	..	...	74
St. Joseph Sanatorium and Hospital*..	GenTb	Church	170	96	15	419	2,974
Southwestern Presbyterian Sanatorium*..	GenTb	Church	147	94	12	347	2,136
U. S. Indian School Hosp.*..	Gen	IA	65	52	8	101	1,801
Veterans Admin. Facility*..	GenTb	Vet	259	183	..	...	1,711

NEW MEXICO—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Artesia, 4,071—Eddy							
Artesia Memorial Hospital.. Gen	Indiv		36	9	6	73	525
Black Rock (Zuni P.O.)—McKinley							
Zuni Indian Hospital..... Gen	IA		43	10	8	14	539
Carlsbad, 7,110—Eddy							
Physicians and Surgeons							
Hospital..... Gen	Indiv		16	...	4	Estab. 1940	
St. Francis Xavier Hospital Gen	Church		50	13	8	169	1,129
Clayton, 3,188—Union							
St. Joseph Hospital..... Gen	Church		25	6	5	40	265
Clovis, 10,065—Curry							
Atchison, Topeka and Santa Fe Hospital..... Indus	NPAssn		32	18	...	...	410
Clovis Memorial Hospital... Gen	City		42	25	10	413	1,615
Crownpoint, 90—McKinley							
Eastern Navajo Hospital... Gen	IA		79	41	11	73	1,260
Dawson, 2,000—Colfax							
Phelps Dodge Corporation Hospital..... Gen	NPAssn		30	3	4	23	135
Deming, 3,608—Luna							
Deming Ladies' Hospital.... Gen	NPAssn		18	6	4	10	216
Dulce, 44—Rio Arriba							
Jicarilla Hospital and Sanatorium..... GenTb	IA		75	...	5	...	...
Jicarilla Indian Sanatorium. Unit of Jicarilla Hospital and Sanatorium							
Farmington, 2,161—San Juan							
Farmington Hospital..... Gen	Indiv		8	4	3	31	170
San Juan Episcopal Indian Mission Hospital..... Gen	Church		16	10	5	15	313
San Juan Hospital..... Gen	NPAssn		22	7	5	56	462
Fort Bayard, 1,000—Grant							
Veterans Admin. Facility... GenTb	Vet		305	253	...	...	887
Fort Stanton, 490—Lincoln							
U. S. Marine Hospital..... TB	USPHS		237	177	...	...	253
Fort Wingate, 14—McKinley							
Charles H. Burke Hospital. Gen	IA		51	27	8	20	928
Gallup, 7,041—McKinley							
St. Mary's Hospital..... Gen	Church		90	34	12	148	1,235
Hot Springs, 2,940—Sierra							
Carrie Tingley Hospital for Crippled Children... Orth	State		125	78	...	...	262
Virginia Ann Clinic and Hospital... Gen	Indiv		18	7	4	20	860
Las Vegas							
Las Vegas Hospital. Gen	NPAssn		25	12	5	75	687
New Mexico State Hospital. Ment	State		900	865	...	...	227
St. Anthony's Hospital.... GenOr	Church		63	35	10	122	1,094
Lovington, 1,916—Lea							
Lovington General Hospital Gen	Indiv		10	4	5	60	208
Mescalero, 300—Otero							
Mescalero Apache Indian Hospital..... Gen	IA		33	13	4	31	432
Raton, 7,607—Colfax							
New Mexico Miners' Hosp. A. Gen	State		88	12	5	82	589
Rehoboth, 150—McKinley							
Rehoboth Mission Hospital. Gen	Church		40	28	10	110	650
Roswell, 13,482—Chaves							
St. Mary's Hospital..... Gen	Church		50	18	10	226	921
Santa Fe, 20,325—Santa Fe							
St. Vincent Sanatorium and Hospital... GenTb	Church		89	55	11	181	1,303
U. S. Indian Hospital (Chas. F. Lummis Hospital)... Gen	IA		76	35	6	28	1,050
Santa Rita, 1,500—Grant							
Santa Rita Hospital..... Gen	NPAssn		33	25	10	162	848
Shiprock, 125—San Juan							
Northern Navajo Hospital.. Gen	IA		48	44	6	45	1,136
Silver City, 5,044—Grant							
Swift Memorial Hospital... Gen	NPAssn		40	20	6	153	1,094
Socorro, 3,712—Socorro							
State Tuberculosis Sanat.... TB	State		86	85	...	...	150
Taos, 905—Taos							
Holy Cross Hospital..... Gen	Church		17	5	4	19	331
Tucumcari, 6,194—Quay							
Tucumcari General Hospital Gen	City		25	...	4	Reorganized	
Valmora, 125—Mora							
Valmora Sanatorium..... TB	NPAssn		75	34	...	...	123
Related Institutions							
Embudo, —Rio Arriba							
Embudo Presbyterian Hosp. Gen	Church		24	12	12	143	294
Eunice, 1,227—Lea							
Barzune Hospital..... Gen	Indiv		7	3	3	23	95
Hobbs, 10,619—Lea							
Hobbs General Hospital... Gen	Indiv		23	10	4	138	961
Lordsburg, 3,101—Hidalgo							
Lordsburg Hospital..... Gen	Corp		24	6	3	18	265
Los Lunas, 686—Valencia							
New Mexico Home and Training School for Mental Defectives..... McDe	State		80	74	...	...	7
Santa Fe, 20,325—Santa Fe							
New Mexico Penitentiary Hospital..... Inst	State		48	16	...	...	294
Springer, 1,314—Colfax							
Springer Hospital..... Gen	Indiv		10	5	3	20	112
Taos, 905—Taos							
Thomas P. Martin Hospital Gen	IA		17	4	3	1	302
Toadlena, 49—San Juan							
Toadlena Indian Hospital... Gen	IA		20	11	...	...	217
Tohatchi, 2,104—McKinley							
Tohatchi General Hospital.. Gen	IA		19	14	6	45	494

NEW YORK

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Albany, 130,577—Albany							
Albany Hospital*+AO..... Gen	NPAssn		600	511	56	1,042	11,610
Anthony N. Brady Maternity Home*+AO..... Mat	Church		54	47	60	1,272	1,295
Child's Hospital..... Chhl	Church		65	52	...	...	419
Memorial Hospital*+AO..... Gen	NPAssn		120	95	16	299	2,752
St. Peter's Hospital*+AO..... Gen	Church		155	126	...	...	3,780
Albion, 4,660—Orleans							
Arnold Gregory Memorial Hospital..... Gen	NPAssn		24	17	11	100	591
Amityville, 5,038—Suffolk							
Long Island Home..... N&M	Corp		207	165	...	...	276
Louden-Kneckerbocker Hall.. N&M	Corp		175	156	...	...	236
Reed Hospital..... Gen	Part		17	7	3	23	312
Amster							
Amstc							
Montgomery Sanatorium... TB	NPAssn		75	44	15	199	1,379
St. Mary's Hospital*+AO..... Gen	County		60	55	...	...	65
Auburn, 2,750—C	Church		100	69	22	315	1,908
Auburn City Hospital							
Unit of Auburn City Hospital							
Mercy Hospital..... Gen	Church		80	48	14	220	1,451
Ballston Spa, 4,443—Saratoga							
Benedict Memorial Hospital. Gen	NPAssn		16	9	6	86	332
Batavia, 17,267—Genesee							
Batavia Hospital..... Gen	NPAssn		68	39	12	350	1,975
St. Jerome Hospital..... Gen	Church		68	52	18	320	1,807
Veterans Admin. Facility... Gen	Vet		307	276	...	...	2,270
Bath, 4,696—Steuben							
Bath Memorial Hospital... Gen	NPAssn		52	43	8	180	1,560
Veterans Admin. Facility... Gen	Vet		428	400	...	...	2,528
Bay Shore, 4,080—Suffolk							
Dr. King's Hospital..... Gen	Indiv		30	11	6	70	474
Southside Hospital*+AO..... Gen	NPAssn		90	66	24	521	2,591
Beacon, 12,572—Dutchess							
Craig House..... N&M	Corp		77	43	...	...	39
Highland Hospital..... Gen	NPAssn		45	25	12	148	814
Matteawan State Hospital... Ment	State		1,538	1,504	...	...	125
Bedford Hills, 1,000—Westchester							
Montefiore Hospital Country Sanatorium*+AO..... TB	NPAssn		230	229	...	...	296
Binghamton, 78,309—Broome							
Binghamton City Hosp.*+AO. Gen	City		510	300	40	1,058	6,945
Binghamton State Hosp.*+AO Ment	State		2,974	2,769	...	...	564
Our Lady of Lourdes Memorial Hospital*+AO..... Gen	Church		79	55	22	323	1,488
Brentwood, 634—Suffolk							
Pilgrim State Hospital*+AO... Ment	State		9,352	8,788	...	...	1,707
Ross Sanitarium..... Gen	Indiv		40	21	3	14	171
Brookport, 3,500—Monroe							
Brookport Central Hospital. Gen	NPAssn		15	8	6	66	298
Bronxville, 6,888—Westchester							
Lawrence Hospital*+AO..... Gen	NPAssn		86	65	20	325	2,084
Brooklyn, 2,698,285—Kings							
Adelphi Hospital..... Gen	Indiv		105	50	16	429	2,149
Bay Ridge Hospital*+AO..... Gen	Corp		75	54	25	570	2,220
Bensonhurst Maternity Hospital..... Mat	Corp		24	15	24	521	553
Bethany Deaconess Hospital Gen	Church		81	52	20	414	1,551
Beth-El Hospital*+AO..... Gen	NPAssn		205	181	65	1,941	7,949
Beth Moses Hospital*+AO..... Gen	NPAssn		195	143	30	847	4,067
Boro Park General Hospital Gen	Indiv		75	35	30	456	1,550
Brooklyn Cancer Institute*+AO Cancer	City		85	76	...	...	981
Brooklyn Eye and Ear Hospital*+AO..... ENT	NPAssn		143	70	...	...	7,437
Brooklyn Hospital*+AO..... Gen	NPAssn		366	251	44	988	7,349
Brooklyn State Hospital*+AO. Ment	State		3,900	2,818	...	...	2,460
Brooklyn Thoracic Hosp. A. TB	NPAssn		125	124	...	...	157
Brooklyn Women's Hospital. Mat	NPAssn		48	37	40	1,119	1,467
Bushwick Hospital*+AO..... Gen	NPAssn		105	75	25	553	2,536
Caledonian Hospital*+AO..... Gen	NPAssn		100	57	30	456	2,198
Carson C. Peck Memorial Hospital*+AO..... Gen	NPAssn		98	78	33	858	2,461
Coney Island Hospital*+AO..... Gen	City		357	256	52	893	7,853
Crown Heights Hospital..... Gen	Corp		144	123	28	607	3,288
Cumberland Hospital*+AO..... Gen	City		361	282	39	1,055	7,807
Evangelical Deaconess Hospital..... Gen	Church		105	56	20	555	1,554
Fort Hamilton Station Hospital..... Gen	Army		60	26	...	...	878
Greenpoint Hospital*+AO..... Gen	City		264	250	36	1,072	6,039
Harbor Hospital..... Gen	NPAssn		72	39	14	100	1,470
Hosp. of the Holy Family*+AO. Gen	Church		154	105	...	...	2,204
House of St. Giles the Cripple*+AO..... Orth	Church		45	27	...	...	181
Israel-Zion Hospital*+AO..... Gen	NPAssn		380	321	142	3,982	10,187
Jewish Hospital*+AO..... Gen	NPAssn		547	411	114	2,632	12,725
Jewish Sanitarium and Hosp. for Chronic Diseases*+AO. Ohr	NPAssn		525	458	...	...	181
Kings County Hospital*+AO Gen	City		2,280	2,671	120	3,284	57,696
Kingsdon Avenue Hosp.*+AO... Iso	City		510	354	...	...	4,395
Kingsway Hospital..... Gen	Indiv		21	15	8	100	323
Long Island College Hospital*+AO..... Gen	NPAssn		417	316	47	1,357	8,235
Lutheran Hospital*+AO..... Gen	Church		88	77	25	743	2,885
Madison Park Hospital..... Gen	Corp		163	98	37	1,208	3,332
Methodist Hospital*+AO..... Gen	Church		391	280	89	1,676	7,875
Midwood Hospital*+AO..... Gen	Corp		55	41	21	415	1,606
Norwegian Lutheran Deaconess Home and Hosp.*+AO Gen	Church		162	150	38	651	4,682
Prospect Heights Hospital*+AO Gen	NPAssn		134	92	41	626	3,345
Riverdale Hospital..... Gen	Corp		40	10	18	208	508
St. Catherine's Hospital*+AO. Gen	Church		285	234	68	1,270	5,934

Key to symbols and abbreviations is on page 1083

NEW YORK—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
St. Charles Hospital Orthopedic Clinic	Orth	Church	55	52	..	..	197
St. John's Hospital*+▲○ Gen	Church	204	187	30	798	5,657	
St. Mary's Hospital*+▲○ Gen	Church	250	203	56	1,218	5,034	
St. Peter's Hospital*+▲○ Gen	Church	203	127	23	510	3,546	
Samaritan Hospital	Church	65	41	15	508	1,635	
Shore Road Hospital	Gen	Corp	50	30	15	383	1,451
Swedish Hospital	NPAssn	76	53	16	352	2,057	
U. S. Naval Hospital*+▲○ Gen	Navy	508	471	12	112	4,487	
Unity Hospital*	Gen	NPAssn	209	180	39	912	5,304
Victory Memorial Hospital.. Gen	NPAssn	60	41	24	519	1,749	
Wade Hospital	Gen	Indiv	40	7	14	34	277
Williamsburgh Maternity Hospital	Mat	Indiv	69	33	52	1,157	1,251
Wyckoff Heights Hosp.*+▲○ Gen	NPAssn	169	121	30	686	4,148	
Buffalo, 575,901—Erie							
Buffalo Columbus Hospital*+▲○ Gen	NPAssn	140	86	10	184	2,262	
Buffalo General Hosp.*+▲○ Gen	NPAssn	447	397	28	753	11,390	
Buffalo Hospital of the Sisters of Charity*+▲○ Gen	Church	208	151	24	604	4,356	
Buffalo State Hospital*+▲○ Ment	State	2,439	2,331	..	..	562	
Central Park Hospital	Gen	NPAssn	65	45	15	389	1,985
Children's Hospital*+▲○ MatChil	NPAssn	227	237	48	1,234	6,182	
Crippled Children's Guild.. Unit of Children's Hospital							
Deaconess Hospital*+▲○ Gen	NPAssn	189	182	49	1,011	5,372	
Edward J. Meyer Memorial Hospital (Buffalo City Hospital)*+▲○ Gen	City	1,025	834	38	652	9,872	
Emergency Hospital of the Sisters of Charity*+▲○ Gen	Church	166	131	..	..	4,048	
Lafayette General Hospital.. Gen	NPAssn	66	32	17	249	1,219	
Mercy Hospital*+▲○ Gen	Church	161	136	37	1,014	4,320	
Millard Fillmore Hosp.*+▲○ Gen	NPAssn	261	211	66	1,817	7,756	
Providence Retreat	N&M	Church	200	160	..	..	80
St. Mary's Infant Asylum and Maternity Hospital*+▲○ Mat	Church	45	34	45	819	875	
State Institute for the Study of Malignant Disease*+▲○ SkCa	State	82	40	..	..	1,334	
U. S. Marine Hospital*+▲○ Gen	USPHS	75	69	..	..	819	
Callicoon, 850—Sullivan							
Callicoon Hospital	Gen	Indiv	12	6	3	75	221
Cambridge, 1,572—Washington							
Mary McClellan Hospital*+▲○ Gen	NPAssn	100	86	15	113	1,160	
Canandaigua, 8,321—Ontario							
Brigham Hall Hospital	N&M	Corp	80	52	..	..	106
Frederick Ferris Thompson Hospital*+▲○ Gen	Corp	123	83	19	360	2,035	
Veterans Admin. Facility*+▲○ Ment	Vet	1,210	1,124	..	..	244	
Canastota, 4,150—Madison							
Canastota Memorial Hosp.. Gen	City	21	10	5	77	436	
Cassadaga, 514—Chautauqua							
Newton Memorial Hospital.. TB	County	180	164	..	..	123	
Castle Point, 23—Dutchess							
Veterans Admin. Facility*+▲○ TB	Vet	479	448	..	..	674	
Catskill, 5,429—Greene							
Memorial Hospital of Greene County*+▲○ Gen	County	70	51	15	245	1,679	
Central Islip, 675—Suffolk							
Central Islip State Hosp.*+▲○ Ment	State	7,611	7,227	..	..	1,562	
Central Valley, 850—Orange							
Falkirk in the Ramapos	N&M	Indiv	40	29	..	..	9
Chenango Bridge, 260—Broome							
Broome County Tuberculosis Hospital	TB	County	136	74	..	..	75
Clifton Springs, 1,413—Ontario							
Clifton Springs Sanitarium and Clinic*+▲○ Gen	NPAssn	275	116	8	109	2,456	
Cohoes, 21,955—Albany							
Cohoes Hospital	Gen	NPAssn	60	42	10	191	1,458
Cold Spring, 1,897—Putnam							
Julia L. Butterfield Memorial Hospital	Gen	NPAssn	25	17	5	61	551
Cooperstown, 2,596—Otsego							
Mary Imogene Bassett Hospital*+▲○ Gen	NPAssn	95	71	10	154	2,011	
Copague, 2,000—Suffolk							
Nassau Suffolk General Hospital	Gen	Part	45	26	12	199	1,056
Corinth, 3,054—Saratoga							
Corinth Hospital	Gen	NPAssn	18	9	6	35	251
Corning, 16,212—Steuben							
Corning Hospital	Gen	NPAssn	85	51	25	475	2,620
Cornwall, 1,978—Orange							
Cornwall Hospital*+▲○ Gen	NPAssn	66	46	11	276	1,485	
Cortland, 15,881—Cortland							
Cortland County Hospital*+▲○ Gen	NPAssn	129	77	21	462	2,690	
Cuba, 1,699—Allegany							
Cuba Memorial Hospital... Gen	NPAssn	18	7	6	81	314	
Dannemora, 4,830—Clinton							
Dannemora State Hospital.. Ment	State	1,167	1,110	..	..	193	
Dansville, 4,976—Livingston							
Dansville General Hospital.. Gen	NPAssn	36	24	8	279	1,240	
Delhi, 1,841—Delaware							
Delaware County Tuberculosis Sanatorium	TB	County	32	14	..	..	35
Dobbs Ferry, 5,883—Westchester							
Dobbs Ferry Hospital*+▲○ Gen	NPAssn	46	27	10	94	787	
Dunkirk, 17,713—Chautauqua							
Brooks Memorial Hospital.. Gen	NPAssn	50	42	10	286	1,547	
Elizabethtown, 640—Essex							
Community Hospital	Gen	NPAssn	13	3	5	35	191
Ellenville, 4,000—Ulster							
Veterans Memorial Hospital Gen	NPAssn	17	16	6	123	441	

NEW YORK—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Elmira, 45,106—Chemung							
Arnol-Ogden Memorial Hospital*+▲○	Gen	NPAasn	178	122	32	635	4,404
Chemung County Sanat.....	TB	County	44	37	..	..	34
St. Joseph's Hospital*+▲○	Gen	Church	190	139	27	563	4,001
Endicott, 17,702—Broome							
Bradford Lord Memorial Hospital	Unit of Binghamton City Hospital						
Ideal Hospital*+▲○	Gen	City	116	70	30	541	2,488
Farmingdale, 3,524—Nassau							
Nassau County Sanat.*+▲○	TB	County	422	348	..	..	313
Far Rockaway, —Queens							
Hospital for Joint Diseases, Country Branch	Unit of Hospital for Joint Diseases, N. Y. C.						
St. Joseph Hospital	Gen	Church	122	81	23	470	2,826
Fillmore, 518—Allegany							
Genesee Country Memorial Hospital	Gen	NPAasn	16	10	4	39	193
Fishers Island, 324—Suffolk							
Station Hospital	Gen	Army	62	41	..	..	746
Flushing, —Queens							
Flushing Hospital and Dispensary*+▲○	Gen	NPAasn	218	168	82	1,556	5,816
Parsons Hospital	Gen	Corp	63	44	12	235	1,739
Station Hospital	Gen	Army	75	51	..	..	842
Fort Niagara (Youngstown P.O.), —Niagara							
Station Hospital	Gen	Army	57	12	..	..	457
Fort Slocum, —Westchester							
Station Hospital	Gen	Army	133	61	..	..	2,091
Fort Wadsworth (Staten Island P.O.), —Richmond							
Station Hospital	Gen	Army	35	17	..	..	569
Fulton, 13,362—Oswego							
Albert Lindley Lee Memorial Hospital	Gen	City	36	24	11	283	1,159
Gabriels, 200—Franklin							
Sanatorium Gabriels	TB	Church	116	45	..	..	36
Geneva, 15,555—Ontario							
Geneva General Hospital*+▲○	Gen	NPAasn	76	50	20	261	1,926
Glen Cove, 12,415—Nassau							
North County Community Hospital	Gen	NPAasn	100	74	20	512	2,803
Glens Falls, 18,836—Warren							
Glens Falls Hospital*+▲○	Gen	NPAasn	120	114	30	548	3,551
Westmount Sanatorium	TB	County	52	50	..	..	229
Gloversville, 23,329—Fulton							
Nathan Littauer Hospital*+▲○	Gen	NPAasn	105	86	20	443	2,895
Goshen, 3,073—Orange							
Goshen Hospital*+▲○	Gen	NPAasn	40	25	12	164	812
Interpines	N&M	Indiv	65	30	..	..	52
Gouverneur, 4,478—St. Lawrence							
Stephen B. Van Duzee Hospital*+▲○	Gen	NPAasn	19	16	10	148	531
Governors Island, —New York							
Station Hospital*+▲○	Gen	Army	212	153	9	94	2,805
Gowanda, 3,156—Cattaraugus							
Townsend Hospital	Gen	NPAasn	22	11	8	150	603
Granville, 3,173—Washington							
Emma Laing Stevens Hosp..	Gen	NPAasn	16	7	6	84	273
Greenport, 3,259—Suffolk							
Eastern Long Island Hosp..	Gen	NPAasn	48	23	13	192	1,006
Harrison, 11,000—Westchester							
St. Vincent's Retreat	N&M	Church	200	191	..	..	103
Hastings on Hudson, 7,057—Westchester							
Hastings Hillside Hospital*+▲○	N&M	NPAasn	41	38	..	..	127
Helmuth, 38—Erie							
Gowanda State Homeopathic Hospital*+▲○	Ment	State	2,377	2,407	..	..	716
Hempstead, 20,856—Nassau							
Meadowbrook Hospital*+▲○	Gen	County	250	229	18	555	5,850
Mercy Hospital	Gen	Church	16	11	13	294	568
Herkimer, 9,617—Herkimer							
Herkimer Memorial Hospital	Gen	NPAasn	31	25	9	126	900
Holtsville, 200—Suffolk							
Suffolk Sanatorium	TB	County	162	162	..	..	123
Hornell, 15,649—Steuben							
Bethesda Hospital*+▲○	Gen	NPAasn	44	28	10	158	959
St. James Mercy Hospital*+▲○	Gen	Church	85	60	16	312	2,553
Hudson, 11,517—Columbia							
Hudson City Hospital*+▲○	Gen	NPAasn	101	81	17	286	3,158
..... Jk							
..... ▲	Gen	NPAasn	77	51	12	324	1,057
..... Gen		NPAasn	30	18	7	157	701
Irrvington, 3,272—Westchester							
Irrvington House	ChilCard	NPAasn	109	106	..	..	99
Ithaca, 19,730—Tompkins							
Hermann M. Biggs Memorial Hospital*+▲○	TB	State	250	230	..	..	276
Tompkins County Memorial Hospital	Gen	NPAasn	126	86	22	458	3,232
Jackson Heights, —Queens							
Physicians Hospital	Gen	Corp	135	85	44	1,226	3,561
Jamaica, —Queens							
Jamaica Hospital*+▲○	Gen	NPAasn	185	136	44	1,137	5,056
Mary Immaculate Hospital*+▲○	Gen	Church	256	210	60	1,555	6,520
Memorial Hospital	Gen	Indiv	41	29	12	264	1,258
Queens General Hospital*+▲○	Gen	City	644	593	52	1,792	13,991
Van Wyck Hospital	Gen	Indiv	75	20	17	143	557
Jamestown, 42,638—Chautauqua							
Jamestown General Hospital	Gen	City	119	75	22	516	2,623
Woman's Christian Association Hospital*+▲○	Gen	NPAasn	112	78	29	523	3,229
Jefferson, 484—Schoharie							
Jefferson Hospital	Gen	Indiv	8	3	2	6	151

NEW YORK—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Johnson City, 18,039—Broome							
Charles S. Wilson Memorial Hospital**	Gen	NPAasn	318	204	32	604	5,282
Katonah, 1,400—Westchester							
"Four Winds".....	N&M	Indiv	35	32	..	..	35
Hillbourne Farms.....	Nerv	NPAasn	15	6	..	..	6
Pinewood Sanitarium.....	N&M	Indiv	56	42	..	..	206
Kings Park, 1,067—Suffolk							
Kings Park State Hosp.*	Ment	State	6,325	5,945	..	..	1,361
Kingston, 28,589—Ulster							
Benedictine Hospital (Our Lady of Victory Sanit.)	Gen	Church	84	75	10	233	3,305
Kingston Hospital*	Gen	NPAasn	118	93	15	419	3,120
Ulster County Tuberculosis Hospital.....	TB	County	56	52	..	..	88
Lackawanna, 24,038—Erie							
Moses Taylor Hospital*	Indus	NPAasn	28	12	..	..	247
Our Lady of Victory Hospital*	Gen	Church	142	112	32	745	3,034
Lake Kushnau, 10—Franklin							
Stony Wold Sanatorium*	TB	NPAasn	145	115	..	..	100
Lake Placid, 3,136—Essex							
Lake Placid General Hosp...	Gen	City	23	10	6	46	289
Liberty, 3,788—Sullivan							
Maimonides Hospital.....	Gen	NPAasn	36	20	5	90	661
Workmen's Circle Sanat...	TB	NPAasn	111	42	..	..	95
Little Falls, 10,163—Herkimer							
Little Falls Hospital*	Gen	NPAasn	52	39	13	202	1,333
Livingston, 249—Columbia							
Potts Memorial Hospital...	TB	NPAasn	53	48	..	..	20
Lockport, 24,379—Niagara							
Lockport City Hospital....	Gen	City	118	115	30	568	3,182
Niagara Sanatorium*	TB	County	225	183	..	..	129
Long Beach, 9,036—Nassau							
Long Beach Hospital.....	Gen	NPAasn	58	35	6	77	1,316
Long Island City, —Queens							
Astoria Sanatorium.....	Gen	Indiv	50	22	22	496	887
Boulevard Hospital.....	Gen	Corp	78	50	30	781	2,579
River Crest Sanitarium.....	N&M	Corp	120	96	..	..	268
St. John's Long Island City Hospital*	Gen	Church	250	191	38	974	5,879
Lowville, 3,578—Lewis							
Lewis County General Hosp.	Gen	StateCo	40	29	9	241	1,052
Lyons, 3,863—Wayne							
Edward J. Barber Hospital.	Gen	Indiv	22	14	3	65	294
Lyons Hospital.....	Gen	Corp	26	15	6	103	471
Malone, 8,743—Franklin							
Alice Hyde Memorial Hospital*	Gen	NPAasn	74	52	12	190	1,702
Marcy, 112—Oneida							
Marcy State Hospital*	Ment	State	2,776	2,513	..	..	669
Medina, 5,871—Orleans							
Medina Memorial Hospital*	Gen	NPAasn	35	23	8	149	700
Middle Grove, 200—Saratoga							
Saratoga County Tuberculosis Hospital.....	TB	County	108	74	..	..	143
Middletown, 21,908—Orange							
Elizabeth A. Horton Memorial Hospital*	Gen	NPAasn	97	65	22	226	1,871
Middletown Sanitarium and Hospital.....	Gen	Indiv	45	31	8	171	1,011
Middletown State Homeopathic Hospital*	Ment	State	3,392	3,245	..	..	415
Mineola, 10,064—Nassau							
Nassau Hospital*	Gen	NPAasn	227	163	30	817	4,924
Mineville, 837—Essex							
Mineville Hospital.....	Gen	NPAasn	14	12	1	2	260
Mitchell Field, —Nassau							
Station Hospital.....	Gen	Army	50	30	6	22	1,330
Monticello, 3,737—Sullivan							
Hamilton Avenue Hospital..	Gen	Indiv	20	11	4	94	415
Monticello Hospital.....	Gen	NPAasn	26	15	5	78	609
Mt. Kisco, 5,941—Westchester							
Northern Westchester Hospital*	Gen	NPAasn	100	78	18	428	2,819
Mt. McGregor, —Saratoga							
Metropolitan Life Insurance Company Sanatorium*	GenTb	NPAasn	350	204	..	..	243
Mt. Morris, 3,530—Livingston							
Mt. Morris Tuberculosis Hospital*	TB	State	250	215	..	..	163
Mt. Vernon, 67,362—Westchester							
Mt. Vernon Hospital*	Gen	NPAasn	223	128	37	870	4,554
Mt. Vision, 258—Otsego							
Otsego County Sanatorium.	TB	County	26	18	..	..	25
Newark, 9,646—Wayne							
Newark Hospital.....	Gen	Part	25	19	4	93	701
Newburgh, 31,883—Orange							
Estelle and Walter C. Odell Memorial Sanatorium for Tuberculosis.....	TB	County	50	49	..	..	26
St. Luke's Hospital*	Gen	NPAasn	214	114	10	393	3,726
New York City							
New York City							
Babies Hospital*	Chil	NPAasn	162	116	..	..	3,285
Beekman Hospital*	Gen	NPAasn	96	67	..	..	2,019
Bellevue Hospital*	Gen	City	2,482	2,606	101	1,384	67,892
Beth David Hospital*	Gen	NPAasn	360	143	40	515	3,893
Beth Israel Hospital*	Gen	NPAasn	318	270	76	2,096	8,649
Bronx Eye and Ear Infirmary	ENT	NPAasn	54	21	..	..	3,651
Bronx Hospital*	Gen	NPAasn	329	248	80	2,471	8,674
Bronx Maternity and Woman's Hospital.....	GynOb	NPAasn	33	15	33	542	632

NEW YORK—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Charles B. Towns Hospital.	Drug	Corp	50	16	..	..	538
Columbus Hospital*	Gen	Church	260	163	40	558	4,552
Columbus Hospital Extension	See	Mother Cabrini Memorial Hospital					
Community Hospital.....	Gen	NPAasn	75	34	12	136	1,055
Crotona Park Sanitarium..	Gen	Corp	27	14	15	338	692
Doctors Hospital*	Gen	NPAasn	275	105	60	560	3,304
Downtown Hospital.....	Gen	NPAasn	117	43	8	..	1,626
Fitch Sanitarium.....	Gen	NPAasn	75	53	46	781	2,176
Flower and Fifth Avenue Hospitals**	Gen	NPAasn	340	253	71	1,387	7,763
Fordham Hospital*	Gen	City	528	535	81	1,068	12,675
Franklin Maternity Sanit...	Mat	Indiv	10	4	10	107	122
French Hospital*	Gen	NPAasn	270	196	62	1,449	5,893
Gotham Hospital.....	Gen	Corp	83	50	24	415	2,031
Gouverneur Hospital*	Gen	City	200	168	20	298	4,619
Harlem Eye and Ear Hospital*	ENT	NPAasn	50	8	..	..	1,055
Harlem Hospital*	Gen	City	634	677	109	2,500	20,330
Hosp. for Joint Diseases**	GenOr	NPAasn	355	337	..	..	6,336
Hospital for Ruptured and Crippled*	Orth	NPAasn	250	173	..	..	3,478
Hospital of the Rockefeller Institute for Medical Research*							331
							15
							29
							339
							36
							908
							5,371
							124
							40
							540
							168
							2,330
							30
							23
							808
							865
							554
							381
							68
							1,250
							10,384
							53
							39
							226
							1,268
							399
							448
							70
							1,527
							10,582
							115
							65
							26
							493
							2,320
							212
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							15,581
							300
							133
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							542
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							15,581
							300
							133

NEW YORK—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
St. John's Hospital.....	Unit of New York Foundling Hospital						
St. Joseph's Hospital for Consumptives.....	TB	Church	290	292	..	...	660
St. Luke's Hospital.....	Gen	NPAssn	522	366	..	...	8,515
St. Vincent's Hospital*+..	Gen	Church	421	389	44	853	9,264
Seton Hospital.....	TB	Church	260	250	..	...	281
Sloan Hospital for Women*+..	See Presbyterian Hospital						
Sydenham Hospital*+..	Gen	NPAssn	179	141	24	645	4,284
Union Hospital.....	Gen	NPAssn	55	39	20	335	1,460
U. S. Marine Hospital*+..	Gen	USPHS	464	327	..	...	2,469
University Heights Sanit.....	Gen	Corp	47	..	15	354	..
Veterans Admin. Facility*+..	Gen	Vet	1,571	876	..	...	4,780
Webb Sanitarium.....	Gen	Corp	19	9	12	137	303
Welfare Hospital for Chronic Diseases*+..	Gen	City	1,565	1,460	..	...	1,729
Westchester Square Hospital	Gen	Corp	77	61	32	903	2,826
West Hill Sanitarium.....	N&M	Indiv	65	46	..	...	270
Wickham Hospital.....	Gen	Corp	76	53	9	265	2,572
Willard Parker Hospital*+..	TbIso	City	424	366	..	...	6,955
William Booth Memorial Hospital.....	Gen	Church	48	25	24	255	785
Woman's Hospital*+..	GynOb	NPAssn	224	153	100	1,838	3,899
Niagara Falls, 78,029—Niagara	Gen	Church	179	120	34	779	3,881
Mt. St. Mary's Hospital*+..	Gen	Church	179	120	34	779	3,881
Niagara Falls Memorial Hospital.....	Gen	NPAssn	166	135	24	671	4,452
Northport, 3,692—Suffolk	Gen	NPAssn	166	135	24	671	4,452
Veterans Admin. Facility*+..	Ment	Vet	2,220	2,179	..	...	486
North Tonawanda, 20,254—Niagara	Gen	City	47	35	18	391	1,742
De Graff Memorial Hospital Gen	Gen	City	47	35	18	391	1,742
Norwich, 8,694—Chenango	Gen	NPAssn	63	49	15	204	1,660
Chenango Memorial Hosp.*+..	Gen	NPAssn	63	49	15	204	1,660
Nyack, 5,266—Rockland	Gen	Corp	89	75	16	327	2,040
Nyack Hospital.....	Gen	Corp	89	75	16	327	2,040
Ogdensburg, 16,346—St. Lawrence	Gen	Church	140	104	20	348	3,433
A. Barton Hepburn Hosp.*+..	Gen	Church	45	27	..	...	400
St. John's Hospital.....	TB	Church	45	27	..	...	400
St. Lawrence State Hosp.*+..	Ment	State	2,236	2,101	..	...	338
Olean, 21,506—Cattaraugus	Gen	Indiv	33	15	5	57	446
Mountain Clinic.....	Gen	NPAssn	80	42	23	315	1,686
Olean General Hospital*+..	Gen	NPAssn	80	42	23	315	1,686
Rocky Crest Sanatorium.....	TB	County	43	38	..	...	39
St. Francis Hospital.....	Gen	Church	100	34	18	264	1,330
Oneida, 10,291—Madison	Gen	Indiv	18	9	4	50	285
Main Street Hospital.....	Gen	City	82	67	17	276	2,151
Oneida City Hospital*+..	Gen	City	82	67	17	276	2,151
Oneonta, 11,731—Otsego	Gen	NPAssn	54	47	12	238	1,715
Aurelia Osborn Fox Memorial Hospital.....	Gen	NPAssn	54	47	12	238	1,715
Homer Folks Tuberculosis Hospital*+..	TB	State	250	210	..	...	289
Orangeburg, 16,346—Rockland	Gen	State	7,170	5,846	..	...	2,678
Rockland State Hospital*+..	Ment	State	7,170	5,846	..	...	2,678
Ossining, 15,996—Westchester	Gen	NPAssn	65	39	10	210	1,473
Ossining Hospital.....	Gen	NPAssn	65	39	10	210	1,473
Stony Lodge.....	N&M	Indiv	44	17	..	...	46
Oswego, 22,062—Oswego	Gen	NPAssn	89	63	11	203	2,126
Oswego Hospital.....	Gen	NPAssn	89	63	11	203	2,126
Station Hospital.....	Gen	Army	34	28	..	...	485
Otisville, 880—Orange	Gen	City	400	386	..	...	596
Municipal Sanatorium*+..	TB	City	400	386	..	...	596
Owego, 5,068—Tioga	Gen	Corp	50	8	..	...	6
Glenmary Sanitarium.....	N&M	Corp	50	8	..	...	6
Peekskill, 17,311—Westchester	Gen	NPAssn	75	48	18	334	1,778
Peekskill Hospital.....	Gen	NPAssn	75	48	18	334	1,778
Penn Yan, 5,308—Yates	Gen	NPAssn	50	31	10	175	1,079
Soldiers and Sailors Memorial Hospital.....	Gen	NPAssn	50	31	10	175	1,079
Perrysburg, 375—Cattaraugus	Gen	City	482	433	..	...	328
J. N. Adam Memorial Hosp.*+..	TB	City	482	433	..	...	328
Philmont, 1,808—Columbia	Gen	County	72	53	..	...	48
Columbia Sanatorium.....	TB	County	72	53	..	...	48
Plattsburg, 16,351—Clinton	Gen	Church	104	87	15	324	2,809
Champlain Valley Hospital*+..	Gen	NPAssn	99	64	18	301	2,567
Physicians Hospital.....	Gen	NPAssn	99	64	18	301	2,567
Station Hospital.....	Gen	Army	70	51	3	32	1,353
Pomona, 155—Rockland	Gen	County	90	84	..	...	59
Summit Park Sanatorium*+..	TB	County	90	84	..	...	59
Port Chester, 23,073—Westchester	Gen	NPAssn	50	28	..	...	554
Mary Harkness Home for Convalescent Care.....	Conv	NPAssn	50	28	..	...	554
St. Luke's Convalescent Hospital.....	See Greenwich, Conn.						
United Hospital*+..	Gen	NPAssn	166	125	36	785	4,519
Port Jefferson, 2,200—Suffolk	Gen	NPAssn	58	41	12	218	1,641
John T. Mather Memorial Hospital.....	Gen	NPAssn	58	41	12	218	1,641
St. Charles Hospital for Crippled Children.....	Orth	Church	210	189	..	...	81
Wharton Memorial Institute	Unit of St. Charles Hospital						
Port Jervis, 9,749—Orange	Gen	Church	56	23	10	83	752
St. Francis Hospital*+..	Gen	Church	56	23	10	83	752
Potsdam, 4,821—St. Lawrence	Gen	NPAssn	63	59	22	254	2,077
Potsdam Hospital.....	Gen	NPAssn	63	59	22	254	2,077
Poughkeepsie, 40,478—Dutchess	Gen	State	4,556	4,408	..	...	630
Hudson River State Hospital*+..	Ment	State	4,556	4,408	..	...	630
St. Francis Hospital*+..	Gen	Church	86	70	25	301	2,027
Samuel and Nettie Bowne Hospital.....	ThCard	NPAssn	50	27	..	...	110
Samuel W. Bowne Memorial Hospital.....	TB	CyCo	131	127	..	...	104
Vassar Brothers Hosp.*+..	Gen	NPAssn	217	155	33	634	5,171

NEW YORK—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Queens Village, —Queens							
Creedmoor State Hosp.*+..	Ment	State	4,529	4,420	..	...	991
Ray Brook, 40—Essex	Gen	State	379	341	..	...	406
New York State Hospital*+..	TB	State	379	341	..	...	406
Rhinebeck, 1,697—Dutchess	Gen	NPAssn	35	26	8	136	757
Northern Dutchess Health Service Center*+..	Gen	NPAssn	35	26	8	136	757
Richland, 600—Oswego	Gen	County	105	89	..	...	69
Oswego County Sanatorium TB	County	County	105	89	..	...	69
Rochester, 324,975—Monroe	Gen	NPAssn	212	197	32	842	5,722
Genesee Hospital*+..	Gen	NPAssn	212	197	32	842	5,722
Highland Hospital*+..	Gen	NPAssn	189	152	60	897	4,633
Iola-Monroe County Tuberculosis Sanatorium*+..	TB	County	370	368	..	...	328
Monroe County Hospital.....	Gen	County	500	463	20	146	3,050
Park Avenue Hospital*+..	Gen	NPAssn	85	60	20	364	2,596
Rochester General Hosp.*+..	Gen	NPAssn	315	246	63	1,191	8,127
Rochester Municipal Hospital*+..	Gen	City	321	261	36	749	7,158
Rochester State Hospital*+..	Ment	State	3,287	3,136	..	...	573
St. Mary's Hospital*+..	Gen	Church	222	176	35	714	5,359
Strong Memorial Hosp.*+..	Gen	NPAssn	272	207	36	369	7,336
Rockaway Beach, —Queens							
Neponset Beach Hospital for Children.....	TbOr	CyCo	120	114	..	...	137
Rockaway Beach Hospital and Dispensary*+..	Gen	NPAssn	110	85	15	337	2,895
Rockville Centre, 18,613—Nassau	Gen	NPAssn	76	65	24	872	2,940
South Nassau Communities Hospital.....	Gen	NPAssn	76	65	24	872	2,940
Rome, 34,214—Oneida	Gen	County	215	191	5	141	1,999
Oneida County Hospital.....	Gen	County	215	191	5	141	1,999
Rome Hospital and Murphy Memorial Hospital*+..	Gen	City	116	59	26	505	2,408
Rome Infirmary.....	Gen	Indiv	25	7	6	10	162
Sackets Harbor, 1,662—Jefferson	Gen	Army	80	14	..	...	432
Station Hospital.....	Gen	Army	80	14	..	...	432
Salamanca, 9,011—Cattaraugus	Gen	City	45	37	10	250	1,579
City Hospital.....	Gen	City	45	37	10	250	1,579
Salisbury Center, 33—Herkimer	Gen	County	90	83	..	...	52
Pine Crest Sanatorium.....	TB	County	90	83	..	...	52
Saranac Lake, 7,138—Franklin	Gen	NPAssn	36	27	6	91	1,006
General Hospital.....	Gen	NPAssn	36	27	6	91	1,006
Northwoods Sanatorium.....	TB	NPAssn	26	25	..	...	22
Reception Hospital.....	Corp	Corp	20	19	..	...	23
St. Mary's of the Lake.....	TB	Church	30	13	..	...	38
Will Rogers Memorial Hospital.....	TB	NPAssn	80	72	..	...	53
Saratoga Springs, 13,705—Saratoga	Gen	NPAssn	90	55	17	200	1,615
Saratoga Hospital.....	Gen	NPAssn	90	55	17	200	1,615
Schenectady, 87,549—Schenectady	Gen	NPAssn	35	17	..	...	45
Eastern New York Orthopedic Hospital-School.....	OrChil	NPAssn	379	251	60	769	8,379
Ellis Hospital*+..	Gen	NPAssn	379	251	60	769	8,379
Schenectady County Tuberculosis Hospital (Glenridge Sanatorium)*+..	TB	County	136	112	..	...	100
Seneca Falls, 6,452—Seneca	Gen	City	29	18	11	130	741
Seneca Falls Hospital.....	Gen	City	29	18	11	130	741
Sherburne, 1,102—Chenango	Gen	County	33	25	..	...	13
Chenango County Tuberculosis Hospital.....	TB	County	33	25	..	...	13
Sodus, 1,513—Wayne	Gen	Indiv	25	13	7	69	332
Myers Hospital.....	Gen	Indiv	25	13	7	69	332
Sonyea, —Livingston	Gen	State	2,318	2,330	..	...	269
Craig Colony.....	Epil	State	2,318	2,330	..	...	269
Southampton, 3,818—Suffolk	Gen	NPAssn	109	46	19	287	1,508
Southampton Hospital*+..	Gen	NPAssn	109	46	19	287	1,508
Stamford, 1,088—Delaware	Gen	NPAssn	19	7	6	26	293
Staten Island, 174,441—Richmond	Gen	USPHS	1,018	571	6	31	8,329
Richmond Borough Hospital Iso	City	City	36	15	..	...	251
Richmond Memorial Hosp.*+..	Gen	NPAssn	100	83	18	289	2,077
St. Vincent's Hospital*+..	Gen	Church	208	178	33	758	5,067
Seaside Hospital.....	Unit of Hospital for Ruptured and Crip-						
Sea View Hospital*+..	TB	City	2,038	1,934	10	20	2,099
Staten Island Hospital*+..	Gen	Corp	248	185	44	1,068	4,659
Suffern, 3,768—Rockland	Gen	Church	89	64	16	366	2,267
Good Samaritan Hospital*+..	Gen	Church	89	64	16	366	2,267
Summum, —Franklin	Gen	Vet	518	428	..	...	625
Veterans Admin. Facility*+..	TB	Vet	518	428	..	...	625
Syracuse, 205,967—Onondaga	Gen	City	84	25	..	...	485
City Hospital*+..	Gen	City	84	25	..	...	485
Crouse-Irving Hospital*+..	Gen	NPAssn	215	211	25	877	6,291
General Hospital*+..	Gen	NPAssn	85	79	25	634	2,927
Hospital of the Good Shepherd*+..	Gen	NPAssn	210	181	..	...	4,946
Onondaga General Hospital.....	Gen	NPAssn	56	32	25	31	816
Onondaga Sanatorium*+..	TB	County	255	242	..	...	163
Peoples Hospital.....	Gen	NPAssn	28	10	8	53	390
St. Joseph Hospital*+..	Gen	Church	205	160	25	868	6,429
St. Mary's Maternity Hospital and Infants Asylum.....	Mat	Church	72	16	29	318	533
Syracuse Memorial Hospital*+..	Gen	NPAssn	210	187	40	1,233	6,269
Syracuse Psychopathic Hospital.....	Ment	State	60	51	..	...	676
Twin Elms.....	N&M	Indiv	10	9	..	...	59
Tarrytown, 6,874—Westchester	Gen	NPAssn	57	46	13	229	1,558
Tarrytown Hospital.....	Gen	NPAssn	57	46	13	229	1,558

NEW YORK—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Ticonderoga, 3,402—Essex							
Moses-Ludington Hospital ¹	Gen	Corp	47	30	6	114	846
Troy, 70,304—Rensselaer							
Leonard Hospital ¹	Gen	NPAssn	109	93	16	458	2,536
Marshall Sanitarium	N&M	NPAssn	60	40	..	..	232
Price Memorial Hospital	Unit of Samaritan Hospital						
St. Joseph's Maternity Hospital	Mat	Church	36	14	31	336	351
Samaritan Hospital ¹	Gen	NPAssn	172	141	21	482	3,521
Troy Hospital ¹	Gen	Church	272	212	22	329	4,145
Trudeau, 230—Essex							
Trudeau Sanatorium ¹	TB	NPAssn	200	175	..	..	187
Tupper Lake, 5,451—Franklin							
Mercy General Hospital	Gen	Church	28	11	5	54	439
Tuxedo Park, 2,000—Orange							
Tuxedo Memorial Hospital ¹	Gen	NPAssn	33	18	7	47	571
Utica, 100,518—Oneida							
Faxon Hospital ¹	Gen	NPAssn	115	77	16	330	2,557
Masonic Soldiers and Sailors Memorial Hospital	Gen	NPAssn	200	145	..	..	357
Oneida County Tuberculosis Sanatorium (Broadacres) ¹	TB	County	182	165	..	..	120
St. Elizabeth Hospital ¹	Gen	Church	140	132	20	534	4,008
St. Luke's Home and Hospital ¹	Gen	Church	123	82	28	391	2,586
Utica General Hospital ¹	Gen	City	124	63	14	273	4,088
Utica Memorial Hospital ¹	Gen	NPAssn	77	42	25	328	2,261
Utica State Hospital ¹	Ment	State	1,800	1,773	..	..	526
Vahalla, 620—Westchester							
Grasslands Hospital ¹	Gen	County	810	660	15	108	5,326
Warsaw, 3,554—Wyoming							
Wyoming County Community Hospital ¹	Gen	County	115	85	25	350	2,438
Warwick, 2,534—Orange							
St. Anthony's Hospital	Gen	Church	52	15	14	40	447
Waterloo, 4,010—Seneca							
Waterloo Memorial Hospital	Gen	NPAssn	25	14	5	91	409
Watertown, 33,385—Jefferson							
House of the Good Samaritan ¹	Gen	NPAssn	125	92	15	280	2,372
Jefferson County Sanat. ¹	TB	County	78	56	..	..	50
Mercy Hospital ¹	Gen	Church	114	80	20	356	2,250
Waverly, 5,450—Tioga							
Tioga County General Hospital ¹	Gen	NPAssn	65	53	12	166	1,307
Wayland, 1,795—Steuben							
Wayland Hospital	Gen	Part	17	15	3	49	356
Wellsville, 5,942—Allegany							
Memorial Hospital of Wm. F. and Gertrude F. Jones	Gen	City	45	34	10	230	1,191
West Haverstraw, 2,533—Rockland							
New York State Reconstruction Home ¹	OrChil	State	310	90	..	..	65
West Point, 1,250—Orange							
Station Hospital ¹	Gen	Army	158	79	8	80	3,470
White Plains, 40,327—Westchester							
New York Hospital—Westchester Division ¹	N&M	NPAssn	330	244	..	..	333
New York Orthopaedic Dispensary and Hospital, Country Branch	Ur	..	..	..	..	..	Dispensary
St. Agnes Hospital ¹	Gen	..	..	..	..	..	557 3,410
White Plains Hospital ¹	Gen	NPAssn	179	106	24	315	3,752
Winifred Masterson Burke Relief Foundation	Conv	NPAssn	250	233	..	..	4,501
Willard, 200—Seneca							
Willard State Hospital ¹	Ment	State	3,069	2,982	..	..	497
Wingdale, 156—Dutchess							
Harlem Valley State Hospital ¹	Ment	State	4,800	4,446	..	..	505
Woodhaven, —Queens							
St. Anthony's Hospital	TB	Church	393	380	..	..	567
Yonkers, 167—Rensselaer							
Yonkers Hospital	TB	County	118	120	..	..	114
Yonkers Hospital	TB	City	53	42	..	..	48
Yonkers Hospital	TB	NPAssn	100	87	..	..	120
St. John's Riverside Hospital ¹	Gen	NPAssn	176	141	24	585	4,428
St. Joseph	..	Church	177	91	20	370	3,067
Yonkers	..	NPAssn	142	108	32	602	3,236
Yonkers I	..	Corp	100	61	25	440	2,237

NEW YORK—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Binghamton, 78,309—Broome							
Binghamton Training School for Nervous, Backward and Mental Defectives	McDe	Indiv	50	40	..	..	13
Breesport, 498—Chemung							
Chemung County Home Infirmary	Inst	County	88	53	..	..	106
Brewster, 1,863—Putnam							
Mountainbrook Farm Sanit.	N&M	Indiv	20	15	..	..	45
Brooklyn, 2,698,285—Kings							
Brooklyn Hebrew Home and Hospital for Aged	Inst	NPAssn	704	590	..	..	212
Churchill Sanitarium	Gen	Indiv	12	3	3	11	69
Faith Home for Incurables	Incur	NPAssn	52	45	..	..	11
Buffalo, 575,901—Erie							
Buffalo Eye and Ear Infirmary and Wettlaufer Clinic ENT	NPAssn	..	14	7	..	..	636
Ingleside Home	Mat	NPAssn	40	22	24	80	81
Calcium, 111—Jefferson							
Jefferson County Contagious Hospital	Iso	County	18	1	..	..	25
Camden, 2,021—Oneida							
Healthorte—Dr. Bell's Private Rest Home	N&M	Indiv	15	8	..	..	3
Canandaigua, 8,321—Ontario							
Canandaigua Health Home	Conv	Indiv	21	14	..	..	49
Castle, 902—Wyoming							
Greene Sanitarium (Castle Sanitarium)	Conv	Indiv	45	20	..	..	34
Cortland, 15,881—Cortland							
Ver Nooy Sanitarium	Gen	Indiv	13	9	6	93	265
Cragmoor, 100—Ulster							
Vista Maria	Conv	Church	40	30	..	..	64
Dannemora, 4,830—Clinton							
Clinton Prison, General and Tuberculosis Hospital	Inst	State	138	88	..	..	977
Delhi, 1,841—Delaware							
Delaware Infirmary	Inst	County	14	11	..	..	306
Delhi Hospital	Gen	NPAssn	13	7	6	42	274
Eastview, 161—Westchester							
Solomon and Betty Loeb Memorial Home for Convalescents	Conv	NPAssn	108	104	..	..	1,543
Elmira, 45,106—Chemung							
Elmira Reformatory	Inst	State	100	23	..	..	956
Gleason Health Resort	Conv	Indiv	30	12	..	..	45
Far Rockaway, —Queens							
Wave Crest Convalescent Home	OrChil	NPAssn	70	76	..	..	142
..	Gen	Indiv	10	3	5	25	73
..	Cancer	Church	110	..	..	..	..
Herkimer, 9,617—Herkimer							
Herkimer County Home Hospital	Inst	County	18	17	..	..	31
Industry, 280—Monroe							
Industry General Hospital	Inst	State	48	22	..	..	1,134
Iroquois, 40—Erie							
Thomas Indian School Hospital	Inst	State	36	..	No data supplied	..	..
..	Gen	Indiv	14	5	..	..	196
..	Gen	Indiv	9	6	..	..	126
..	Orth	NPAssn	100	72	..	..	112
..	Mat	Indiv	17	4	14	127	146
..	Gen	NPAssn	11	4	2	18	118
Nursing Home	Conv	Indiv	26	20	..	..	..
Lake Ronkonkoma, 49—Suffolk							
Gary de Vabre Academy	McDe	Part	18	6	..	..	6
..	Gen	NPAssn	14	6	5	52	230
Erie County Home and Infirmary	Inst	County	600	600	..	..	..
..	Gen	NPAssn	28	21	6	124	673
..	McDe	State	28	11	..	..	187
..	McDe	State	2,535	3,093	5	5	265
Beth Abraham Home for Incurables	Incur	NPAssn	256	253	..	..	68
Bronxwood Sanitarium	Conv	Corp	24	12	..	..	71
Bryant Sanitarium	Mat	Indiv	10	2	10	68	68
Hebrew Convalescent Home	Conv	NPAssn	87	81	..	..	644
Home for Aged and Infirm	Inst	NPAssn	29	23	..	..	175
Hebrews	Inst	City	1,747	1,780	..	..	687
Home for Dependents	Inst	NPAssn	61	21	..	..	761
Home for Hebrew Infants	Cancer	Church	348	329	..	..	218
Home for Incurables	Cancer	Church	145	135	..	..	645
House of Calvary	Conv	Indiv	19	12	..	..	334
Regent Nursing Home	N&M	Indiv	25	15	..	..	200
Dr. Rogers' Hospital	..	..	..	..	..	..	..
St. Andrew's Convalescent Hospital	Conv	Church	24	14	..	..	240

Key to symbols and abbreviations is on page 1083

NEW YORK—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
St. Mary's Hospital for Children	Conv	Church	60	53	..	...	503
St. Rose's Free Home for Incurable Cancer	Cancer	Church	92	85	..	...	350
Niagara Falls, 78,029—Niagara Falls Municipal Hospital	Iso	City	36	20	..	...	282
Oneonta, 11,731—Otsego Parshall Private Hospital... Gen	Indiv	Indiv	28	10	6	89	342
Onondaga, 260—Onondaga Onondaga County Hospital. Inst	County	County	227	214	..	...	650
Oriskany, 1,115—Oneida Eastern Star Home and Infirmary	Inst	NPAasn	80	26	..	...	2
Ossining, 15,996—Westchester Greenmont-on-Hudson	Ment	Indiv	19	10	..	...	5
Sing Sing Prison Hospital. Inst	State	State	84	30	..	...	2,403
Oxford, 1,713—Chenango New York State Woman's Relief Corps Home..... Inst	State	State	60	60	..	...	163
Palenville, 300—Greene St. Joseph's Burghardville Convalescent Home	Conv	Church	62	51	..	...	534
Pawling, 1,446—Dutchess White Oak Farm..... N&M	Corp	Corp	19	12	..	...	2
Pelham Manor, 5,302—Westchester Pelham Home for Children. Card	NPAasn	NP	30	26	..	...	40
Pleasantville, 4,454—Westchester Hebrew Sheltering Guardian Orphan Asylum	Inst	NPAasn	34	8	..	...	631
Port Jervis, 9,749—Orange Deepark Hospital	Gen	NPAasn	16	10	4	37	317
Poughkeepsie, 40,478—Dutchess Poughkeepsie City Home Infirmary	Inst	City	52	38	..	...	89
Vassar College Infirmary and Baldwin House	Inst	NPAasn	41	8	..	...	292
Queens Village, —Queens Queens Village Sanatorium.. Gen	Indiv	Indiv	11	6	8	49	121
Rhinebeck, 1,697—Dutchess Holiday Farm, Home for Convalescent Children	Conv	NPAasn	25	21	..	...	241
Rochester, 324,975—Monroe Convalescent Hospital for Children	Conv	NPAasn	70	44	..	...	164
Field Sanitarium	Conv	Indiv	20	16	..	...	94
Knorr Sanitarium	Conv	Indiv	35	10	..	...	52
Rockaway Park, —Queens Convalescent Home for Hebrew Children	OrthConv	NPAasn	112	99	..	...	321
Rome, 34,214—Oneida Rome State School..... MeDe	State	State	3,646	3,475	24	16	273
Roslyn, 972—Nassau St. Francis Sanatorium for Cardiac Children	Card	Church	100	63	..	...	107
Rye, 9,865—Westchester Halcyon Rest	N&M	Indiv	43	33	..	...	85
Saranac Lake, 7,138—Franklin Franklin Manor	Indiv	Indiv	15	12	..	...	25
Owens Private Sanatorium.. TB	Indiv	Indiv	30	24	..	...	51
Schenectady, 87,549—Schenectady Bellevue Maternity Home..... Mat	Indiv	Indiv	19	15	20	531	527
Schenectady City Hospital.. Iso	City	City	35	15	..	...	351
Schenectady County Home and Hospital	Inst	County	66	60	..	...	179
Sea Cliff, 4,416—Nassau Country Home for Convalescent Babies	Conv	NPAasn	70	55	..	...	519
Staten Island, 174,441—Richmond New York City Farm Colony Inst	City	City	1,152	1,127	..	...	478
Sailors' Saug Harbor Hosp.. Gen	NPAasn	NP	191	138	..	...	514
State School, —Orange Hospital of New York State Training School for Boys. Inst	State	State	26	10	..	...	502
Syracuse, 205,967—Onondaga Syracuse State School..... MeDe	State	State	1,166	1,035	..	...	79
Thiells, 320—Rockland Letchworth Village	MeDe	State	3,600	3,879	6	10	483
Troy, 70,304—Rensselaer Rensselaer County Hospital Inst	County	County	56	55	..	...	150
Troy Orphan Asylum..... Inst	NPAasn	NP	25	7	..	...	414
Tupper Lake, 5,451—Franklin American Legion Mountain Camp	Conv	NPAasn	65	40	..	...	176
Utica, 100,518—Oneida Children's Hospital Home. Orth	NP	NP	40	30	..	...	112
V..... Orth	NP	NP	70	57	..	...	106
Valley Cottage, 931—Rockland Reed Farm and Nichols Cottage	ChildCard	Indiv	24	24	..	...	39
Walkkill, 700—Ulster Walkkill State Prison Hosp.. Inst	State	State	18	3	..	...	101
Wassaic, 250—Dutchess Wassaic State School..... MeDe	State	State	4,279	4,631	6	15	519
Watertown, 33,385—Jefferson Jefferson County Home..... Inst	County	County	25	20	..	...	15
White Plains, 40,327—Westchester Martine Farm Children's Cardiac Home	Card	Indiv	25	25	..	...	48
Williamsville, 3,614—Eric Josephine Goodyear Convalescent Home	ConvChil	Indiv	60	51	..	...	150

NEW YORK—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Woodbourne, 500—Sullivan Woodbourne Institution for Defective Delinquents	McDe	State	769	672	..	...	229
Yonkers, 142,593—Westchester Yonkers City Hospital for Communicable Diseases ... Iso	City	City	87	24	..	...	311

NORTH CAROLINA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Albemarle, 4,060—Stanly Stanly General Hospital..... Gen	NPAasn	NP	27	16	5	105	877
Yadkin Hospital	Gen	NPAasn	40	24	8	153	1,358
Asheboro, 6,981—Randolph Randolph Hospital..... Gen	NPAasn	NP	40	21	5	99	1,017
Asheville, 51,310—Buncombe Ambler Heights Sanitarium.. TB	Corp	Corp	22	11	..	...	41
Appalachian Hall	N&M	Corp	175	63	..	...	327
Asheville Mission Hosp. A. Gen	NPAasn	NP	116	83	16	293	3,004
Asheville Physiatric Institute, Wesnoea	NervConv	Indiv	25	15	..	...	100
Aston Park Hospital..... Gen	NPAasn	NP	43	36	11	197	1,495
Norburn Hospital	Gen	NPAasn	40	33	3	60	1,416
St. Joseph's Hospital..... Gen	Church	Church	117	41	8	64	785
Zephyr Hill Sanatorium..... TB	Indiv	Indiv	30	21	..	...	30
Badin, 3,040—Stanly Badin Hospital	Gen	Corp	18	...	No data supplied	...	...
Banner Elk, 344—Avery Grace Hospital..... Gen	Church	Church	53	42	12	107	905
Beaufort, 3,272—Carteret Potter Emergency Hospital. Gen	Corp	Corp	12	2	4	42	278
Biltmore, 172—Buncombe Biltmore Hospital	Gen	NPAasn	50	44	10	168	1,417
Black Mountain, 1,042—Buncombe Beallmont Park Sanat..... NervDrug	Corp	Corp	20	7	..	...	72
Fellowship Sanatorium of the Royal League	TB	NPAasn	20	13	..	...	10
Western North Carolina Sanatorium..... TB	State	State	300	300	..	...	344
Brevard, 3,661—Transylvania Transylvania Community Hospital	Gen	NPAasn	23	7	2	40	388
Burlington, 12,198—Alamance Alamance General Hospital. Gen	NPAasn	NP	45	26	5	200	1,442
Charlotte, 100,899—Mecklenburg Charlotte Eye, Ear & Throat Hospital..... ENT	Part	Part	20	15	..	...	1,721
Charlotte Memorial Hosp. A. Gen	NPAasn	NP	285	...	30	Estab.	1940
Good Samaritan Hospital. Gen	Church	Church	101	42	12	246	1,703
Mersey Hospital..... Gen	Church	Church	132	108	20	837	4,184
New Charlotte Sanatorium..... Gen	Corp	Corp	100	83	10	18	3,637
Presbyterian Hospital..... Gen	Church	Church	116	106	12	405	4,039
Cherokee, 35—Swain Eastern Cherokee Indian Hospital	Gen	IA	28	10	7	84	619
Concord, 15,572—Cabarrus Cabarrus County Hospital.. Gen	County	County	115	111	22	503	3,917
Crossnore, 266—Avery Garrett Memorial Hospital. Gen	NPAasn	NP	20	13	11	108	376
Durham, 60,195—Durham Duke Hospital..... Gen	NPAasn	NP	453	369	50	677	11,800
Lincoln Hospital..... Gen	NPAasn	NP	95	56	8	189	1,792
McPherson Hospital..... ENT	Indiv	Indiv	30	11	..	...	991
Watts Hospital..... Gen	NPAasn	NP	200	137	25	531	4,977
Elizabeth City, 11,564—Pasquotank Albemarle Hospital	Gen	CyCo	45	21	6	77	642
Elkin, 2,734—Surry Hugh Chatham Memorial Hospital..... Gen	Church	Church	60	34	12	149	1,478
Erwin, 4,000—Harnett Good Hope Hospital..... Gen	NPAasn	NP	34	10	8	92	400
Fayetteville, 17,428—Cumberland Cumberland County Tuberculosis Sanatorium..... TB	County	County	50	24	..	...	61
Highsmith Hospital..... Gen	NPAasn	NP	129	92	9	182	3,056
Pittman Hospital..... Gen	NPAasn	NP	100	61	12	123	2,681
Veterans Admin. Facility..... Gen	Vet	Vet	310	...	...	Estab.	1940
Fletcher, 60—Henderson Mountain Sanitarium and Hospital..... Gen	Church	Church	51	35	6	76	1,002
Fort Bragg, —Cumberland Station Hospital..... Gen	Army	Army	530	174	9	95	7,043
Franklin, 1,249—Macon Angel Hospital	Gen	Indiv	40	20	4	41	911
Gastonia, 21,313—Gaston City Hospital	Gen	Corp	80	...	...	96	...
Garrison General Hospital.. Gen	NPAasn	NP	48	25	12	239	1,079
Gaston County Negro Hosp. Gen	County	County	22	10	2	9	26
North Carolina Orthopedic Hospital..... Orth	State	State	160	169	..	...	382
Goldboro, 17,274—Wayne Goldboro Hospital..... Gen	NPAasn	NP	115	...	No data supplied	...	...
State Hospital	Ment	State	2,600	2,322	..	...	591
Greensboro, 59,319—Gulford Glenwood Park Sanitarium.. N&M	Corp	Corp	25	22	..	...	555
Piedmont Memorial Hosp. A. Gen	NPAasn	NP	60	62	12	194	2,579

NORTH CAROLINA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
L. Richardson Memorial Hospital	Gen	NPAssn	60	33	8	71	1,208
St. Leo's Hospital	Gen	Church	81	63	9	196	2,398
Sternberger Hosp. for Women and Children	Gen	NPAssn	42	34	10	207	1,031
Wesley Long Hospital	Gen	Corp	65	56	10	251	2,505
Greenville, 12,674—Pitt							
Pitt General Hospital	Gen	NPAssn	60	31	3	115	1,839
Hamlet, 5,111—Richmond							
Hamlet Hospital	Gen	NPAssn	45	39	5	69	1,043
Henderson, 7,647—Vance							
Jubilee Hospital	Gen	Church	30	23	2	53	480
Maria Parham Hospital	Gen	NPAssn	41	20	6	117	934
Hendersonville, 5,381—Henderson							
Patton Memorial Hospital	Gen	NPAssn	50	15	8	104	951
Hickory, 13,487—Catawba							
Hickory Memorial Hospital	Gen	NPAssn	30	13	6	80	703
Richard Baker Hospital	Gen	Indiv	53	29	10	237	1,341
High Point, 38,495—Guilford							
Burrus Memorial Hospital	Gen	NPAssn	63	50	7	231	2,067
Guilford General Hospital	Gen	NPAssn	38	27	5	255	1,638
Huntersville, 763—Mecklenburg							
Mecklenburg Sanatorium	TB	County	170	141	..	..	115
Jamestown, 157—Guilford							
Guilford County Sanat.	TB	County	138	133	..	..	152
Kinston, 15,385—Lenoir							
Memorial General Hosp.	Gen	NPAssn	69	41	7	225	1,971
Parrott Memorial Hospital	Gen	NPAssn	40	No data supplied			
Laurinburg, 6,685—Scotland							
Laurinburg Hospital	Gen	NPAssn	29	14	4	28	587
Leaksville, 1,886—Rockingham							
Leaksville General Hosp.	Gen	NPAssn	45	25	5	96	1,427
Lenoir, 7,598—Caldwell							
Blackwelder Hospital	Gen	NPAssn	25	14	7	178	735
Caldwell Hospital	Gen	NPAssn	25	12	2	50	605
Dula Hospital	Gen	Indiv	25	9	5	21	678
Lexington, 10,550—Davidson							
Davidson Hospital	Gen	County	19	11	2	70	672
Lincolnton, 4,525—Lincoln							
Gordon Crowell Memorial Hospital	Gen	Corp	42	23	4	80	1,408
Reeves Hospital	Gen	Indiv	45	16	7	67	702
Lumberton, 5,803—Robeson							
Baker Sanatorium	Gen	NPAssn	79	52	6	209	2,808
Thompson Memorial Hospital	Gen	NPAssn	75	62	10	285	2,959
Marion, 2,889—McDowell							
Marion General Hospital	Gen	NPAssn	41	21	6	171	1,129
Mocksville, 1,697—Davie							
Mocksville Hospital	Gen	Indiv	10	5	6	134	1,758
Monroe, 6,475—Union							
Ellen Fitzgerald Hospital	Gen	NPAssn	55	24	5	83	1,081
Mooresville, 6,682—Iredell							
Lowrance Hospital	Gen	NPAssn	59	50	8	235	2,050
Morehead City, 3,695—Carteret							
Morehead City Hospital	Gen	City	25	10	6	77	430
Morganton, 7,670—Burke							
Broad Oaks Sanatorium	N&M	Part	75	41	..	..	139
Grace Hospital	Gen	Church	82	52	18	346	3,205
State Hospital	Ment	State	2,501	2,279	..	..	584
Mt. Airy, 6,286—Surry							
Martin Memorial Hospital	Gen	NPAssn	44	42	6	63	1,095
Murphy, 1,873—Cherokee							
Petrie Hospital	Gen	Indiv	27	10	3	50	444
Nashville, 1,171—Nash							
R. R. Gay Nash County Tuberculosis Sanatorium	TB	County	30	27	..	..	48
New Bern, 11,815—Craven							
St. Luke's Hospital	Gen	NPAssn	35	16	3	60	941
Newton, 5,407—Catawba							
Catawba General Hospital	Gen	Corp	40	21	6	124	891
North Wilkesboro, 4,478—Wilkes							
Wilkes Hospital	Gen	NPAssn	51	29	6	128	1,542
.. GenTb Vet			850	760	..	..	1,348
.. Gen		NPAssn	25	15	4	41	558
Susie Clayton O'neatham Memorial Hospital	Gen	NPAssn	14	7	1	21	370
Pinebluff, 330—Moore							
Pinebluff Sanatorium	N&M	Indiv	42	24	..	..	156
Pinehurst, 55—Moore							
Moore County Hospital	Gen	NPAssn	65	44	10	138	1,875
Raleigh, 46,897—Wake							
Central Prison Hospital	Gen	State	133	80	..	..	1,975
Mary Elizabeth Hospital	Gen	Corp	40	30	9	167	1,405
Rex Hospital	Gen	NPAssn	176	137	24	520	4,900
Royster Medical Center	Unit of State Hospital						
St. Agnes Hospital	Gen	Church	90	64	18	235	1,420
State Hospital	Ment	State	2,490	2,268	..	..	797
Wake County Tuberculosis Sanatorium	TB	CyCo	56	28	..	..	59
Reidsville, 10,387—Rockingham							
Memorial Hospital	Gen	NPAssn	50	29	6	179	1,381
Roanoke Rapids, 8,545—Halifax							
Roanoke Rapids Hospital	Gen	NPAssn	85	69	15	264	2,805
Rocky Mount, 25,568—Nash							
Atlantic Coast Line Hosp.	Indus	NPAssn	50	31	..	..	703
Park View Hospital	Gen	NPAssn	110	73	10	216	2,633
.. Gen		NPAssn	74	43	6	106	1,414
.. Gen		Part	10	No data supplied			

NORTH CAROLINA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Roseboro, 939—Sampson							
Brewer-Stirling Clinic	Gen	Part	10	2	3	29	109
Roxboro, 4,599—Person							
Community Hospital	Gen	NPAssn	25	13	4	74	678
.. 3rd							
.. Gen		NPAssn	60	35	2	51	1,778
.. Gen		NPAssn	108	58	13	218	2,392
Sanatorium, 57—Hoke							
North Carolina Sanatorium for the Treatment of Tuberculosis	TB	State	650	585	..	..	821
Sanford, 4,660—Lee							
Lee County Hospital	Gen	County	40	27	4	98	1,402
Shelby, 14,057—Cleveland							
Shelby Hospital	Gen	CyCo	66	65	10	371	2,814
Siler City, 2,197—Chatham							
Chatham Hospital	Gen	NPAssn	16	6	3	50	437
Smithfield, 3,678—Johnston							
Johnston County Hospital	Gen	NPAssn	27	20	8	49	631
Southern Pines, 3,225—Moore							
Pine-Crest Manor Sanat.	TB	Indiv	43	22	..	..	42
Southport, 1,760—Brunswick							
J. Arthur Doshier Memorial Hospital	Gen	CyCo	50	17	4	46	632
Statesville, 11,410—Iredell							
Davis Hospital	Gen	NPAssn	130	98	12	158	3,849
H. F. Long Hospital	Gen	NPAssn	65	47	6	102	1,916
Sylvan, 1,409—Jackson							
C. J. Harris Community Hospital	Gen	NPAssn	26	12	3	28	406
Tabor City, 15,521—Columbus							
Williams Clinic Hospital	Gen	Indiv	15	4	6	77	303
Tarboro, 7,148—Edgecombe							
Bass Memorial Hospital	Gen	Indiv	8	5	5	11	120
Edgecombe General Hosp.	Gen	NPAssn	44	24	6	83	896
Thomasville, 11,041—Davidson							
City Memorial Hospital	Gen	NPAssn	32	24	3	113	974
Tryon, 2,043—Polk							
St. Luke's Hospital	Gen	NPAssn	20	12	6	72	596
Valdese, 2,615—Burke							
Valdese General Hospital	Gen	NPAssn	33	17	6	60	812
Wadesboro, 3,587—Anson							
Anson Sanatorium	Gen	NPAssn	45	29	8	97	1,145
Washington, 8,669—Beaufort							
Tayloe Hospital	Gen	NPAssn	69	35	6	196	1,482
Waynesville, 2,940—Haywood							
Haywood County Hospital	Gen	County	75	57	10	265	2,193
.. Gen		NPAssn	50	26	10	149	1,297
.. Gen		Indiv	14	6	6	47	2,190
.. Gen		Indiv	32	10	3	28	532
.. Gen		CyCo	49	18	12	107	890
James Walker Memorial Hospital	Gen	NPAssn	177	139	20	813	5,733
Wilmington Tuberculosis Sanatorium	TB	NPAssn	41	40	..	..	58
Wilson, 19,234—Wilson							
Carolina General Hospital	Gen	NPAssn	43	32	8	162	1,293
.. Gen		NPAssn	73	34	6	124	1,611
.. Gen		City	318	243	37	1,102	8,729
City Memorial Hospital	White Division of City Hospital	Gen	44	No data supplied			
Forsyth County Hospital	Gen	County	..	..	..	..	..
Forsyth County Sanat.	TB	County	168	141	..	..	162
Kate Bitting Reynolds Memorial Hospital	Colored Division of City Hospital	Gen	..	..	..	..	..
North Carolina Baptist Hos-	Gen	Church	106	104	16	580	3,696
.. Gen		NPAssn	35	15	3	..	326
Related Institutions							
Asheboro, 6,981—Randolph							
Barnes and Griffin Clinic	Gen	Part	10	5	3	67	216
Asheville, 51,310—Buncombe							
Asheville Orthopedic Home	Orth	NPAssn	20	17	..	..	113
Pisgah Sanatorium and Hos-	Gen	Church	28	11	3	11	319
pital	Gen	Corp	16	12	..	..	..
Sunset Heights	TB	Indiv	37	23	..	..	28
Violet Hill Sanatorium	TB	..	..	..	..	..	..
Charlotte, 100,890—Mecklenburg							
Florence Crittenton Indus-	Mat	NPAssn	25	20	5	34	53
trial Home	..						
Davidson, 1,550—Mecklenburg							
Davidson College Infirmary	Inst	NPAssn	25	4	..	..	190
Fayetteville, 17,428—Cumberland							
Fayetteville Eye, Ear, Nose and Throat Hospital	ENT	Part	12	4	..	..	550
Goldsboro, 17,274—Wayne							
Whispering Cedars Rest	..	Conv	11	4	..	..	374
.. sis Sanatorium	TB	County	28	20	..	..	59
Henderson, 7,647—Vance							
Scott Parker Sanatorium	TB	County	14	13	..	..	6
Kinston, 15,388—Lenoir							
Caswell Training School	MeDe	State	717	745	..	..	89
New Bern, 11,815—Craven							
Good Shepherd Hospital	Gen	Church	34	14	4	32	390

Key to symbols and abbreviations is on page 1083

NORTH CAROLINA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
North Wilkesboro, 4,478—Wilkes County Tuberculosis Hut	TB	County	14	12	..	...	18
Raleigh, 46,897—Wake							
McCauley Private Hospital..	Gen	Indiv	10	2	2	11	92
North Carolina State School for the Blind and Deaf....	Inst	State	36	5	..	...	200
Saluda, 539—Polk							
Infants and Children's Sanit. Chil	Indiv	Indiv	55	20	..	...	105
Spartanburg Baby Hospital Chil	NPAasn	NPAasn	35	22	..	...	121
Tarboro, 7,148—Edgecombe							
Edgecombe County Tuberculosis Sanatorium	TB	County	32	30	..	...	56
Thomasville, 11,041—Davidson							
Mills Home Infirmary.....	Inst	Church	25	...	No data supplied		
Wilson, 19,234—Wilson							
Mercy Hospital	Gen	CyCo	25	19	2	18	497

NORTH DAKOTA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Ambrose, 294—Divide							
Lutheran Good Samaritan Hospital	Gen	Church	15	6	5	44	...
Belcourt, 205—Roulette							
Turtle Mountain Hospital... Gen	IA	IA	50	12	10	175	1,165
Bismarck, 15,496—Burleigh							
Bismarck Evangelical Hospital*	Gen	Church	128	90	12	188	2,765
St. Alexis Hospital*	Gen	Church	135	80	12	235	3,184
Bottineau, 1,739—Bottineau							
St. Andrew's Hospital*	Gen	Church	75	50	12	157	1,677
Carrington, 1,850—Foster							
Carrington Hospital	Gen	NPAasn	18	5	5	35	320
Devils Lake, 6,204—Ramsey							
General Hospital*	Gen	NPAasn	50	35	8	80	1,632
Mercy Hospital*	Gen	Church	100	50	26	210	1,756
Dickinson, 5,839—Stark							
St. Joseph's Hospital*	Gen	Church	86	43	14	200	1,371
Drayton, 688—Pembina							
Drayton Hospital	Gen	Indiv	13	10	4	48	475
Fargo, 32,580—Cass							
St. John's Hospital*	Gen	Church	155	115	30	712	3,863
St. Luke's Hospital*	Gen	Church	102	80	15	334	2,973
Veterans Admin. Facility*	Gen	Vet	181	147	..	...	1,347
Fort Lincoln (Bismarck P.O.),—Burleigh Station Hospital	Gen	Army	51	25	3	11	434
Fort Totten, 125—Benson							
Fort Totten Hospital	Gen	IA	37	15	4	61	502
Fort Yates, 800—Sioux							
Standing Rock Indian Hosp. Gen	IA	IA	53	18	5	75	688
Grafton, 4,070—Walsh							
Grafton Deaconess Hosp.*	Gen	Church	50	41	10	349	1,298
Grand Forks, 20,228—Grand Forks Grand Forks Deaconess Hospital*	Gen	NPAasn	85	65	20	404	3,403
St. Michael's Hospital*	Gen	Church	65	46	15	345	1,878
Harvey, 1,851—Wells							
St. Aloisius Hospital	Gen	Church	30	19	7	113	846
Jamestown, 8,790—Stutsman							
North Dakota State Hospital for Insane*	Ment	State	2,000	1,898	..	...	474
Trinity Hospital*	Gen	Church	77	44	12	162	1,335
Kenmare, 1,528—Ward							
Kenmare Deaconess Hospital Gen	Church	Church	45	17	5	95	497
Langdon, 1,540—Cavalier							
Mercy Hospital	Gen	Church	35	22	12	136	1,013
Linton, 1,602—Emmons							
Linton Hospital	Gen	NPAasn	7	4	5	46	185
Mandan, 6,685—Morton							
Mandan Deaconess Hospital Gen	Church	Church	40	29	8	136	1,066
McVie, 548—Nelson							
Community Hospital	Gen	Part	16	7	4	70	247
Minot, 16,577—Ward							
St. Joseph's Hospital*	Gen	Church	125	69	15	342	2,275
Trinity Hospital*	Gen	Church	152	106	22	367	3,526
New Rockford, 2,017—Eddy							
City Hospital	Gen	Church	30	12	8	87	516
Northwood, 1,063—Grand Forks							
Northwood Deaconess Hosp. Gen	NPAasn	NPAasn	25	13	6	62	400
Oakes, 1,665—Dickey							
Mercy Hospital	Gen	Church	15	5	5	53	250
Roulette, 460—Roulette							
Community Hospital	Gen	NPAasn	20	8	5	42	115
Rolla, 1,008—Roulette							
Rolla Community Hospital. Gen	City	City	26	...	5	Estab.	1940
Rugby, 2,215—Pierce							
Good Samaritan Hospital*	Gen	Church	62	53	15	307	2,324
San Haven, —Roulette							
North Dakota State Tuberculosis Sanatorium*	TB	State	363	307	..	...	224
Valley City, 5,917—Barnes							
Mercy Hospital*	Gen	Church	100	53	13	205	1,642
Wahpeton, 3,747—Richland							
Wahpeton Hospital	Gen	Part	25	12	5	50	486
Williston, 5,790—Williams							
Good Samaritan Hospital*	Gen	Church	40	29	10	160	1,164
Mercy Hospital*	Gen	Church	85	50	12	154	1,882

NORTH DAKOTA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Bismarck, 15,496—Burleigh							
North Dakota State Penitentiary Hospital	Inst	State	25	19	..	...	260
Bowman, 967—Bowman							
Bowman Hospital	Gen	Indiv	12	4	6	35	209
Elbowoods, 139—McLean							
Fort Berthold Indian Hosp. Gen	IA	IA	28	13	5	51	616
Elgin, 583—Grant							
Elgin Hospital	Gen	Indiv	13	6	5	84	230
Fargo, 32,580—Cass							
Camp Maternity Hospital... Mat	Indiv	Indiv	15	2	9	29	29
Cass County Hospital..... Gen	County	County	30	23	4	74	459
Florence Crittenton Home... Mat	NPAasn	NPAasn	58	30	30	74	109
Grafton, 4,070—Walsh							
Grafton State School..... MeDe	State	State	950	905	..	...	94
Grand Forks, 20,228—Grand Forks							
Grand Forks City Hospital. Iso	City	City	15	1	..	...	18
Jamestown, 8,790—Stutsman							
Jamestown Hospital	Gen	NPAasn	38	22	6	83	861
Mayville, 1,351—Trall							
Union Hospital	Gen	NPAasn	16	9	7	91	475

OHIO

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Akron, 244,791—Summit							
Children's Hospital*	Chil	NPAasn	110	93	..	...	4,212
City Hospital*	Gen	NPAasn	327	301	41	1,880	12,663
Edwin Shaw Sanatorium*	TB	County	204	189	..	...	192
Peoples Hospital*	Gen	NPAasn	157	111	34	842	4,347
St. Thomas Hospital*	Gen	Church	148	120	27	873	5,930
Alliance, 22,405—Stark							
Alliance City Hospital*	Gen	City	85	48	15	384	1,615
Amherst, 2,896—Lorain							
Pleasant View Sanatorium.. TB	County	County	96	87	..	...	83
Ashland, 12,453—Ashland							
Samaritan Hospital*	Gen	NPAasn	26	24	12	319	1,083
Ashtabula, 21,405—Ashtabula							
Ashtabula General Hospital*	Gen	NPAasn	77	48	13	239	1,711
Athens, 7,696—Athens							
Athens State Hospital..... Ment	State	State	1,886	1,787	..	...	429
Sheltering Arms Hospital... Gen	Part	Part	40	18	9	111	766
Barberton, 24,028—Summit							
Citizens Hospital*	Gen	Corp	57	35	18	396	1,657
Bedford, 7,390—Cuyahoga							
Bedford Municipal Hospital: Gen	City	City	36	19	9	163	782
Bellaire, 13,799—Belmont							
City Hospital*	Gen	NPAasn	45	26	5	280	984
Bellevue, 6,127—Huron							
Bellevue Hospital	Gen	NPAasn	30	16	8	128	600
Berea, 6,025—Cuyahoga							
Community Hospital	Gen	NPAasn	39	25	10	187	925
Bryan, 5,401—Williams							
Cameron Hospitals	Gen	NPAasn	16	9	5	99	475
Bucyrus, 9,727—Crawford							
Bucyrus City Hospital..... Gen	City	City	40	27	9	174	1,043
Cambridge, 15,044—Guernsey							
St. Francis Hospital..... Gen	Indiv	Indiv	25	10	3	62	546
Canton, 108,401—Stark							
Aultman Hospital*	Gen	NPAasn	137	107	24	809	3,661
Little Flower Hospital..... Unit of Mercy Hospital	Gen	Church	202	161	33	1,281	6,605
Mercy Hospital*	Gen	County	166	139	..	...	211
Molly Stark Sanatorium..... TB	County	County	166	139	..	...	211
Celina, 4,841—Mercer							
Otis Hospital	Gen	Indiv	26	10	4	79	529
Chagrin Falls, 2,505—Cuyahoga							
Windsor Hospital	N&M	Corp	54	39	..	...	285
Chillicothe, 20,129—Ross							
Chillicothe Hospital	Gen	NPAasn	55	38	10	202	1,021
Mt. Logan Sanatorium..... TB	Counties	Counties	64	59	..	...	43
U. S. Industrial Reformatory*	Inst	Fed	73	38	..	...	1,306
Veterans Admin. Facility*	Ment	Vet	1,522	1,359	..	...	686
Cincinnati, 455,610—Hamilton							
Bethesda Hospital*	Gen	Church	199	151	40	1,057	5,672
Children's Hospital*	Chil	Church	211	133	..	...	4,331
Christ Hospital*	Gen	Church	324	247	54	1,133	8,468
Christian R. Holmes Hosp.*	Gen	City	62	33	..	...	1,125
Cincinnati General Hospital*	Gen	City	900	641	65	2,424	16,248
Cincinnati Sanatorium*	N&M	Corp	75	60	..	...	179
Deaconess Hospital*	Gen	Church	150	119	25	681	4,585
Good Samaritan Hosp.*	Gen	Church	510	373	65	1,701	12,123
Hamilton County Tuberculosis Hospital*	TB	County	583	541	..	...	590
Jewish Hospital*	Gen	NPAasn	260	165	40	890	5,762
Longview State Hospital*	Ment	State	2,635	2,773	..	...	658
Ohio Hospital for Women and Children	Unit of	Unit of					
St. Mary Hospital*	Gen	Church	195	135	29	632	4,491
Circleville, 7,982—Pickaway							
Berger Hospital	Gen	City	25	14	6	127	606
Cleveland, 878,336—Cuyahoga							
Babies and Childrens Hosp. Unit of University Hospitals	Gen	City	1,592	1,217	50	1,410	12,632
City Hospital*	Gen	City	1,592	1,217	50	1,410	12,632
City Psychopathic Hospital. Unit of City Hospital	Gen	City	1,592	1,217	50	1,410	12,632
Cleveland Clinic Foundation Hospital*	Gen	NPAasn	228	174	..	...	6,620

OHIO—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Cleveland State Hospital* ¹⁰	Ment	State	2,281	2,293	12	6	780
East 55th Street Hospital* ¹⁰	Gen	Corp	60	6	12	6	79
Evangelical Deaconess Hospital* ¹⁰	Gen	Church	132	128	32	769	3,233
Fairview Park Hospital* ¹⁰	Gen	Church	136	87	51	692	3,737
Glenville Hospital* ¹⁰	Gen	NPAssn	89	91	26	642	3,480
Grace Hospital* ¹⁰	Gen	NPAssn	68	31	12	175	1,621
John H. Lowman Memorial Pavilion	Unit of City Hospital						
Lakeside Hospital	Unit of University Hospitals						
Leonard C. Hanna House	Unit of University Hospitals						
Lutheran Hospital* ¹⁰	Gen	Church	109	119	28	791	3,671
Maternity Hospital* ¹⁰	Unit of University Hospitals						
Mt. Sinai Hospital* ¹⁰	Gen	NPAssn	225	196	45	918	8,044
Polyclinic Hospital* ¹⁰	Gen	NPAssn	105	73	15	320	2,424
Prospect Hospital	N&M	Corp	100	88	..	..	10
St. Alexis Hospital* ¹⁰	Gen	Church	220	149	..	..	5,008
St. Ann's Maternity Hospital* ¹⁰	Mat	Church	64	52	58	1,859	2,015
St. John's Hospital* ¹⁰	Gen	Church	194	170	32	1,123	7,164
St. Luke's Hospital* ¹⁰	Gen	Church	336	280	55	1,428	10,074
St. Vincent Charity Hospital* ¹⁰	Gen	Church	295	248	..	..	7,190
U. S. Marine Hospital* ¹⁰	Gen	USPHS	306	236	..	..	3,200
University Hospitals* ¹⁰	Gen	NPAssn	777	592	108	2,518	18,902
Woman's Hospital* ¹⁰	Gen	NPAssn	83	82	17	538	3,609
Columbus, 306,087—Franklin							
Children's Hospital* ¹⁰	Chil	NPAssn	132	93	..	..	2,784
Columbus State Hospital* ¹⁰	Ment	State	2,600	2,587	..	..	567
Franklin County Tuberculosis Hospital* ¹⁰	TB	County	309	291	..	..	329
Dr. Gaver Sanitarium	N&M	Indiv	25	..	..	..	..
Grant Hospital* ¹⁰	Gen	NPAssn	263	187	40	955	6,605
McMillen Sanitarium	N&M	Corp	35	22	..	..	168
Mercy Hospital* ¹⁰	Gen	NPAssn	65	35	15	99	1,614
Mt. Carmel Hospital* ¹⁰	Gen	Church	200	170	25	920	5,804
St. Ann's Infant Asylum and Maternity Hospital* ¹⁰	Mat	Church	25	17	25	712	735
St. Anthony Hospital	Gen	Church	201	176	..	..	1,253
St. Francis Hospital* ¹⁰	Gen	State	160	128	..	..	2,818
Starling-Loving University Hospital* ¹⁰	Gen	State	264	180	32	754	6,491
Station Hospital* ¹⁰	Gen	Army	139	119	3	82	2,163
White Cross Hospital* ¹⁰	Gen	Church	271	210	28	1,278	7,092
Conneaut, 9,355—Ashtabula							
Brown Memorial Hospital* ¹⁰	Gen	NPAssn	30	19	8	178	920
Coshocton, 11,509—Coshocton							
Coshocton City Hospital* ¹⁰	Gen	City	63	24	8	222	1,521
Crestline, 4,337—Crawford							
Crestline Emergency Hosp...	Gen	NPAssn	17	0	4	61	288
Cuyahoga Falls, 20,546—Summit							
Fair Oaks Villa	N&M	NPAssn	82	72	..	..	352
Dayton, 210,718—Montgomery							
Dayton State Hospital	Ment	State	1,883	1,737	..	..	497
Good Samaritan Hosp.* ¹⁰	Gen	Church	227	191	48	1,292	6,099
Miami Valley Hospital* ¹⁰	Gen	NPAssn	356	306	44	1,410	10,317
St. Ann's Maternity Hosp...	Unit of St. Elizabeth Hospital						
St. Elizabeth Hospital* ¹⁰	Gen	Church	330	199	35	1,598	7,059
Stillwater Sanatorium	TB	Counties	175	104	..	..	210
Defiance, 9,744—Defiance							
Defiance Hospital	Gen	NPAssn	35	24	10	223	1,207
Dennison, 4,413—Tuscarawas							
Twin City Hospital	Gen	NPAssn	28	15	0	121	602
Dover, 9,691—Tuscarawas							
Union Hospital	Gen	NPAssn	75	38	10	158	1,300
East Cleveland, 39,495—Cuyahoga							
Huron Road Hospital* ¹⁰	Gen	NPAssn	262	189	65	1,358	8,045
East Liverpool, 23,555—Columbiana							
East Liverpool City Hosp.* ¹⁰	Gen	City	85	59	15	439	2,163
Elyria, 25,120—Lorain							
Elyria Memorial Hospital* ¹⁰	Gen	NPAssn	130	73	28	667	3,016
Gates Hospital for Crippled Children	Unit of Elyria Memorial Hospital						
Findlay, 20,228—Hancock							
Findlay Hospital* ¹⁰	Gen	NPAssn	64	37	12	345	1,648
F...	Gen	NPAssn	14	8	4	41	276
... San-	Gen	NPAssn	60	45	17	400	1,483
... dusky County	Gen	NPAssn	12	..	..	..	No data supplied
...	Gen	Part	54	38	4	74	1,892
... Epil	State		2,291	2,089	..	..	302
... ind Seneca	Indiv		75	60	..	..	82
Wayne Hospital	Gen	NPAssn	28	21	6	126	1,301
...	Gen	NPAssn	85	44	24	352	1,624
...	Gen	Church	190	110	30	663	3,547
...	Gen	NPAssn	17	10	4	71	529
...	Gen	NPAssn	50	25	5	87	857
Lawrence County General Hospital	Gen	County	63	30	12	273	1,349
Kenton, 7,693—Hardin	Gen	NPAssn	25	20	5	84	672
McKittick Hospital	Gen	Church	25	22	6	70	541
San Antonio Hospital	Gen						
Lacarne, 200—Ottawa	Gen	Army	28	2	..	..	94
Station Hospital							

OHIO—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Lakewood, 69,160—Cuyahoga							
Lakewood Hospital* ¹⁰	Gen	City	127	53	28	421	2,460
Lima, 44,711—Allen							
District Tuberculosis Hosp...	TB	Counties	125	98	..	..	123
Lima Memorial Hospital* ¹⁰	Gen	NPAssn	124	86	21	580	3,376
Lima State Hospital	Ment	State	1,076	1,146	..	..	176
St. Rita's Hospital* ¹⁰	Gen	Church	100	62	16	373	2,815
Lodi, 1,301—Medina							
Lodi Hospital	Gen	NPAssn	30	20	10	254	1,057
Logan, 6,177—Hocking							
Cherrington Hospital	Gen	NPAssn	35	11	5	47	344
Lorain, 44,125—Lorain							
St. Joseph's Hospital* ¹⁰	Gen	Church	100	60	20	616	2,880
Macedonia, 734—Summit							
Hawthornden State Hospital	Ment	State	836	785	..	..	131
Mansfield, 37,151—Richland							
Mansfield General Hosp.* ¹⁰	Gen	NPAssn	162	101	28	808	4,618
Richland County Tuberculosis Sanatorium	TB	County	29	..	..	..	Estab. 1940
Marietta, 14,543—Washington							
Marietta Memorial Hospital	Gen	NPAssn	54	24	10	246	1,579
Marion, 30,817—Marion							
Marion City Hospital	Gen	City	50	45	14	300	2,060
Sawyer Sanatorium* ¹⁰	N&M	Part	50	22	..	..	119
Martins Ferry, 14,729—Belmont							
Martins Ferry Hospital* ¹⁰	Gen	NPAssn	89	74	11	259	2,581
Massillon, 26,614—Stark							
Massillon City Hospital* ¹⁰	Gen	NPAssn	92	68	14	443	2,621
Massillon State Hospital* ¹⁰	Ment	State	3,250	3,305	..	..	747
McConnellsville, 1,895—Morgan							
Rocky Glen Sanatorium	TB	Corp	150	138	..	..	118
Mentor, 1,827—Lake							
Delhurst Sanitarium	N&M	Corp	40	36	..	..	92
Middletown, 31,220—Butler							
Middletown Hospital* ¹⁰	Gen	NPAssn	146	98	28	710	3,113
Millersburg, 2,239—Holmes							
Joel Pomerene Memorial Hospital	Gen	County	25	15	5	115	689
Mt. Vernon, 10,122—Knox							
Mercy Hospital	Gen	Church	61	30	13	279	1,482
Mt. Vernon Hospital-Sault	Gen	NPAssn	45	24	5	106	747
Ohio State Sanatorium* ¹⁰	TB	State	240	192	..	..	402
National Military Home, —Montgomery							
Veterans Admin. Facility* ¹⁰	Gen	Yer	1,050	949	..	..	5,759
Newark, 31,487—Licking							
Licking County Tuberculosis Sanatorium	TB	County	57	42	..	..	70
Newark Hospital* ¹⁰	Gen	NPAssn	90	52	18	360	2,076
New Philadelphia, 12,325—Tuscarawas							
Tuscarawas Valley Sanat...	TB	County	35	24	..	..	62
Norwalk, 8,211—Huron							
Norwalk Memorial Hospital	Gen	NPAssn	28	16	7	223	673
North Royalton (Brecksville P.O.), 2,559—Cuyahoga							
Mount Royal Sanatorium	TB	Corp	110	109	..	..	120
Oberlin, 4,365—Lorain							
Allen Hosp., Oberlin College	Gen	NPAssn	36	18	5	133	1,120
Painesville, 12,235—Lake							
Lake County Memorial Hospital	Gen	County	70	54	14	454	1,781
Perrysburg, 3,457—Wood							
Community Hospital	Gen	Indiv	13	5	3	65	263
Rheinfrank Hospital	Goiter	Indiv	13	5	..	..	221
Piqua, 16,049—Miami							
Memorial Hospital* ¹⁰	Gen	NPAssn	65	50	12	322	1,753
Port Clinton, 4,505—Ottawa							
H. B. Magruder Memorial Hospital	Gen	NPAssn	42	..	10	Estab. 1940	
Portsmouth, 40,466—Scioto							
Mercy Hospital* ¹⁰	Gen	Church	66	42	9	245	2,077
Portsmouth General Hosp.* ¹⁰	Gen	City	90	50	10	335	1,892
Schirman Hospital* ¹⁰	Gen	Corp	50	24	5	58	775
Ravenna, 8,538—Portage							
Robinson Memorial Hospital	Gen	County	49	42	11	339	1,571
St. Clairsville, 2,797—Belmont							
Belmont Sanatorium	TB	County	56	53	..	..	45
Salem, 12,301—Columbiana							
Central Clinic and Hospital	Gen	NPAssn	50	..	..	..	No data supplied
Salem City Hospital* ¹⁰	Gen	NPAssn	60	50	10	288	1,500
Sandusky, 24,874—Erie							
Good Samaritan Hospital* ¹⁰	Gen	NPAssn	66	24	9	204	956
...	Gen	Church	50	24	15	206	994
...	Gen	NPAssn	34	19	6	195	772
...	Gen	NPAssn	30	20	12	181	759
...							
and Convalescent Children Unit of University Hospitals, Cleveland							
Springfield, 70,662—Clark							
Clark County Tuberculosis	TB	County	120	101	..	..	92
...	Gen	City	253	134	40	199	5,033
...	Gen	Church	25	18	..	..	904
...	Gen	NPAssn	164	131	31	779	4,951
...	Gen	Church	37	24	10	198	813
Toledo, 282,349—Lucas							
East Side Hospital	Gen	NPAssn	41	18	4	24	510
Flower Hospital* ¹⁰	Gen	Church	133	93	33	463	3,218
Lucas County General Hospital* ¹⁰	Gen	County	292	205	33	517	4,554
Mercy Hospital* ¹⁰	Gen	Church	120	99	25	519	3,247
Robinswood Hospital* ¹⁰	Gen	Church	91	54	13	137	1,213

Key to symbols and abbreviations is on page 1083

OHIO—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
St. Vincent's Hospital*AO...	Gen	Church	300	272	45	905	7,956
Toledo Hospital*AO...	Gen	NPAasn	270	166	50	962	5,893
Toledo Sanitarium...	N&M	Corp	20	6	...	...	59
Toledo State Hospital*AO...	Ment	State	2,851	2,787	...	...	777
William W. Roche Memorial Tuberculosis Hospital...	TB	County	166	150	...	...	200
Women's and Children's Hospital*AO...	Gen	NPAasn	116	86	26	547	2,491
Troy, 9,097—Miami	Gen	NPAasn	44	32	8	235	1,339
Stouder Memorial Hospital*AO...	Gen	NPAasn	44	32	8	235	1,339
Urbana, 8,335—Champaign	Gen	County	35	22	9	143	620
Champaign County Hospital	Gen	County	35	22	9	143	620
Van Wert, 9,227—Van Wert	Gen	NPAasn	44	29	6	139	887
Van Wert County Hospital	Gen	NPAasn	44	29	6	139	887
Wadsworth, 6,493—Medina	Gen	City	28	21	10	169	781
Wadsworth Municipal Hosp.	Gen	City	28	21	10	169	781
Warren, 42,837—Trumbull	Gen	Church	50	41	10	431	2,038
St. Joseph's Riverside Hosp.*AO...	Gen	Church	50	41	10	431	2,038
Trumbull County Tuberculosis Sanatorium...	TB	County	50	45	...	...	65
Warren City Hospital*AO...	Gen	NPAasn	115	100	20	712	4,002
Warrensville, 1,597—Cuyahoga	Gen	NPAasn	115	100	20	712	4,002
Sunny Acres, Cleveland Tuberculosis Sanatorium*AO...	TB	City	434	425	...	...	360
Wauseon, 3,016—Fulton	Gen	NPAasn	52	28	7	144	1,297
De Etto Harrison Detweiler Memorial Hospital*AO...	Gen	NPAasn	52	28	7	144	1,297
Willard, 4,261—Huron	Gen	City	36	20	6	95	887
Willard Municipal Hospital..	Gen	City	36	20	6	95	887
Wilmington, 5,971—Clinton	Gen	Indiv	17	5	7	18	230
Dr. Kelley Hale Surgical Hospital...	Gen	Indiv	17	5	7	18	230
Wooster, 11,543—Wayne	Gen	NPAasn	22	10	6	95	516
Beeson Hospital...	Gen	NPAasn	22	10	6	95	516
Kinney Memorial Emergency Hospital...	Gen	NPAasn	25	7	4	42	250
Wooster Hospital...	Gen	Part	25	9	6	87	487
Worthington, 1,569—Franklin	Gen	Corp	50	40	...	...	266
Harding Sanitarium*AO...	N&M	Corp	50	40	...	...	266
Xenia, 10,633—Greene	Gen	Corp	20	13	4	68	513
McClellan Hospital*AO...	Gen	Corp	20	13	4	68	513
Youngstown, 167,720—Mahoning	Gen	County	180	180	...	...	165
Mahoning Tuberculosis Sanatorium...	TB	County	180	180	...	...	165
St. Elizabeth's Hospital*AO...	Gen	Church	235	192	50	1,450	8,731
Youngstown Hospital*AO...	Gen	NPAasn	451	348	64	1,531	12,203
Zanesville, 37,500—Muskingum	Gen	NPAasn	110	74	20	485	3,072
Bethesda Hospital*AO...	Gen	NPAasn	110	74	20	485	3,072
Good Samaritan Hospital*AO...	Gen	Church	120	74	20	406	2,484
Related Institutions							
Akron, 244,791—Summit	Gen	Part	12	4	...	...	434
Akron Clinic...	Gen	Part	12	4	...	...	434
Goodyear Hospital and Dispensary...	Indus	NPAasn	12	3	...	...	112
Just-A-Mere Home and Hospital...	N&M	NPAasn	150	120	...	...	216
Apple Creek, 510—Wayne	Gen	State	608	592	...	...	25
Institution for Feeble-minded...	MeDe	State	608	592	...	...	25
Barnesville, 6,002—Belmont	Gen	NPAasn	12	4	2	24	145
Community Hospital...	Gen	NPAasn	12	4	2	24	145
Bay Village, 3,356—Cuyahoga	Gen	Corp	100	37	...	...	58
Cedarcrest Sanitarium...	N&M	Corp	100	37	...	...	58
Bellefontaine, 9,808—Logan	Gen	Indiv	6	1	...	...	128
Harbert Hospital...	ENT	Indiv	6	1	...	...	128
Bluffton, 2,077—Allen	Gen	NPAasn	22	14	4	107	455
Bluffton Community Hosp.	Gen	NPAasn	22	14	4	107	455
Cambridge, 15,044—Guernsey	Gen	Church	49	18	45	193	324
Children and Maternity Hospital...	Mat	Church	49	18	45	193	324
Cincinnati, 455,610—Hamilton	Gen	NPAasn	100	76	...	...	183
Catherine Booth Home and Hospital...	Mat	Church	49	18	45	193	324
Children's Convalescent Home of the Cincinnati Orphan Asylum*	Inst	NPAasn	100	76	...	...	183
Children's Home...	Inst	NPAasn	30	6	...	...	458
Hamilton County Home and Chronic Disease Hospital..	Chr	County	260	240	...	...	549
Home for Incurables...	Incur	NPAasn	69	69	...	...	9
Jewish Convalescent and Foster Homes...	Conv	NPAasn	25	12	...	...	165
Maple Knoll Hospital and Home for the Friendless...	Mat	NPAasn	50	29	50	278	304
Ridge Rest Home...	N&M	Corp	30	21	...	...	29
St. Francis Hospital...	Chr	Church	290	224	...	...	330
St. Joseph Maternity Hospital and Infant Asylum...	Mat	Church	10	3	10	97	108
Cleveland, 878,336—Cuyahoga	Gen	Church	17	15	17	457	465
Booth Memorial Home and Hospital*	Mat	Church	17	15	17	457	465
Children's Fresh Air Camp and Hospital...	Conv	NPAasn	60	61	...	...	213
Florence Crittenton Home...	Mat	NPAasn	15	11	12	12	20
Ingleside Home...	N&M	NPAasn	100	70	...	...	300
Columbus, 366,087—Franklin	Gen	NPAasn	32	30	24	88	97
Florence Crittenton Home...	Inst	County	125	124	...	...	143
Franklin County Home...	Inst	County	125	124	...	...	143
Institution for Feeble-minded MeDe	State	State	2,100	2,101	...	...	332
Ohio Penitentiary Hospital.	Inst	State	167	115	...	...	4,718

OHIO—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Covington, 1,945—Miami	Gen	NPAasn	8	2	2	12	80
Covington Hospital	Gen	NPAasn	8	2	2	12	80
Dayton, 210,718—Montgomery	Gen	NPAasn	30	21	...	...	108
Convalescent Home for Crippled Children	Orth	NPAasn	30	21	...	...	108
Wilson Schools	MeDe	Part	40	35	...	...	38
Delaware, 8,944—Delaware	Gen	State	32	8	...	...	409
Girls' Industrial School Hospital	Inst	State	32	8	...	...	409
Euclid, 17,866—Cuyahoga	Gen	NPAasn	20	5	...	...	464
Rose-Mary, The Johanna Grasselli Home for Crippled Children	Orth	Church	23	19	...	...	8
Fairfield, 2,549—Greene	Gen	Army	40	11	2	...	687
Station Hospital	Gen	Army	40	11	2	...	687
Granyville, 1,502—Licking	Gen	NPAasn	20	5	...	...	78
Whisper Hall Memorial Hospital	Inst	NPAasn	20	5	...	...	78
Greenfield, 4,228—Highland	Gen	NPAasn	20	5	...	...	78
Greenfield, Hospital	Gen	NPAasn	20	5	...	...	78
Lancaster, 21,940—Fairfield	Gen	NPAasn	20	5	...	...	78
Boys' Industrial School Hospital	Inst	State	100	17	...	...	672
Lebanon, 3,890—Warren	Gen	Part	8	7	3	51	291
Blair Brothers Hospital....	Gen	Part	8	7	3	51	291
Lima, 44,711—Allen	Alcoh	Indiv	11	4	...	...	50
Maples Sanitarium	Alcoh	Indiv	11	4	...	...	50
Marysville, 4,037—Union	Inst	State	34	7	3	3	194
Harmon Hospital (Ohio Reformatory for Women)...	Inst	State	34	7	3	3	194
Mt. Vernon, 10,122—Knox	Inst	State	34	7	3	3	194
Avalon Sanatorium	TB	Indiv	90	67	...	...	103
Munroe Falls, 511—Summit	Inst	County	175	137	...	...	379
Summit County Hospital...	Inst	County	175	137	...	...	379
Napoleon, 8,825—Henry	Gen	City	14	10	4	53	426
S. M. Heller Memorial Hosp.	Gen	City	14	10	4	53	426
New London, 1,636—Huron	Gen	NPAasn	9	6	3	38	221
New London Hospital.....	Gen	NPAasn	9	6	3	38	221
Orient, 255—Pickaway	Gen	State	2,830	2,785	...	...	236
Institution for Feeble-minded MeDe	State	State	2,830	2,785	...	...	236
Oxford, 2,756—Butler	Inst	State	40	10	...	...	1,090
Miami University Student Hospital	Inst	State	40	10	...	...	1,090
Reynoldsburg, 632—Franklin	TbChil	NPAasn	40	39	...	...	39
Nightingale Cottage	TbChil	NPAasn	40	39	...	...	39
Springfield, 70,662—Clark	Inst	NPAasn	75	43	...	...	165
Ohio Rebeccah Hospital.....	Inst	NPAasn	75	43	...	...	165
Rickley Memorial Hospital...	Inst	NPAasn	225	225	...	...	70
State Soldiers Home, —Erie	Inst	State	96	50	...	...	532
Ohio Soldiers and Sailors Home Hospital	Inst	State	96	50	...	...	532
Tiffin, 10,102—Seneca	Inst	NPAasn	50	10	...	...	585
Kentucky Memorial Hospital	Inst	NPAasn	50	10	...	...	585
Toledo, 282,349—Lucas	Chr	County	112	110	...	...	95
Lucas County Hosp. Annex.	Chr	County	112	110	...	...	95
Municipal Hospital for Contagious Diseases	Iso	City	26	7	...	...	203
Toledo Society for Crippled Children	Orth	NPAasn	74	47	...	...	94
Warren, 42,837—Trumbull	Alcoh	Indiv	8	2	...	...	46
Elm Manor	Alcoh	Indiv	8	2	...	...	46
Warrensville, 1,507—Cuyahoga	Inst	City	170	164	...	...	230
Warrensville Chronic Hosp.	Inst	City	170	164	...	...	230
Wickliffe, 3,155—Lake	N&M	Corp	60	58	...	...	8
Ridge-Cliff Sanitarium	N&M	Corp	60	58	...	...	8
Wickham Sanitarium	N&M	Corp	12	6	...	...	35
Wooster, 11,543—Wayne	Inst	NPAasn	25	4	...	...	391
Hygieia Hall	Inst	NPAasn	25	4	...	...	391
Xenia, 10,633—Greene	Inst	NPAasn	25	4	...	...	391
Ohio Soldiers' and Sailors' Orphans' Home Hospital.	Inst	State	63	21	...	...	1,004
Yellow Springs, 1,640—Greene	Inst	NPAasn	10	5	...	...	...
Antioch College Infirmary.	Inst	NPAasn	10	5	...	...	...
Youngstown, 167,720—Mahoning	City	City	60	4	...	...	60
Youngstown Municipal Hosp.	Iso	City	60	4	...	...	60

OKLAHOMA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Ada, 15,143—Pontotoc	Gen	NPAasn	21	12	2	63	609
Breck's Memorial Hospital...	Gen	NPAasn	50	29	9	296	1,694
Valley View Hospital.....	Gen	NPAasn	50	29	9	296	1,694
Altus, 8,593—Jackson	Gen	Indiv	30	...	...	...	Reorganized
Altus Hospital	Gen	Indiv	30	...	...	...	Reorganized
Alva, 5,579—Woods	Gen	City	28	16	6	218	827
Alva General Hospital.....	Gen	City	28	16	6	218	827
Anadarko, 5,579—Caddo	Gen	Part	22	11	4	53	505
Anadarko Hospital	Gen	Part	22	11	4	53	505
Ardmore, 16,886—Carter	Gen	Indiv	45	26	8	180	1,188
Hardy Sanitarium*	Gen	Indiv	45	26	8	180	1,188
Von Keller Hosp. and Clinic.	Gen	NPAasn	25	7	6	23	452
Bartlesville, 16,267—Washington	Gen	County	51	26	10	329	1,271
Washington County Memorial Hospital	Gen	County	51	26	10	329	1,271
Beaver, 1,166—Beaver	Gen	Part	20	6	3	45	467
Beaver Hospital	Gen	Part	20	6	3	45	467
Blackwell, 5,337—Kay	Gen	NPAasn	23	...	6	Reorganized	1
Blackwell General Hospital..	Gen	NPAasn	23	...	6	Reorganized	1
Riverside Clinic Hospital...	Gen	NPAasn	19	16	6	172	698

OKLAHOMA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Bristow, 6,050—Creek	Gen	Part	17	6	5	42	365
Cowart-Sisler Hospital	Gen	Part	17	6	5	42	365
Carnegie, 1,740—Caddo	Gen	Corp	14	6	5	98	377
Carnegie Hospital and Clinic	Gen	Corp	14	6	5	98	377
Cherokee, 2,553—Alfalfa	Gen	NPAssn	50	21	7	84	896
Masonic Hospital	Gen	NPAssn	50	21	7	84	896
Chickasha, 14,111—Grady	Gen	Part	35	25	4	42	583
Chickasha Hospital	Gen	Part	35	25	4	42	583
Cottage Hospital	Gen	Indiv	10	10	5	35	385
General Hospital	Gen	NPAssn	17	5	8	62	280
Claremore, 4,184—Rogers	Gen	IA	80	68	18	187	1,483
Claremore Indian Hospital	Gen	IA	80	68	18	187	1,483
Clinton, 6,786—Custer	Gen	IA	32	17	4	40	594
Clinton Indian Hospital	Gen	IA	32	17	4	40	594
Western Oklahoma Charity Hospital	Gen	State	100	77	6	98	2,349
Western Oklahoma Tuberculosis Sanatorium	TB	State	295	275	..	...	412
Concho, 290—Canadian	Gen	IA	46	24	8	60	834
Cheyenne and Arapaho Hospital	Gen	IA	46	24	8	60	834
Cordell, 2,776—Washita	Gen	Indiv	30	3	7	34	184
Florence Hospital	Gen	Indiv	30	3	7	34	184
Cushing, 7,703—Payne	Gen	NPAssn	30	18	4	114	825
Masonic Hospital	Gen	NPAssn	30	18	4	114	825
Duncan, 9,207—Stephens	Gen	Indiv	30	10	5	56	566
Patterson Hospital	Gen	Indiv	30	10	5	56	566
Weedn Hospital	Gen	Part	60	16	8	63	703
Durant, 10,027—Bryan	Gen	Corp	25	12	3	62	611
Durant Hospital	Gen	Corp	25	12	3	62	611
Evergreen Sanitarium	Gen	Indiv	21	6	2	31	241
Haytle-Coker Hospital	Gen	Part	11	10	2	64	465
Elk City, 5,021—Beckham	Gen	Indiv	35	9	3	49	625
Tisdal Hospital	Gen	Indiv	35	9	3	49	625
El Reno, 10,078—Canadian	Gen	Indiv	19	6	3	37	190
Catto Hospital	Gen	Indiv	35	14	6	113	784
El Reno Sanitarium	Gen	Indiv	35	14	6	113	784
Enid, 28,081—Garfield	Gen	NPAssn	78	54	10	123	1,773
Enid General Hospital	Gen	NPAssn	78	54	10	123	1,773
Independence Hospital	Gen	NPAssn	16	7	4	52	415
St. Mary's Enid Springs Hospital	Gen	Church	41	27	9	270	1,554
University Hospital Foundation	Gen	NPAssn	50	28	10	237	1,506
Erick, 1,591—Beckham	Gen	Indiv	12	8	3	25	150
Stagner Clinic and Hospital	Gen	Indiv	12	8	3	25	150
Fort Sill, 5,587—Comanche	Gen	Army	557	271	10	139	9,238
Station Hospital	Gen	Army	557	271	10	139	9,238
Frederick, 5,100—Tillman	Gen	Part	20	7	3	95	472
Frederick Clinic Hospital	Gen	Part	20	7	3	95	472
Spurgeon, Arrington and Allen Hospital and Clinic	Gen	Corp	12	9	4	96	450
Grandfield, 1,116—Tillman	Gen	Indiv	10	2	3	65	120
Grandfield Hospital	Gen	Indiv	10	2	3	65	120
Guthrie, 10,018—Logan	Gen	NPAssn	35	16	5	98	794
Cimarron Valley Wesley Hospital	Gen	NPAssn	35	16	5	98	794
Henryetta, 6,905—Okmulgee	Gen	Indiv	25	13	2	61	671
Henryetta Hospital	Gen	Indiv	25	13	2	61	671
John Taylor Hospital	Gen	Indiv	18	10	3	50	500
Hobart, 5,177—Kiowa	Gen	Indiv	21	8	5	220	782
General Hospital	Gen	Indiv	21	8	5	220	782
Holdenville, 6,632—Hughes	Gen	Indiv	30	10	3	26	575
Holdenville Hospital	Gen	Indiv	30	10	3	26	575
Pryor-Johnston-Kernick Clinic and Hospital	Gen	Part	11	5	4	49	364
Hollis, 2,732—Harmon	Gen	Indiv	15	6	3	65	503
Hollis Hospital	Gen	Indiv	15	6	3	65	503
Hominy, 3,267—Osage	Gen	Indiv	28	2	4	34	213
Hominy Hospital	Gen	Indiv	28	2	4	34	213
Gen	IA	166	106	16	172	2,152	
Gen	Corp	31	7	8	33	231	
Gen	Corp	30	13	5	...	...
Maud, 4,326—Seminole	Gen	Indiv	16	7	3	31	263
Maud Hospital	Gen	Indiv	16	7	3	31	263
McAlester, 12,401—Pittsburg	Gen	Indiv	65	24	7	82	1,121
Albert Pike Hospital	Gen	Indiv	65	24	7	82	1,121
Central Oklahoma State Hospital Annex	MeDe	State	250	250	..	...	280
St. Mary's Hospital	Gen	Church	55	7	7	42	450
Miami, 8,345—Ottawa	Gen	Church	40	15	8	83	846
Miami Baptist Hospital	Gen	Church	40	15	8	83	846
Gen	CyCo	20	6	3	20	272	
Gen	Church	114	50	11	250	1,727	
Gen	Vet	423	265	..	...	3,108	
Gen	State	2,545	2,497	..	...	1,044	
Gen	State	50	13	..	...	1,239	
Gen	Indiv	10	3	3	59	293	
Gen	Corp	41	22	..	...	698	
Gen	Corp	50	27	..	...	260	
Gen	Corp	35	18	2	20	231	
Gen	Indiv	25	13	..	...	86	
Gen	Corp	100	76	12	288	3,588	
Gen	Indiv	65	49	15	287	1,856	

OKLAHOMA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
St. Anthony Hospital	Gen	Church	350	279	50	1,599	10,471
Samaritan Hospital	Gen	Indiv	44	20	7	161	828
University Hospitals	GenOr	State	445	357	21	469	5,420
Wesley Hospital	Gen	Part	135	86	25	580	4,360
Okmulgee, 16,051—Okmulgee	Gen	Part	12	7	2	5	340
Ming-Vernon Hospital	Gen	City	35	16	7	130	816
Okmulgee City Hospital	Gen	City	35	16	7	130	816
Pauls Valley, 5,104—Garvin	Gen	Part	23	13	7	143	588
Lindsey-Johnson-Shirley Hospital	Gen	Part	23	13	7	143	588
Pawhuska, 5,443—Osage	Gen	County	40	20	8	148	903
Osage County Infirmary	Gen	County	40	20	8	148	903
Pawhuska Municipal Hosp.	Gen	City	25	9	6	64	410
Pawnee, 2,742—Pawnee	Gen	IA	50	31	6	105	784
Pawnee-Ponca Hospital	Gen	IA	50	31	6	105	784
Picher, 5,848—Ottawa	Gen	Indiv	40	4	3	6	294
American Hospital	Gen	Part	19	8	2	61	578
Picher Hospital	Gen	Part	19	8	2	61	578
Ponca City, 16,794—Kay	Gen	Church	50	44	12	447	2,649
Ponca City Hospital	Gen	Church	50	44	12	447	2,649
Poteau, 4,020—Le Flore	Gen	Indiv	15	6	2	33	402
Woodson Hospital	Gen	Indiv	15	6	2	33	402
Prague, 1,422—Lincoln	Gen	Indiv	10	4	3	43	268
Rollins Hospital	Gen	Indiv	10	4	3	43	268
Sayre, 3,037—Beckham	Gen	Indiv	25	5	4	101	333
Sayre Hospital	Gen	Indiv	25	5	4	101	333
Seminole, 11,547—Seminole	Gen	Corp	23	23	6	249	1,200
Harber Hospital	Gen	Corp	23	23	6	249	1,200
Shattuck, 1,275—Ellis	Gen	Indiv	48	16	6	230	1,141
Shattuck Hospital	Gen	Indiv	48	16	6	230	1,141
Shawnee, 22,053—Pottawatomie	Gen	Part	25	14	5	129	879
A. C. H. Hospital	Gen	Part	25	14	5	129	879
Shawnee Indian Sanat.	TB	IA	150	99	..	...	101
Shawnee Municipal Hosp.	Gen	City	50	20	6	208	1,439
Stillwater, 10,097—Payne	Gen	Church	40	18	11	161	687
Stillwater Municipal Hosp.	Gen	Church	40	18	11	161	687
Sulphur, 7,970—Murray	Gen	State	136	126	..	...	963
Soldiers Tubercular Sanat.	GenTb	State	136	126	..	...	963
Sulphur Hospital and Clinic	Gen	NPAssn	20	2	4	36	156
Supply, 414—Woodward	Gen	State	1,500	1,477	..	...	557
Western Oklahoma Hospital	Gen	State	1,500	1,477	..	...	557
Taft, 772—Muskogee	Gen	State	720	675	..	...	391
Taft Hospital for Negro Insane	Gen	State	720	675	..	...	391
Tablequah, 3,037—Cherokee	Gen	IA	73	51	13	193	1,348
Wm. W. Hastings Indian Hospital	Gen	IA	73	51	13	193	1,348
Talihina, 1,057—Le Flore	Gen	State	370	343	..	...	571
Eastern Oklahoma State Tuberculosis Sanatorium	TB	State	370	343	..	...	571
Talihina Sanatorium and Hospital	GenTb	IA	242	201	20	162	1,702
Tonkawa, 3,197—Kay	Gen	Indiv	20	2	4	30	127
Tonkawa Hospital	Gen	Indiv	20	2	4	30	127
Tulsa, 142,157—Tulsa	Gen	Corp	30	15	12	377	961
Flower Hospital	Gen	Corp	30	15	12	377	961
Hillcrest Memorial Hosp.	Gen	NPAssn	225	86	21	655	4,135
Mersey Hospital for Crippled Children	Orth	Indiv	85	20	..	...	1,095
Oakwood Sanitarium	N&M	Corp	42	12	..	...	171
St. John's Hospital	Gen	Church	215	177	35	979	7,104
Vinita, 5,685—Craig	Gen	State	2,500	2,544	..	...	532
Eastern Oklahoma Hospital	Gen	Corp	14	9	3	117	603
Vinita Hospital	Gen	Corp	14	9	3	117	603
Gen	Corp	25	12	4	27	320	
Gen	Corp	20	7	4	67	344	
Gen	Part	25	10	4	29	313	
Woodward, 5,466—Woodward	Gen	Corp	24	..	4	79	469
Memorial Hospital	Gen	Corp	24	..	4	79	469
Related Institutions							
Chelsen, 1,642—Rogers	Gen	Indiv	5	3	1	27	124
Jennings Hospital	Gen	Indiv	5	3	1	27	124
Chillico, 200—Kay	Gen	IA	47	1	1	...	80
Chillico Indian School Hospital	Gen	IA	47	1	1	...	80
El Reno, 10,078—Canadian	Gen	Fed	66	26	..	...	629
Federal Reformatory	Gen	Fed	66	26	..	...	629
Enid, 28,081—Garfield	Gen	State	1,119	1,091	..	...	40
Northern Oklahoma Hosp.	Gen	State	1,119	1,091	..	...	40
Fairfax, 2,327—Osage	Gen	Indiv	10	4	3	44	283
Fairfax Hospital	Gen	Indiv	10	4	3	44	283
Fort Reno (El Reno P.O.), 150—Canadian	Gen	Army	14	1	..	...	85
Station Hospital	Gen	Army	14	1	..	...	85
Hobart, 5,177—Kiowa	Gen	Corp	31	20	7	123	1,234
Gen	Corp	20	6	4	82	310	
Gen	Part	20	6	4	82	310	
Gen	Inst	40	21	..	...	779	
Gen	Inst	40	21	..	...	779	
Gen	Indiv	9	3	2	48	217	
Gen	Part	12	6	2	29	330	
Gen	TB	Part	27	18	..	...	93
Gen	Church	22	9	30	195	231	
Gen	Mat	22	9	30	195	231	
Gen	Inst	50	12	..	...	1,776	

Key to symbols and abbreviations is on page 1083

OKLAHOMA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Tahlequah, 3,027—Cherokee Sequoyah Training School Hospital	Inst	IA	24	12	..	...	535
Tulsa, 142,157—Tulsa Municipal Hospital No. 2....	Gen	County	50	30	6	96	720
Tulsa General Hospital....	Gen	Corp	65	35	12	325	1,562
Tulsa Junior League Home for Convalescent Crippled Children	Orth	NPAasn	35	26	..	...	50
..... Gen	Indiv		14	7	1	41	309
Wynnewood Hospital Clinic. Gen	Part		7	2	3	37	135

OREGON

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Albany, 5,654—Linn Albany General Hospital....	Gen	NPAasn	50	10	8	161	877
Ashland, 4,744—Jackson Community Hospital	Gen	Indiv	22	9	6	79	504
Astoria, 10,389—Clatsop Columbia Hospital▲.....	Gen	Church	91	47	13	210	2,107
St. Mary's Hospital▲.....	Gen	Church	85	42	10	137	2,104
Baker, 9,342—Baker St. Elizabeth Hospital.....	Gen	Church	100	30	16	210	2,011
Bend, 10,021—Deschutes St. Charles Hospital.....	Gen	Church	40	30	9	246	1,446
Burns, 2,566—Harvey Valley View Hospital.....	Gen	Indiv	18	9	4	52	479
Corvallis, 8,392—Benton Ball Clinic	Gen	Indiv	17	10	8	60	359
Corvallis General Hospital.. Gen	NPAasn		38	17	6	121	675
Dallas, 3,579—Polk Dallas Hospital	Gen	Corp	26	14	4	45	227
Enterprise, 1,709—Wallowa Enterprise Hospital	Gen	Corp	15	6	3	34	286
Eugene, 20,838—Lane Eugene Hospital and Clinic▲	Gen	Part	66	47	3	112	1,867
Sacred Heart General Hosp▲	Gen	Church	94	66	26	858	3,040
Grants Pass, 6,028—Josephine Josephine County General Hospital	Gen	County	51	25	12	202	1,036
Hood River, 3,280—Hood River Hood River Hospital.....	Gen	NPAasn	43	26	5	103	1,433
Klamath Agency, 150—Klamath Klamath Indian Hospital....	Gen	IA	28	11	5	47	546
Klamath Falls, 16,497—Klamath Hillside Hospital▲.....	Gen	Corp	50	37	12	305	1,772
Klamath Valley Hospital....	Gen	Corp	40	42	14	360	1,920
La Grande, 7,747—Union St. Joseph Hospital.....	Gen	Church	45	16	13	150	803
Lebanon, 2,729—Linn Lebanon General Hospital.. Gen	NPAasn		26	15	6	210	782
Marshfield, 5,259—Coos McAuley Hospital	Gen	Church	45	31	10	179	2,399
McMinnville, 3,706—Yamhill McMinnville Hospital	Gen	Corp	40	35	7	197	1,732
Medford, 11,281—Jackson Sacred Heart Hospital▲.....	Gen	Church	75	45	8	164	1,571
Milwaukie, 1,871—Clackamas Portland Open Air Sanat....	TB	NPAasn	40	30	..	...	126
Myrtle Point, 1,296—Coos Mast Hospital	Gen	Indiv	40	26	6	63	753
Newberg, 2,960—Yamhill Willamette Hospital	Gen	Corp	21	7	4	85	572
North Bend, 4,262—Coos Kelzer Brothers Hospital....	Gen	Part	60	34	7	155	1,262
Ontario, 3,531—Malheur Holy Rosary Hospital▲.....	Gen	Church	35	25	5	73	878
Oregon City, 6,124—Clackamas Hutchinson General Hosp....	Gen	Indiv	31	12	7	135	565
Oregon City Hospital▲.....	Gen	Corp	63	42	10	254	1,418
Pendleton, 8,847—Umatilla Eastern Oregon State Hosp. Ment	State		1,350	1,287	..	...	214
St. Anthony's Hospital▲.....	Gen	Church	70	53	12	215	1,834
Portland, 305,294—Multnomah Coffey Memorial Hospital▲. Gen	Corp		100	49	..	...	1,829
Doernbecher Memorial Hospital for Children.....	Unit of University of Oregon Medical School						
Hospitals and Clinics							
Emmanuel Hospital▲▲.....	Gen	Church	263	250	60	1,784	7,562
Good Samaritan Hosp.▲.....	Gen	Church	310	235	36	803	8,462
Hahnemann Hospital▲.....	Gen	NPAasn	50	17	10	102	852
Juvenile Hospital for Girls... VenMat	NPAasn		96	80	8	28	104
Morningside Hospital	Ment	Fed	320	305	..	...	50
Multnomah Hospital	Unit of University of Oregon Medical School						
Hospitals and Clinics							
Portland Convalescent Hospital	Med	Indiv	25	12	..	...	136
Portland Medical Hospital.. Gen	Corp		57	26	..	...	548
Portland Sanitarium and Hospital▲.....	Gen	Church	118	104	29	850	5,364
St. Vincent's Hospital▲.....	Gen	Church	386	354	36	828	9,249
Shriners Hospital for Crippled Children▲.....	Orth	NPAasn	50	51	..	...	277
Theo. B. Wilcox Memorial Hospital	Unit of Good Samaritan Hospital						

OREGON—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
University of Oregon Medical School Hospitals and Clinics▲▲.....	GenTb	CoState	435	430	30	771	8,819
Veterans Admin. Facility▲.....	Gen	Vet	406	368	..	...	2,769
Prineville, 2,358—Crook Prineville General Hospital.. Gen	Indiv		20	...	6	...	...
Roseburg, 4,924—Douglas Mercy Hospital	Gen	Church	33	20	7	199	769
Veterans Admin. Facility▲.....	Ment	Vet	566	400	..	...	352
St. Helens, 4,304—Columbia St. Helens General Hospital Gen	Corp		19	9	6	16	760
Salem, 30,908—Marion Oregon State Hospital▲.....	Ment	State	2,800	2,669	..	...	1,005
Oregon State Tuberculosis Hospital	TB	State	320	309	..	...	251
Salem Deaconess Hospital.. Gen	Church		100	72	15	393	2,301
Salem General Hospital▲.....	Gen	NPAasn	73	47	20	371	2,416
Silverton, 2,925—Marion Silverton Hospital	Gen	NPAasn	20	14	9	210	475
The Dalles, 6,266—Wasco Eastern Oregon State Tuberculosis Hospital	TB	State	200	185	..	...	137
Mid-Columbia Hospital	Gen	Indiv	22	10	6	37	552
The Dalles Hospital.....	Gen	Corp	75	35	8	192	1,364
Tillamook, 2,751—Tillamook Chariton Hospital	Gen	Indiv	35	18	8	86	918
Toledo, 2,288—Lincoln Lincoln Hospital	Gen	Part	24	16	5	94	531
Troutdale, 211—Multnomah Multnomah County Tuberculosis Pavilion	TB	County	41	30	..	...	58
Warm Springs, 50—Jefferson Warm Springs Hospital....	Gen	IA	23	8	6	19	145

Related Institutions

Chemawa, 700—Marion Chemawa Indian Hospital.. Gen	IA		49	13	3	17	831
Coquille, 3,327—Coos Coquille Hospital	Gen	Indiv	27	15	8	104	642
Corvallis, 8,392—Benton Student Health Service Oregon State College.....	Inst	State	30	14	..	...	975
Lakeview, 2,466—Lake Lakeview Hospital	Gen	Corp	16	8	4	49	471
Portland, 305,394—Multnomah City Isolation Hospital.....	Iso	City	100	19	..	...	441
E. Henry Wemme White Shield	Mat	NPAasn	28	3	12	45	53
Salvation Army White Shield Home	Mat	Church	35	27	7	91	122
Salem, 30,908—Marion Oregon Fairview Home.....	MeDe	State	1,103	1,030	..	...	107
Oregon State Penitentiary Hospital	Inst	State	40	27	..	...	324
Oregon State School for the Deaf	Inst	State	10	2	..	...	167
Waldport, 630—Lincoln Waldport Community Hosp. Gen	Indiv		10	1	4	16	40

PENNSYLVANIA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Abington, 3,200—Montgomery Abington Memorial Hospital▲.....	Gen	NPAasn	279	202	51	852	6,311
Allentown, 96,994—Lehigh Allentown Hospital▲.....	Gen	NPAasn	375	314	35	819	8,103
Allentown State Hospital▲.....	Ment	State	1,354	1,025	..	...	339
Baer Hospital	Gen	Indiv	12	2	10	26	91
Sacred Heart Hospital▲.....	Gen	Church	294	175	41	969	4,651
Allenwood, 400—Union Devitt's Camp	TB	NPAasn	104	90	..	...	262
Altoona, 80,214—Blair Altoona Hospital▲.....	Gen	NPAasn	157	110	18	559	2,622
Mercy Hospital▲.....	Gen	Church	149	90	31	611	3,031
Ambler, 3,953—Montgomery Dufur Hospital	N&M	Indiv	50	48	..	...	90
Ashland, 7,045—Schuylkill Ashland State Hospital....	Gen	State	150	140	25	612	4,153
Aspinwall (Sharnsburg P.O.), 4,716—Allegheny Veterans Admin. Facility▲. Gen	Vet		760	583	..	...	4,117
Beaver Falls, 17,068—Beaver Providence Hospital▲.....	Gen	Church	51	43	11	265	1,423
Bedford, 3,268—Bedford Timmins' Hospital	Gen	Indiv	17	7	4	52	332
Bellefonte, 5,204—Centre Centre County Hospital....	Gen	NPAasn	53	49	16	354	1,379
Bellevue, 10,488—Allegheny Suburban General Hosp.▲.....	Gen	NPAasn	104	56	14	323	2,216
Berwick, 13,181—Columbia Berwick Hospital	Gen	NPAasn	50	25	10	205	1,429
Bethlehem, 58,490—Northampton St. Luke's Hospital▲.....	Gen	NPAasn	197	157	23	609	4,562
Bloomsburg, 9,799—Columbia Bloomsburg Hospital▲.....	Gen	NPAasn	117	63	18	234	2,110
Blossburg, 1,955—Tioga Blossburg State Hospital▲. Gen	State		50	85	9	258	2,227

PENNSYLVANIA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
New Brighton, 9,630—Beaver Valley General Hospital* ^o	Gen	NPAssn	81	44	11	235	1,364
New Castle, 47,638—Lawrence Jameson Memorial Hosp.* ^o	Gen	NPAssn	147	94	21	541	3,441
New Castle Hospital* ^o	Gen	Church	105	74	20	403	2,441
New Kensington, 21,055—Westmoreland Citizens General Hospital* ^o	Gen	NPAssn	101	90	12	389	2,767
Norristown, 38,181—Montgomery Montgomery Hospital* ^o	Gen	NPAssn	130	110	30	547	3,698
Norristown State Hospital* ^o	Ment	State	3,823	3,714	..	..	604
Riverview Hospital* ^o	Gen	NPAssn	30	15	10	205	569
Sacred Heart Hospital* ^o	Gen	Church	45	45	25	373	1,385
Oil City, 20,379—Venango Grand View Institution* ^o	TB	NPAssn	50	15	..	..	43
Oil City Hospital* ^o	Gen	NPAssn	90	63	20	441	2,554
Palmerton, 7,475—Carbon Palmerton Hospital* ^o	Gen	NPAssn	65	57	11	182	1,886
Peckville, 8,000—Lackawanna Mid-Valley Hospital* ^o	Gen	NPAssn	62	44	8	249	1,681
Philadelphia, 1,931,334—Philadelphia American Hospital for Diseases of the Stomach* ^o	Gen	NPAssn	39	16	3	66	746
American Oncologic Hosp.* ^o	SkCa	NPAssn	50	26	..	..	532
Anderson Hospital* ^o	Gen	NPAssn	76	20	24	217	1,704
Broad Street Hospital* ^o	Gen	NPAssn	80	58	30	554	2,127
Ohestnut Hill Hospital* ^o	Gen	NPAssn	89	63	25	425	2,220
Children's Heart Hospital* ^o	Card	NPAssn	60	55	..	..	93
Children's Hospital* ^o	Chil	NPAssn	134	88	..	..	1,870
Children's Hospital of the Mary J. Drexel Home* ^o	Chil	Church	50	22	..	..	937
Fairmount Farm* ^o	N&M	Corp	44	28	..	..	127
Frankford Hospital* ^o	Gen	NPAssn	144	105	48	971	3,723
Frederick Douglass Memorial Hospital* ^o	Gen	NPAssn	90	50	10	137	822
Friends Hospital* ^o	N&M	NPAssn	170	137	..	..	107
Garretson Hospital* ^o	Unit of Temple University Hospital						
Germantown Dispensary and Hospital* ^o	Gen	NPAssn	345	232	65	1,231	6,720
Graduate Hosp. of the University of Pennsylvania* ^o	Gen	NPAssn	461	219	..	12	6,522
Hahnemann Hospital* ^o	Gen	NPAssn	600	469	77	1,509	12,552
Home for Consumptives* ^o	TB	Church	104	93	..	..	118
Hospital of the Protestant Episcopal Church* ^o	Gen	Church	482	305	48	1,305	6,834
Hospital of the University of Pennsylvania* ^o	Gen	NPAssn	487	356	41	1,004	10,389
Hospital of the Woman's Medical College of Pennsylvania* ^o	Gen	NPAssn	152	100	21	620	3,295
Institute of the Pennsylvania Hospital* ^o	N&M	NPAssn	60	44	..	..	947
Jeane's Hospital* ^o	Cancer	NPAssn	68	41	..	..	578
Jefferson Medical College Hospital* ^o	Gen	NPAssn	642	558	46	1,343	12,752
Jewish Hospital* ^o	Gen	NPAssn	400	295	70	1,298	8,073
Joseph Price Memorial Hospital* ^o	Gen	NPAssn	55	20	5	18	437
Kensington Hospital for Women* ^o	GynMat	NPAssn	66	41	35	900	1,514
Lankenau Hospital* ^o	Gen	NPAssn	262	186	35	416	4,232
Lying-In Hospital* ^o	Unit of Pennsylvania Hospital						
Memorial Hospital* ^o	Gen	NPAssn	82	62	19	275	1,978
Mercy Hospital* ^o	Gen	NPAssn	105	75	20	287	1,666
Methodist Hospital* ^o	Gen	Church	163	114	40	626	3,443
Misericordia Hospital* ^o	Gen	Church	195	144	36	929	4,505
Mt. Sinai Hospital* ^o	Gen	NPAssn	262	214	55	1,198	6,802
National Stomach Hospital* ^o	Gen	NPAssn	41	12	7	26	424
Nazareth Hospital* ^o	Gen	Church	195	..	33	Estab.	1940
Northeastern Hospital* ^o	Gen	NPAssn	87	61	15	531	2,109
Northern Liberties Hospital* ^o	Gen	NPAssn	57	40	9	119	1,641
Northwestern General Hosp. Pennsylvania Hospital* ^o	Unit of Temple University Hospital						
Pennsylvania Hospital, Department for Mental and Nervous Diseases* ^o	N&M	NPAssn	225	173	..	..	310
Philadelphia General Hospital* ^o	Gen	City	2,676	1,881	60	1,474	26,034
Philadelphia Hospital for Contagious Diseases* ^o	Iso	City	1,000	256	..	..	3,305
Philadelphia Italian Hosp.* ^o	Gen	NPAssn	42	3	12	15	88
Philadelphia State Hospital* ^o	Ment	State	5,920	5,767	..	..	1,028
Presbyterian Hospital* ^o	Gen	Church	314	200	42	606	4,983
Preston Retreat* ^o	Mat	NPAssn	50	22	30	396	440
Rush Hospital for Consumption and Allied Diseases* ^o	TB	NPAssn	162	121	..	..	363
St. Agnes Hospital* ^o	Gen	Church	346	145	78	509	3,201
St. Christopher's Hospital for Children* ^o	Chil	NPAssn	82	55	..	..	1,950
St. Joseph's Hospital* ^o	Gen	Church	162	103	22	446	2,379
St. Luke's and Children's Medical Center* ^o	Gen	NPAssn	219	135	40	840	4,920
St. Mary's Hospital* ^o	Gen	Church	206	123	44	691	4,331
St. Vincent's Hospital for Women and Children* ^o	Gen	Church	137	67	24	478	1,005
Shriners Hospital for Crippled Children* ^o	Orth	NPAssn	120	101	..	..	409
Skin and Cancer Hospital* ^o	SkCa	NPAssn	31	31	..	..	198
Stetson Hospital* ^o	Gen	NPAssn	62	33	10	157	1,339
Temple University Hospital* ^o	Gen	NPAssn	430	349	41	1,005	10,042
U. S. Naval Hospital* ^o	Navy	Gen	951	743	..	..	8,023
Urologic Clinic* ^o	Urol	Part	15	5	..	..	308
Wills Hospital* ^o	Gen	NPAssn	200	123	..	..	3,657
Woman's Hospital* ^o	Gen	NPAssn	125	78	41	830	2,715

PENNSYLVANIA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Women's Homoeopathic Hospital* ^o	Gen	NPAssn	160	84	40	543	3,053
.....	Indiv	State	15	6	6	43	287
.....	NPAssn		108	101	12	390	3,176
.....	NPAssn		67	41	12	209	1,157
.....	NPAssn		544	395	54	1,121	9,332
Belvedere General Hospital* ^o	Gen	NPAssn	40	15	10	101	591
Children's Hospital* ^o	Chil	NPAssn	194	147	..	..	3,901
City Tuberculosis Hospital* ^o	TB	City	300	217	..	..	256
Elizabeth Steel Magee Hospital* ^o	Gen	NPAssn	300	230	111	2,822	6,381
Eye, Ear, Nose and Throat Hospital* ^o	ENT	NPAssn	111	51	..	..	4,077
Haddon Hospital* ^o	Corp	Gen	20	10	15	212	493
Mercy Hospital* ^o	Gen	Church	632	548	48	1,023	12,843
Montefiore Hospital* ^o	Gen	NPAssn	225	220	32	783	6,293
Municipal Hospital for Contagious Diseases* ^o	Iso	City	150	51	..	..	839
Passavant Hospital* ^o	Gen	Church	116	77	24	213	2,416
Pittsburgh Hospital* ^o	Gen	NPAssn	186	161	24	739	3,849
Presbyterian Hospital* ^o	Gen	NPAssn	150	121	..	..	3,205
Rosalia Foundling and Maternity Hospital* ^o	MatCh	NPAssn	110	100	18	360	622
St. Francis Hospital* ^o	Gen	Church	637	621	51	1,341	12,703
St. John's General Hosp.* ^o	Gen	NPAssn	185	131	40	1,151	4,479
St. Joseph's Hospital and Dispensary* ^o	Gen	Church	128	85	12	362	2,380
St. Margaret Memorial Hospital* ^o	Gen	Church	129	80	21	339	2,474
Shadyside Hospital* ^o	Gen	NPAssn	240	192	40	865	5,634
South Side Hospital* ^o	Gen	NPAssn	207	133	18	487	4,895
Tuberculosis League Hosp.* ^o	TB	NPAssn	150	145	..	..	193
U. S. Marine Hospital* ^o	Gen	USPHS	73	65	..	..	1,224
Western Pennsylvania Hospital* ^o	Gen	NPAssn	600	378	61	1,117	10,290
Woman's Hospital* ^o	Gen	NPAssn	140	29	..	..	717
Pittston, 17,828—Luzerne Pittston Hospital* ^o	Gen	NPAssn	112	72	18	393	2,222
Pottstown, 20,194—Montgomery Homeopathic Hospital* ^o	Gen	NPAssn	50	27	10	171	967
Pottstown Hospital* ^o	Gen	NPAssn	63	42	12	267	1,703
Pottsville, 24,530—Schuylkill Lemos B. Warne Hospital* ^o	Gen	Indiv	75	32	12	117	1,306
A. C. Milliken Hospital* ^o	Gen	NPAssn	53	51	15	333	1,776
Pottsville Hospital* ^o	Gen	NPAssn	155	115	17	455	2,984
Punxsutawney, 9,482—Jefferson Adrian Hospital* ^o	Gen	NPAssn	76	61	10	342	2,026
Quakertown, 5,150—Bucks Quakertown Hospital* ^o	Gen	NPAssn	54	27	12	202	931
Ransom, 150—Lackawanna Ransom Mental Hospital* ^o	Ment	County	386	372	..	..	62
Reading, 110,568—Berks Berks County Tuberculosis Sanatorium* ^o	TB	County	134	131	..	..	149
Homeopathic Hospital* ^o	Gen	NPAssn	100	74	19	404	2,551
Reading Hospital* ^o	Gen	NPAssn	276	199	49	907	5,672
St. Joseph Hospital* ^o	Gen	Church	180	70	25	624	3,726
Renovo, 3,784—Clinton Renovo Hospital* ^o	Gen	NPAssn	24	10	6	110	667
Retreat, 2,000—Luzerne Retreat Mental Hospital* ^o	Ment	County	1,175	1,132	..	..	214
Ridgway, 6,253—Elk Elk County General Hospital* ^o	Gen	NPAssn	62	35	9	142	1,280
Ridley Park, 3,887—Delaware Taylor Hospital* ^o	Gen	NPAssn	70	55	18	316	1,900
Roaring Spring, 2,724—Blair Nason Hospital* ^o	Gen	NPAssn	52	35	12	198	1,157
Rochester, 7,441—Beaver Rochester General Hospital* ^o	Gen	NPAssn	87	72	12	421	2,316
St. Marys, 7,653—Elk Andrew Kaul Memorial Hospital* ^o	Gen	Church	50	22	12	185	789
Sayre, 7,569—Bradford Robert Packer Hospital* ^o	Gen	NPAssn	304	206	21	708	7,694
Schuylkill Haven, 6,518—Schuylkill Schuylkill County Hospital for Mental Diseases* ^o	Ment	County	520	567	..	..	123
Seranton, 140,404—Lackawanna Hahnemann Hospital* ^o	Gen	NPAssn	109	86	16	622	2,834
Lackawanna County Tuberculosis Hospital* ^o	TB	County	134	149	..	..	119
Mercy Hospital* ^o	Gen	Church	84	73	20	415	2,666
Moses Taylor Hospital* ^o	Gen	NPAssn	120	93	..	..	2,107
St. Joseph's Children's and Maternity Hospital* ^o	MatCh	Church	185	153	24	55	147
St. Mary's Mater Misericordiae Hospital* ^o	Gen	Church	76	50	12	212	1,282
Seranton Private Hospital* ^o	Corp	Gen	32	0	5	19	749
Seranton State Hospital* ^o	Gen	State	300	237	15	623	3,869
West Side Hospital* ^o	Gen	NPAssn	65	56	10	315	1,789
Sellersville, 2,115—Bucks Grand View Hospital* ^o	Gen	NPAssn	75	46	25	317	1,965
Sewickley, 5,614—Allegheny Valley Hospital* ^o	Gen	NPAssn	113	99	27	624	2,960
Shamokin, 18,810—Northumberland Shamokin State Hospital* ^o	Gen	State	91	83	20	615	3,121
Sharon, 25,622—Mercer Christian H. Buhl Hosp.* ^o	Gen	NPAssn	132	94	25	620	3,634
Shenandoah, 19,790—Schuylkill Locust Mountain State Hospital* ^o	Gen	State	73	60	13	222	2,544

Key to symbols and abbreviations is on page 1083

PENNSYLVANIA—Continued

Hospitals and Sanatoriums	State	County	City	State	County	City	State	County	City
Bomerset, 5,430 Bomerset	NPAsen	70	40	B	140	1,745			
Bomerset Community Hosp., Gen									
North Mountain, 200 Franklin									
Pennsylvania State Sanatorium No. 1 (Mont Alto).... TB	State	1,015	963	..	...	621			
Spangler, 3,201 Cambria									
Miners' Hospital of Northern									
Cambria..... Gen	NPAsen	70	58	10	301	1,082			
Bamberg, 15,162 Northumberland									
Mary M. Packer Hospital.... Gen	NPAsen	73	69	14	278	2,312			
Susquehanna, 2,749 Susquehanna									
Rhoads H. Barnes Memorial									
Hospital..... Gen	NPAsen	16	10	5	50	335			
Trenton, 9,610 Allegheny									
Allegheny Valley Hospital... Gen	NPAsen	95	63	17	400	2,701			
Taylor, 9,602 Lackawanna									
Taylor Hospital..... Gen	NPAsen	46	40	13	289	1,472			
Thruway, 8,120 Crawford									
Thruway Hospital..... Gen	NPAsen	40	23	15	262	1,053			
Torrance, 500 Westmoreland									
Torrance State Hospital.... Ment	State	1,823	1,768	..	...	415			
Uniontown, 21,800 Fayette									
Uniontown Hospital... Gen	NPAsen	210	175	15	500	5,057			
Warren, 11,991 Warren									
Warren General Hospital... Gen	NPAsen	64	50	18	424	2,411			
Warren State Hospital... Ment	State	2,624	2,373	..	...	611			
Warthburg, 150 Bucks									
Horace Berk Memorial Hosp. Ment	NPAsen	13	0	..	...	81			
Washington, 25,100 Washington									
Hillview Sanitarium..... Gen	Corp	48	24	..	...	177			
Washington Hospital... Gen	NPAsen	138	113	28	451	3,392			
Waymart, 1,005 Wayne									
Farview State Hospital.... Ment	State	1,009	925	..	...	127			
Waynesboro, 10,231 Franklin									
Waynesboro Hospital..... Gen	NPAsen	57	38	15	300	1,157			
Waynesburg, 4,391 Greene									
Greene County Memorial									
Hospital..... Gen	NPAsen	61	38	10	184	1,510			
Wernersville, 1,160 Berks									
Wernersville State Hospital, Ment	State	1,537	1,522	..	...	338			
West Chester, 13,299 Chester									
Chester County Hospital... Gen	NPAsen	110	94	22	552	3,138			
Homeopathic Hospital of									
Chester County... Gen	NPAsen	62	45	15	208	1,312			
Marshall Square Sanitarium N&M	Part	69	35	..	...	76			
White Haven, 1,528 Luzerne									
White Haven Sanitarium... TB	NPAsen	210	198	..	...	332			
Wilkes-Barre, 60,230 Luzerne									
Mercy Hospital... Gen	Church	105	135	25	515	4,112			
Wilkes-Barre General Hospital									
... Gen	NPAsen	369	252	43	600	8,047			
Wyoming Valley Homeopathic									
Hospital... Gen	NPAsen	87	70	20	303	2,137			
Wilkesburg, 20,653 Allegheny									
Columbia Hospital... Gen	Church	190	116	31	612	3,811			
Williamsport, 41,355 Lycoming									
Rothmans Office and Hosp.... Gen	Indiv	35	10	5	56	312			
Williamsport Hospital... Gen	NPAsen	231	198	44	828	5,119			
Windber, 9,057 Berks									
Windber Hospital... Gen	NPAsen	107	85	10	325	2,709			
Woodyville, 4,000 Allegheny									
Allegheny County Home and									
Hospital... Ment(Tb) County	3,531	3,201	..	...	898				
York, 56,712 York									
West Side Sanitarium... Gen	Indiv	50	21	10	48	670			
York Hospital... Gen	NPAsen	101	141	25	1,013	4,019			

Related Institutions

Bellefonte, 5,304 Centre									
Western State Penitentiary									
Hospital..... Inst	State	22	13	..	...	411			
Bellevue, 10,166 Allegheny									
Baltimore Army Women's									
Home and Hospital.... Mat	Church	10	6	10	55	67			
Broomall, 1,300 Delaware									
Convalescent Hospital..... Conv	NPAsen	31	21	..	...	290			
Bryn Mawr, 10,200 Montgomery									
Bryn Mawr College Infirmary Inst	NPAsen	10	6	..	...	403			
Cambridge Springs, 1,807 Crawford									
San Rosario Sanitarium.... Conv	Church	33	12	..	...	320			
Chambersburg, 14,652 Franklin									
Chambersburg Maternity									
Home..... Mat	Part	8	4	8	103	107			
Chester, 52,295 Delaware									
Mercy Hospital..... Gen	NPAsen	28	12	7	65	769			
Darby, 10,331 Delaware									
St. Francis' Country House									
for Convalescents and In...	Church	68	50	..	...	317			
Cambria County Hospital.... Inst	County	100	93	..	...	350			
Elwyn, 200 Delaware									
Elwyn Training School.... MeDe	NPAsen	1,000	1,020	..	...	69			
Embsville, 500 Chester									
Chester County Institution									
District..... Ment	County	312	330	..	...	92			
Erle, 110,055 Erie									
Lakeview Hospital..... Inst	City	82	10	..	...	345			
Thurmanville, 780 Allegheny									
Thurmanville Convalescent									
Home..... Conv	NPAsen	46	42	30	...	312			

Key to symbols and abbreviations is on page 1083

PENNSYLVANIA—Continued

Related Institutions	State	County	City	State	County	City	State	County	City
Harrisburg, 23,993 Dauphin									
Dauphin County Hospital.... Inst	County	160	140	..	...	110			
Huntingdon, 7,170 Huntingdon									
Pennsylvania Industrial									
School..... Inst	State	40	4	..	...	1,009			
Johnstown, 68,698 Cambria									
Municipal Hospital..... Inst	City	60	4	5	...	49			
Lancaster, 61,345 Lancaster									
Lancaster County Institu-									
tion District..... Ment	County	401	465	..	...	254			
Lancaster, 1,221 Bucks									
Marydell School..... MeDe	Part	50	45	..	...	4			
Lancaster, 327 Union									
Laurelton State Village.... MeDe	State	732	629	..	...	19			
Mercer, 2,272 Mercer									
Mercer County Home and									
Hospital..... Ment	County	375	233	..	...	115			
Middletown, 7,910 Dauphin									
Odd Fellows' Home..... Inst	NPAsen	45	31	..	...	21			
Morgantown, 1,600 Washington									
Pennsylvania Training School Inst	State	10	5	..	...	269			
Muncy, 2,000 Lycoming									
Muncy Valley Hospital.... Gen	NPAsen	20	9	7	52	235			
New Wilmington, 1,018 Lawrence									
Overlook Sanitarium..... Conv	Part	35	16	..	...	173			
North East, 3,701 Erie									
St. Barnabas' House by the									
Lake..... Incur	Church	32	31	..	...	23			
Oakbourne (West Chester P.O.), 100—Chester									
James G. Smith Memorial									
Home..... Conv	Church	22	14	..	...	327			
Pennsylvania Epileptic Hos-									
pital and Colony Farm.... Epil	NPAsen	140	131	..	...	35			
Olyphant, 9,252 Lackawanna									
Blackly Home..... Ment	County	254	239	..	...	32			
Pennhurst (Spring City P.O.), 100 Chester									
Pennhurst State School.... MeDe	State	2,100	2,001	..	...	267			
Philadelphia, 1,031,331 Philadelphia									
Babcock Hospital..... Chil	NPAsen	14	9	..	...	321			
Bella Vista Sanitarium.... N&M	Indiv	65	58	..	...	92			
Bolton Hospital, Salvation									
Army Home and Hospital, Mat	Church	10	4	10	127	130			
Eastern State Penitentiary									
Hospital..... Inst	State	80	41	..	...	1,077			
Flanagan Children's Home.... Mat	NPAsen	14	11	14	25	26			
Home of the Merciful Saviour									
for Crippled Children.... Orth	NPAsen	61	62	..	...	32			
Homewood School..... Inst Mat	NPAsen	115	...	No data supplied					
Kenwood Sanitarium..... N&M	Corp	32	27	..	...	58			
..... Inst	County	28	16	..	...	341			
..... Inst	County	35	13	..	...	323			
..... Incur	NPAsen	210	230	..	...	45			
Plus Hall Convalescent									
Home..... Conv	Indiv	10	17	..	...	43			
..... Conv	Corp	62	50	..	...	...
..... Ment	Corp	10	8	..	...	25			
..... Conv	Indiv	20	15	..	...	35			
Industrial Home for Crippled									
Children..... Orth	NPAsen	80	75	..	...	106			
Jewish Home for the Aged.... Inst	NPAsen	65	60	..	...	61			
Western State Penitentiary									
Hospital..... Inst	State	30	21	..	...	757			
Polk, 3,000 Venango									
Polk State School..... MeDe	State	3,000	2,930	..	...	130			
Pottstown, 20,101 Montgomery									
High School Infirmary.... Inst	NPAsen	40	9	..	...	441			
Retreat, 2,000 Luzerne									
Luzerne County Home and									
Infirmary..... Inst	County	500	206	..	...	67			
Rochester, 7,411 Beaver									
Pascavant Memorial Homes									
for the Care of Epileptics, Epil	Church	139	134	..	...	28			
Scranton, 140,401 Lackawanna									
Municipal Contagious Disease									
Hospital..... Inst	City	45	7	..	...	100			
Bellevue, 2,357 Snyder									
Bellevue State Colony for									
Epileptics..... Epil	State	401	442	..	...	35			
Bomerset, 5,430 Bomerset									
Bomerset County Home and									
..... Ment	County	511	494	..	...	55			
..... Inst	State	30	7	..	...	623			
Health Service Hospital.... Gen	Indiv	22	6	0	104	210			
..... MeDe	NPAsen	125	125	..	...	31			
Wawa, 300 Delaware									
Sanitarium School..... Orth	Indiv	23	18	..	...	18			
Wellsboro, 3,695 Tioga									
Wellsboro Hospital..... Gen	NPAsen	9	2	2	10	53			
Wilmington, 2,709 Dauphin									
Williams Valley Hospital.... Gen	NPAsen	24	1	2	1	100			
Willow Grove, 3,000 Montgomery									
Willow Creek for Convales-									

RHODE ISLAND

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Central Falls, 25,248—Providence							
Notre Dame Hospital.....	Gen	NPAasn	50	38	14	273	1,218
East Greenwich, 3,842—Kent							
Crawford Allen Memorial Hospital	Unit of Rhode Island Hospital, Providence						
East Providence, 32,165—Providence							
Emma Pendleton Bradley Home	NervChil	NPAasn	50	46	..	..	75
Hillsgrove, 1,000—Kent							
St. Joseph's Sanatorium....	TB	Church	75	37	..	..	21
Howard, 5,000—Providence							
State Hospital for Mental Diseases+o	Ment	State	3,114	2,742	..	..	569
State Infirmary.....	Gen	State	982	845	20	69	832
Newport, 30,532—Newport							
Newport Hospital+o	Gen	NPAasn	167	102	35	531	2,361
Station Hospital	Gen	Army	70	30	..	..	1,044
U. S. Naval Hospital.....	Gen	Navy	345	196	..	..	2,143
Pawtucket, 75,797—Providence							
Memorial Hospital+o	Gen	NPAasn	166	143	30	795	3,455
Providence, 253,504—Providence							
Butler Hospital+o	N&M	NPAasn	174	159	..	..	173
Charles V. Chapin Hospital+o	TbIso	N&M City	265	184	..	..	2,053
Homeopathic Hospital+o ..	Gen	NPAasn	162	130	34	897	4,907
Jano Brown Memorial Hosp. Unit of Rhode Island Hospital							
Miriam Hospital.....	Gen	NPAasn	63	41	14	299	1,701
Providence Lying-In Hosp.+o	Mat	NPAasn	155	117	155	3,340	3,685
Rhode Island Hospital+o ..	Gen	NPAasn	474	358	12	6	8,721
St. Joseph's Hospital+o ..	Gen	Church	307	230	43	926	5,634
Wakefield, 4,000—Washington							
South County Hospital....	Gen	NPAasn	39	23	11	194	946
Wallum Lake, 100—Providence							
State Sanatorium+	TB	State	618	556	..	..	368
Westerly, 11,199—Washington							
Westerly Hospital.....	Gen	NPAasn	61	36	12	228	1,265
Woonsocket, 49,303—Providence							
Woonsocket Hospital+o ..	Gen	NPAasn	145	85	39	532	2,738

Related Institutions

Hoxsie, 135—Kent							
Lakeside Home and Mary Murray Preventorium	TB	NPAasn	45	44	..	..	134
La Fayette, 600—Washington							
Exeter School	MeDe	State	780	741	..	..	85
Providence, 253,504—Providence							
Heath Sanatorium	Conv	Indiv	20	12	..	..	15
Heath Sanatorium Annex....	Conv	Indiv	14	10	..	..	12
St. Elizabeth Home for Incurables	Incur	Church	69	66	..	..	16

SOUTH CAROLINA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Abbeville, 4,330—Abbeville							
Abbeville County Memorial Hospital	Gen	NPAasn	22	9	2	..	290
Aiken, 6,168—Aiken							
Aiken County Hospital.....	Gen	County	60	63	12	174	2,675
Anderson, 19,424—Anderson							
Anderson County Hosp.+o ..	Gen	NPAasn	111	..	No data supplied	..	..
Bennettsville, 4,895—Marlboro							
Marlboro County General Hospital.....	Gen	NPAasn	32	21	8	81	1,024
Camden, 5,747—Kershaw							
Camden Hospital.....	Gen	NPAasn	58	39	10	186	1,655
Charleston, 71,275—Charleston							
Baker Memorial Sanat.+o ..	Gen	NPAasn	50	32	10	223	1,567
Roper Hospital+o	Gen	NPAasn	325	270	30	832	8,358
St. Francis Xavier Infirmary+o	Gen	Church	50	37	13	223	1,109
U. S. Naval Hospital.....	Gen	Navy	89	61	4	32	854
Chester, 6,392—Chester							
Pryor Hospital	Gen	NPAasn	58	21	6	97	984
Clinton, 5,704—Laurens							
Hays Hospital	Gen	NPAasn	18	8	4	28	342
Columbia, 62,356—Richmond							
Columbia Hospital+o	Gen	County	275	262	30	797	8,300
Good Samaritan-Waverly Hospital.....	Gen	NPAasn	50	30	8	38	600
Orthopedic Hospital	Orth	Indiv	16	..	..	..	Estab. 1940
Providence Hospital.....	Gen	Church	96	52	14	235	2,066
Ridgewood Tuberculosis Camp	TB	NPAasn	70	33	..	..	47
South Carolina Baptist Hospital+o	Gen	Church	90	80	6	170	2,654
South Carolina State Hospital.....	Ment	State	4,529	4,480	..	..	1,293
Veterans Admin. Facility+o ..	Gen	Yot	618	526	..	..	4,697
Waverley Sanitarium	N&M	Corp	25	16	..	..	301
Conway, 5,066—Horry							
Conway Hospital.....	Gen	NPAasn	66	56	10	337	2,901
Florence, 16,054—Florence							
Florence-Darlington Tuberculosis Sanatorium	TB	Counties	100	84	..	..	125
McLeod Infirmary+o	Gen	NPAasn	188	..	No data supplied	..	..
Saunders Memorial Hosp.+o ..	Gen	NPAasn	65	42	4	82	1,904
Gaffney, 7,636—Cherokee							
Cherokee County Hospital..	Gen	County	50	31	6	80	1,190
Greenville, 34,734—Greenville							
Greenville County Tuberculosis Sanatorium	TB	County	81	78	..	..	91
Greenville General Hosp.+o ..	Gen	City	252	181	23	699	7,072

SOUTH CAROLINA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Dr. Jervey's Private Hosp....	ENT	Indiv	15	..	..	..	300
St. Francis Hospital.....	Gen	Church	90	78	20	527	3,023
Shriners Hospital for Crippled Children.....	Orth	NPAasn	65	60	..	..	291
Working Benevolent Hosp....	Gen	NPAasn	22	7	2	20	177
Greenwood, 13,020—Greenwood							
Brewer Hospital	Gen	NPAasn	25	17	6	36	519
Greenwood Hospital	Gen	NPAasn	72	49	8	257	2,269
Hartsville, 5,399—Darlington							
Byerly Hospital	Gen	NPAasn	39	26	4	241	1,755
Powder Hospital	Gen	Indiv	22	10	3	56	391
Kingstree, 3,182—Williamsburg							
Kelley Memorial Hospital....	Gen	NPAasn	60	17	9	52	500
Lancaster, 4,430—Lancaster							
Marion Sims Memorial Hospital.....	Gen	NPAasn	50	..	12	Estab. 1940	..
Laurens, 6,894—Laurens							
Laurens County Hospital....	Gen	County	30	16	5	74	764
Moncks Corner, 1,165—Berkeley							
Berkeley County Hospital....	GenTb	NPAasn	52	33	6	74	874
Moultrieville, 515—Charleston							
Station Hospital	Gen	Army	102	48	4	30	2,532
Mullins, 4,392—Marion							
Mullins Hospital.....	Gen	NPAasn	65	29	10	113	1,448
New York, 1,035—Charleston							
Pinehaven Sanatorium	TB	County	64	62	..	..	110
Newberry, 7,510—Newberry							
Newberry County Hospital..	Gen	NPAasn	28	20	6	77	733
Orangeburg, 10,521—Orangeburg							
Tri-County Hospital.....	Gen	City	116	75	12	165	3,547
Parris Island, 250—Beaufort							
U. S. Naval Hospital.....	Gen	Navy	162	83	6	38	2,023
Rock Hill, 15,009—York							
St. Philip's Mercy Hospital..	Gen	Church	65	64	5	187	2,567
York County Hospital.....	Gen	County	79	..	9	Estab. 1910	..
Seneca, 2,153—Oconee							
Oconee County Hospital....	Gen	NPAasn	45	15	5	65	850
Six Mile, 152—Pickens							
Dr. Peek's Hospital.....	Gen	Indiv	29	13	1	23	430
Spartanburg, 32,249—Spartanburg							
Mary Black Memorial Hospital+o	Gen	NPAasn	45	33	4	75	1,815
Spartanburg General Hospital+o	Gen	County	261	196	16	575	4,507
State Park, —Richland							
Palmetto Sanatorium	Unit of South Carolina Sanatorium	State	440	418	..	..	618
South Carolina Sanatorium..	TB	State	440	418	..	..	618
Summerville, 3,023—Dorchester							
Dorchester County Hospital..	Gen	County	48	24	11	75	721
Sumter, 15,874—Sumter							
Thomey Hospital+o	Gen	NPAasn	114	65	16	208	2,047
Walterboro, 3,373—Colleton							
Charles Es'Dorn Hospital....	Gen	Indiv	40	24	6	80	1,056
Woodruff, 3,508—Spartanburg							
Workman Memorial Hosp....	Gen	Indiv	11	6	2	23	397

Related Institutions

Charleston, 71,275—Charleston							
Charleston Orphan House....	Inst	City	24	4	..	..	406
Clinton, 5,704—Laurens							
State Training School.....	MeDe	State	815	815	1	2	159
Newberry, 7,510—Newberry							
People's Hospital	Gen	NPAasn	15	9	4	9	104
Ridgeland, 1,021—Jasper							
Evelyn Ritter Hospital.....	Gen	Indiv	30	13	6	41	669
Spartanburg, 32,249—Spartanburg							
Broadview Sanitarium	Conv	Indiv	14	6	..	..	150
Sumter, 15,874—Sumter							
Camp Alice, Sumter County							
Tuberculosis Sanitarium ..	TB	CyCo	26	19	..	..	41
Union, 8,478—Union							
Wallace Thomson Hospital..	Gen	County	25	15	3	73	683

SOUTH DAKOTA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Aberdeen, 17,015—Brown							
St. Luke's Hospital.....	Gen	Church	125	77	25	412	3,799
Belle Fourche, 2,496—Butte							
John Burns Memorial Hosp..	Gen	NPAasn	25	8	10	71	426
Bowdle, 757—Edmunds							
Community Hospital	Gen	NPAasn	11	8	4	37	220
Brookings, 5,346—Brookings							
Brookings Municipal Hosp..	Gen	City	33	19	12	157	1,113
Burke, 602—Gregory							
Burke Hospital	Gen	NPAasn	14	7	5	63	2-6
Cheyenne Agency, 121—Dewey							
Cheyenne River Indian Hosp..	Gen	IA	45	21	6	67	569
Deadwood, 4,100—Lawrence							
St. Joseph's Hospital+o	Gen	Church	50	34	12	259	1,263
Dell Rapids, 1,766—Minnehaha							
Dell Rapids Hospital.....	Gen	Part	30	9	6	38	354
Eureka, 1,457—McPherson							
Eureka Community Hosp....	Gen	NPAasn	24	18	4	93	591
Faulton, 747—Faulk							
Faulk County Hospital.....	Gen	County	20	10	5	63	370
Flandreau, 2,212—Moody							
Flandreau Municipal Hosp....	Gen	City	18	8	5	69	309
Fort Meade, 850—Meade							
Station Hospital	Gen	Army	120	52	2	18	812
Fort Thompson, 180—Buffalo							
Crow Creek Hospital.....	Gen	IA	20	13	5	48	278

SOUTH DAKOTA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Gregory, 1,246—Gregory Mother of Grace Hospital...	Gen	Church	18	8	6	52	450
Hot Springs, 4,083—Fall River Lutheran Sanatorium and Hospital	Gen	Church	46	23	6	53	407
Our Lady of Lourdes Hospital and Sanitarium.....	Gen	Church	65	40	6	56	1,090
Veterans Admin. Facility...	Gen	Vet	281	168	..	...	1,538
Huron, 10,843—Bendle Sprague Hospital	Gen	NPAasn	54	43	8	190	1,791
Lead, 7,520—Lawrence Homestead Hospital	Gen	NPAasn	25	15	..	...	631
Lemmon, 1,781—Perkins Lemmon Hospital	Gen	Indiv	12	3	3	8	130
Madison, 5,018—Lake Madison Community Hosp.	Gen	NPAasn	60	22	11	110	841
Milbank, 2,745—Grant St. Bernard Providence Hospital	Gen	Church	27	17	8	136	610
Miller, 1,460—Hand Miller Hospital and Clinic...	Gen	Part	18	9	6	70	540
Mitchell, 10,633—Davison Methodist State Hospital	Gen	Church	100	68	15	180	2,402
St. Joseph Hospital	Gen	Church	118	65	13	268	2,710
Mobridge, 3,008—Walworth Lowe Hospital	Gen	Indiv	20	8	6	40	408
Mobridge Hospital	Gen	NPAasn	27	20	5	88	1,028
New Underwood, 214—Pennington New Underwood Community Hospital	Gen	NPAasn	13	4	6	47	285
Onida, 597—Sully Onida Hospital	Gen	Indiv	12	3	3	11	60
Pierre, 4,322—Hughes St. Mary's Hospital	Gen	Church	102	63	18	214	2,518
Pine Ridge, 618—Shannon Pine Ridge Hospital	Gen	IA	39	45	10	166	1,451
Rapid City, 13,844—Pennington Black Hills General Hosp.	Gen	Church	41	32	10	145	1,150
St. John's McNamara Hospital	Gen	Church	75	48	14	279	1,753
Sioux Sanatorium	Gen	IA	134	112	..	...	299
Redfield, 2,428—Spink Baldwin Community Hosp...	Gen	CyCo	13	10	5	62	329
Rosebud, 120—Todd Rosebud Agency Indian Hospital	Gen	IA	56	37	8	128	1,254
Sanator, 10—Custer South Dakota State Sanatorium for Tuberculosis	TB	State	102	123	..	...	102
Sioux Falls, 40,832—Minnehaha McKennan Hospital	Gen	Church	113	71	20	409	2,695
Sioux Valley Hospital	Gen	NPAasn	134	86	20	469	3,149
Volga, 632—Brookings Volga Hospital	Gen	NPAasn	16	6	4	61	409
Watertown, 10,617—Codington Barton Hospital	Gen	NPAasn	65	50	11	179	1,735
Luther Hospital	Gen	Church	60	40	10	165	1,412
Webster, 2,173—Day Peabody Hospital	Gen	Indiv	50	35	10	159	1,269
Winner, 2,426—Tripp Wilson Hospital	Gen	Indiv	10	5	3	42	218
Winner General Hospital	Gen	Part	12	6	6	88	243
Yankton, 6,798—Yankton Sacred Heart Hospital	Gen	Church	160	82	20	249	2,220
Yankton State Hospital	Ment	State	1,892	1,616	..	...	361
Related Institutions							
Flandreau, 2,212—Moody Flandreau Indian School Hospital	Inst	IA	32	5	..	...	323
Garretson, 666—Minnehaha DeVall Hospital	Gen	Indiv	10	1	2	16	66
Hot Springs, 4,083—Fall River State Soldiers' Home Hosp.	Inst	State	40	19	..	...	197
Pierre, 4,322—Hughes Pierre Indian School Hosp.	Inst	IA	22	7	..	...	256
Platte, 1,017—Charles Mix Platte Hospital	Gen	Indiv	8	3	5	7	64
Reed, 2,122—Spink Home	Gen	MeDe	750	649	..	...	86
Home	Conv	Church	75	...	..	Reorganized	
Sisseton, 2,513—Roberts Sisseton Indian Hospital	Gen	IA	32	22	8	55	606
Wagner, 1,319—Charles Mix Duggan Hospital	Gen	Indiv	13	8	3	64	320
Yankton Indian Hospital	Gen	IA	26	16	6	43	594

Related Institutions

Flandreau, 2,212—Moody Flandreau Indian School Hospital	Inst	IA	32	5	..	...	323
Garretson, 606—Minnehaha DeVal Hospital	Gen	Indiv	10	1	2	16	66	
Hot Springs, 4,083—Fall River State Soldiers' Home Hosp..	Inst	State	40	19	..	...	197
Pierre, 4,322—Hughes Pierre Indian School Hosp..	Inst	IA	22	7	..	...	256
Platte, 1,017—Charles Mix Platte Hospital	Gen	Indiv	8	3	5	7	64	
Reed, 9,428—Spink	r	MeDe	State	750	649	86
Home	i	Conv	Church	75	Reorganized	
Sisseton, 2,513—Roberts Sisseton Indian Hospital...	Gen	IA	32	22	8	55	606	
Wagner, 1,319—Charles Mix Duggan Hospital	Gen	Indiv	13	8	3	64	320	
Yankton Indian Hospital...	Gen	IA	26	16	6	43	594	

TENNESSEE

Hospitals and Sanatoriums							
Athens, 6,930—McMinn	... Gen	Indiv	23	8	2	100	536
Tennessee Clinic-Hospital	... Gen	Part	20	8	6	95	626
Chattanooga, 128,163—Hamilton	... Gen	NPAasn	35	18	6	45	598
Baroness Erlanger Hospi- tal	... Gen	CyCo	450	278	60	1,753	9,246
Earl Campbell Clinic	... Gen	Indiv	17	5	6	50	328

TENNESSEE—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admis- sions †	
Newell and Newell Sanit.▲...	Gen	Part	65	32	3	29	1,325	
Physicians and Surgeons Hospital	Gen	Indiv	19	15	7	95	350	
Pine Breeze Sanatorium*▲...	TB	NPAasn	250	255	..	...	297
T. C. Thompson Children's Hospital*▲...	MatCh	CyCo	84	50	11	15	1,450	
Woman's Clinic	Gen	Indiv	9	3	7	96	170	
Clarksville, 11,831—Montgomery Clarksville Home Infirmary...	Gen	Indiv	25	5	...	4	280	
Clarksville Hospital	Gen	NPAasn	40	19	8	83	719	
Cleveland, 11,351—Bradley Speck Hospital	Gen	NPAasn	30	4	3	10	193	
Columbia, 10,034—Maury Kings Daughters Hospital...	Gen	NPAasn	50	13	12	116	1,008	
Dayton, 1,870—Rhea Broyles Private Hospital....	Gen	Indiv	12	4	3	21	222	
Thomison Hospital	Gen	Indiv	10	7	4	15	227	
Dyersburg, 10,034—Dyer Baird-Brewer General Hosp.▲	Gen	Corp	35	12	8	48	651	
Elizabethton, 8,516—Carter St. Elizabeth General Hosp..	Gen	Corp	25	10	5	146	709	
Erwin, 3,350—Unicoi Erwin Community Hospital...	Gen	NPAasn	15	2	5	34	212	
Franklin, 4,120—Williamson German-Rice Hospital	Gen	Part	14	10	4	74	521	
Greeneville, 6,784—Greene Greenville Sanatorium and Hospital▲...	Gen	Corp	60	16	3	27	723	
Takoma Hospital and San- itarium▲	Gen	NPAasn	52	37	6	71	1,371	
Humboldt, 5,160—Gibson Oursler Clinic	Gen	Indiv	10	...	No data	supplied		
Jackson, 24,332—Madison Fitts-White Clinic	Gen	Part	25	15	6	67	632	
Memorial Hospital	Gen	NPAasn	25	14	6	75	763	
Webb-Williamson Hospital- Clinic	Gen	Corp	24	15	6	45	747	
Jefferson City, 2,576—Jefferson Jefferson Hospital	Gen	Indiv	30	...	No data	supplied		
Johnson City, 25,332—Washington Appalachian Hospital▲...	Gen	NPAasn	64	33	12	297	1,638	
Budd Clinic and Hospital...	Gen	Indiv	20	5	2	15	200	
Campbell's Eye, Ear, Nose and Throat Hospital.....	ENT	Indiv	10	2	...	...	625
Jones Eye, Ear, Nose and Throat Hospital	ENT	Part	28	14	...	...	1,219
Kingsport, 14,404—Sullivan Holston Valley Community Hospital.....	Gen	NPAasn	53	42	9	298	2,000	
.....	TB	CyCo	160	122	..	...	113
Ear, Nose and Throat In- firmary	ENT	Indiv	12	2	...	...	948
Eastern State Hospital.....	Ment	State	1,580	1,573	...	...	554
Fort Sanders Hospital▲...	Gen	NPAasn	175	142	30	735	5,007	
Knoxville General Hosp.*▲...	Gen	City	285	213	40	933	8,724	
Reaves-Leach Infirmary.....	ENT	Part	7	4	...	...	410
St. Mary's Memorial Hospi- tal.....	Gen	Church	63	51	12	255	1,860	
.....	d	Gen	Church	20	9	4	33	640
.....	Gen	Part	20	7	2	35	478	
.....	Gen	Indiv	35	20	4	130	1,374	
.....	Gen	Indiv	12	6	2	14	249	
.....	Gen	County	28	7	2	20	255	
Madison College,—Davidson Madison Rural Sanatorium	Gen	NPAasn	113	71	6	112	1,723	
.....	Gen	Indiv	40	15	6	44	652	
.....	▲	Gen	Church	480	345	20	941	13,063
.....	Gen	Church	50	30	10	10	720	
Crippled Children's Hospital School	Orth	NPAasn	41	36	...	...	113
Gartly-Ramsay Hospital▲...	Gen	Corp	42	28	8	67	1,284	
Hosp. for Crippled Adults▲...	Orth	NPAasn	66	56	...	...	439
John Gaston Hospital*▲...	Gen	City	489	472	61	1,682	15,639	
McLennore Clinic	Gen	Corp	36	20	12	140	1,057	
Memphis Eye, Ear, Nose and Throat Hospital▲...	ENT	NPAasn	65	23	...	...	1,500
Methodist Hospital*▲...	Gen	Church	250	158	52	925	7,423	
St. Joseph's Hospital▲...	Gen	Church	200	158	40	967	6,949	
Turner-Gotten Sanatorium...	N&M	Part	18	11	...	...	144
U. S. Marine Hospital▲...	Gen	USPHS	130	104	...	...	1,905
Veterans Admin. Facility▲...	Gen	Vet	450	379	...	...	4,532
Wallace Sanatorium.....	N&M	Indiv	75	14	...	...	264
Willis C. Campbell Clinic▲...	Orth	Part	60	46	...	...	1,052
Morristown, 8,050—Hamblen Hamblen Hospital	Gen	Corp	25	...	4	Estab.	1940	
Nabers Clinic	Gen	Indiv	20	10	3	82	491	
Mountain Home,—Washington Veterans Admin. Facility▲...	Gen	Vet	556	486	...	...	3,134
Murfreesboro, 9,495—Rutherford Rutherford Hospital▲...	Gen	NPAasn	42	17	8	159	1,093	
Veterans Admin. Facility.....	Ment	Vet	785	...	...	Estab.	1940
.....	Ment	State	1,870	1,622	...	...	420
.....	N&M	Indiv	50	21	...	...	206

TENNESSEE—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Davidson County Tuberculosis Hospital**	TB	County	300	245	..	...	394
Geo. W. Hubbard Hospital of Meharry Medical College**	Gen	NPAssn	165	101	20	283	2,345
Hospital for the Criminal Insane	Unit of Central State Hospital						
Nashville General Hosp.**	City		269	202	36	1,122	6,765
Protestant Hospital	Gen	NPAssn	104	79	18	466	2,994
St. Thomas Hospital**	Gen	Church	175	130	29	827	5,667
Vanderbilt University Hospital**	Gen	NPAssn	333	228	58	611	6,295
Newport, 3,575—Cocke							
Dr. E. E. Northcutt Private Clinic and Infirmary	Gen	Indiv	12	5	2	11	237
Oakville, 163—Shelby							
Oakville Memorial Sanat.	TB	CyCo	340	328	..	...	297
Paris, 6,395—Henry							
McSwain Clinic	Gen	Indiv	24	8	4	26	472
Nobles Memorial Hospital	Gen	Part	25	7	3	37	490
Pleasant Hill, 178—Cumberland							
"Uplands" Cumberland Mountain Hospital and Sanat.	GenTb	NPAssn	44	15	5	30	191
Pressmen's Home, 160—Hawkins							
International Printing Pressmen and Assistants' Union Sanatorium	TB	NPAssn	40	30	..	...	8
Pulaski, 5,314—Giles							
Pulaski Hospital	Gen	Indiv	21	8	2	24	481
Raleigh, 287—Shelby							
Cheerfield Farm Preventorium	Unit of Oakville Memorial Sanat., Oakville						
Ridgetop, 351—Robertson							
Watauga Sanitarium	TB	Corp	40	14	..	...	40
Rockwood, 3,981—Roane							
Chamberlain Memorial Hosp.	Gen	NPAssn	50	20	10	79	850
Rogersville, 2,018—Hawkins							
Lyons Hospital	Gen	Indiv	15	6	4	32	428
Sewanee, 530—Franklin							
Emerald-Hodgson Memorial Hospital	Gen	Church	25	10	10	63	646
Springfield, 6,668—Robertson							
Robertson County Hospital	Gen	County	45	10	6	26	335
Sweetwater, 2,593—Monroe							
Sweetwater Hospital	Gen	NPAssn	28	12	4	26	530
Union City, 7,256—Obion							
Union City Clinic	Corp		15	6	2	30	250
Western State Hospital,—Hardeman							
Western State Hospital	Ment	State	2,055	2,108	..	...	705
Woodbury, 663—Cannon							
Good Samaritan Hospital	Gen	Indiv	26	15	6	53	614
Related Institutions							
Bristol, 14,004—Sullivan							
Hooks-English Infirmary	ENT	Part	10	3	..	...	387
Chattanooga, 128,163—Hamilton							
William L. Bork Memorial Hospital	Ment	County	307	290	..	...	138
Copperhill, 1,005—Polk							
Tennessee Copper Company's Hospital	Gen	NPAssn	10	1	..	15	40
Donelson, 110—Davidson							
Tennessee Home and Training School for Feeble-minded Persons	MeDe	State	514	616	..	...	63
Etowah, 3,362—McMinn							
Etowah Hospital	Gen	Indiv	11	4	4	43	254
Fayetteville, 4,684—Lincoln							
Lincoln County Hospital	Gen	County	33	24	2	52	920
Knoxville, 111,580—Knox							
Knox County Crippled Children's Hospital	Orth	NPAssn	30	18	..	...	131
Tennessee School for Deaf	Inst	State	20	4	..	...	539
University of Tennessee Hospital	Inst	State	13	5	..	...	326
Memphis, 292,942—Shelby							
Henry G. Hill Clinic	Orth	Indiv	10	6	..	...	248
Shelby County Hospital	Inst	County	707	583	..	...	461
Nashville, 167,402—Davidson							
Davidson County Hospital	Ment	County	788	751	4	14	567
Davidson County Isolation Hospital	Unit of Davidson County Hospital						
Junior League Home for Crippled Children	Orth	NPAssn	36	36	..	...	93
Tennessee State Penitentiary Hospital	Inst	State	72	48	..	...	711
Shelbyville, 6,537—Bedford							
Bedford County Hospital	Gen	NPAssn	36	24	6	95	817

TEXAS

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Ablene, 26,612—Taylor							
Ablene State Hospital	Epil	State	1,379	1,357	..	...	202
Hendrick Memorial Hosp.	Gen	Church	81	61	12	460	3,603
St. Ann Hospital	Gen	Church	18	...	6	Estab. 1940	
Alice, 7,792—Jim Wells							
Alice Hospital	Gen	Corp	25	10	5	124	605
Alpine, 3,866—Brewster							
Alpine Hospital	Gen	Indiv	8	3	2	15	182
Amarillo, 51,686—Potter							
Northwest Texas Hospital	Gen	County	125	72	25	426	3,024

TEXAS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
St. Anthony's Hospital	Gen	Church	87	72	22	461	2,786
Veterans Admin. Facility	Gen	Vet	156	...	..	Estab. 1940	
Atlanta, 2,453—Cass							
Ellington Memorial Hospital	Gen	Part	11	6	4	96	492
Austin, 87,930—Travis							
Austin State Hospital	Ment	State	2,761	2,651	..	...	501
Austin-Travis County Sanat.	TB	CyCo	48	...	..	Estab. 1940	
Brackenridge Hospital	Gen	City	129	118	20	930	5,469
St. David's Hospital	Gen	Church	44	31	8	102	2,122
Seton Hospital	Gen	Church	100	77	18	523	3,515
Bastrop, 1,976—Bastrop							
F. A. Orgain Memorial Hosp.	Gen	NPAssn	12	1	3	23	400
Bay City, 6,594—Matagorda							
Matagorda General Hospital	Gen	County	34	...	6	Estab. 1940	
Baytown, 5,194—Harris							
Baytown Hospital	Gen	NPAssn	25	16	3	62	677
Beaumont, 59,061—Jefferson							
Hotel Diesal Hospital	Gen	Church	146	97	14	585	3,353
Jefferson County Tuberculosis Hospital	TB	County	87	87	..	...	73
Jefferson County Tuberculosis Hospital No. 2	TB	County	33	31	..	...	29
St. Therese Hospital	Gen	Church	75	43	10	351	1,850
Beeville, 6,789—Bee							
Beeville Hospital	Gen	Indiv	32	16	4	34	540
Thomas Memorial Hospital	Gen	Part	22	18	4	98	595
Big Spring, 12,604—Howard							
Big Spring Hospital	Gen	Corp	25	17	6	138	1,051
Big Spring State Hospital	Ment	State	406	417	..	...	565
Copper Clinic and Hospital	Gen	Indiv	11	...	5	Estab. 1940	
Malone and Hogan Clinic-Hospital	Gen	Part	22	7	6	49	431
Bonham, 6,349—Fannin							
S. B. Allen Memorial Hosp.	Gen	NPAssn	42	16	4	65	510
Borger, 10,018—Hutchinson							
North Plains Hospital	Gen	County	22	3	7	...	...
Bowie, 3,470—Montague							
Bowie Clinic Hospital	Gen	Corp	15	8	2	41	405
Brackettville, 2,653—Kinney							
Station Hospital	Gen	Army	50	28	2	2	882
Brady, 5,002—McCulloch							
Brady Hospital	Gen	Part	55	22	10	145	1,122
Brenham, 6,435—Washington							
Sarah B. Milroy Memorial Hospital	Gen	Corp	21	5	2	39	409
St. Francis Hospital	Gen	Church	25	9	6	43	492
Brownfield, 4,009—Terry							
Teadaway-Daniell Hospital	Gen	Part	22	12	6	80	577
Brownsville, 22,083—Cameron							
Mercy Hospital	Gen	Church	50	16	8	118	929
Station Hospital	Gen	Army	50	11	1	23	498
Brownwood, 13,398—Brown							
Brownwood Memorial Hosp.	Gen	Corp	15	13	3	216	886
Medical Arts Hospital	Gen	NPAssn	41	18	4	28	1,126
Bryan, 11,842—Brazos							
Bryan-College Medical Center Hospital	Gen	Part	23	10	6	160	827
St. Joseph Hospital	Gen	Church	25	10	6	128	728
Burnet, 1,945—Burnet							
Shepherd-Allen Hospital	Gen	Part	18	12	8	107	603
Cameron, 5,040—Milam							
Cameron Hospital	Gen	Indiv	50	13	4	105	574
Canadian, 2,151—Hemphill							
Canadian Hospital	Gen	Indiv	10	3	3	61	229
Canyon, 2,622—Randall							
Neblett Hospital	Gen	Indiv	15	6	4	52	634
Center, 3,010—Shelby							
Center Sanitarium	Gen	Indiv	13	4	3	69	200
Warren Hospital	Gen	Part	12	4	1	17	169
Childress, 6,464—Childress							
Jeter-Townsend Hospital	Gen	Part	20	3	4	93	253
Cisco, 4,868—Eastland							
Graham Sanitarium	Gen	Indiv	22	6	4	25	458
Clarksburg, 4,095—Red River							
Red River County Hospital	Gen	County	30	8	4	27	358
Cleburne, 10,558—Johnson							
Cleburne Sanitarium	Gen	Indiv	13	6	5	72	381
Clifton, 1,732—Bosque							
Goodall and Witcher Clinic Hospital	Gen	Part	10	5	4	56	289
Coleman, 6,654—Coleman							
Overall Memorial Hospital	Gen	CyCo	50	7	4	102	426
Colorado City, 5,213—Mitchell							
C. L. Root Memorial Hosp.	Gen	Indiv	14	6	8	68	414
Columbus, 2,422—Colorado							
John F. Bell Memorial Hospital	Gen	Indiv	10	3	2	27	157
Commerce, 4,699—Hunt							
Allen Hospital	Gen	Indiv	10	7	4	54	316
Leberman Hospital	Gen	Indiv	10	4	7	74	351
Conroe, 4,624—Montgomery							
Mary Swain Sanitarium	Gen	Indiv	18	6	4	16	267
Montgomery County Hosp.	Gen	County	35	15	6	100	911
Corpus Christi, 57,301—Nueces							
Fred Roberts Memorial Hospital	Gen	NPAssn	55	34	10	176	1,594
Medical Professional Hosp.	Gen	Corp	32	15	4	43	1,041
Spohn Hospital	Gen	Church	85	59	18	517	3,615
Corsicana, 15,232—Navarro							
Corsicana Hosp. and Clinic	Gen	Corp	20	4	2	22	214
Navarro Clinic Hospital	Gen	Part	20	11	6	74	773
Physicians and Surgeons Hospital	Gen	County	50	18	12	162	975

TEXAS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Crockett, 4,536—Houston	Gen	Indiv	65	61	6	15	358
Butler Hospital	Gen	Part	16	6	2	58	455
Jim Smith Memorial Hospital and Crockett Clinic	Gen	Corp	10	4	3	27	275
Crystal City, 6,520—Zavala	Gen	Corp	25	10	3	30	500
Crystal Hospital	Gen	Church	20	5	2	13	266
Cuero, 5,474—DeWitt	Gen	Church	40	9	12	80	451
Burns Hospital	Gen	Church	385	289	56	1,406	11,821
Lutheran Hospital	Gen	Church	30	22	50	1,406	11,821
Dalhart, 4,682—Dallas	Gen	Church	30	22	50	1,406	11,821
Loretto Hospital	Gen	Church	30	22	50	1,406	11,821
Dallas, 294,734—Dallas	Gen	Church	30	22	50	1,406	11,821
Baylor University Hosp.†††	Gen	Church	30	22	50	1,406	11,821
Beverly Hills Sanitarium	N&M	Corp	30	22	50	1,406	11,821
Bradford Memorial Hospital	Gen	Corp	30	22	50	1,406	11,821
for Babies†	Chil	NPAssn	60	25	..	..	1,063
Carman Sanatorium	TB	Corp	25	16	..	..	85
Carrell-Girard Clinic	Orth	Part	23	8	..	..	250
Dallas Medical and Surgical Clinic Hospital†	Gen	Part	27	17	..	..	1,211
Gaston Hospital	Gen	NPAssn	52	27	..	..	1,325
Medical Arts Hospital†	Gen	Corp	86	75	..	..	4,485
Methodist Hospital††	Gen	Church	114	77	26	639	3,820
Nightingale Lying-in Hosp. Unit of Baylor University Hospital	Unit	Gen	315	256	44	1,321	9,639
Parkland Hospital††	Gen	CyCo	17	5	2	321	259
Pinkston Clinic	Gen	Indiv	270	237	30	1,391	9,435
St. Paul's Hospital†	Gen	Church	55	..	..	..	Estab. 1910
Texas Childrens Hospital†	Chil	NPAssn	50	53	..	..	672
Texas Scottish Rite Hospital for Crippled Children†	Orth	NPAssn	50	53	..	..	672
Timberlawn Sanitarium	Ment	Corp	50	22	..	..	220
Veterans Admin. Facility	Gen	Vet	262	..	..	..	Estab. 1940
Woodlawn Hospital	TB	CyCo	118	101	..	..	320
Decatur, 2,578—Wise	Gen	Indiv	14	9	7	70	318
Decatur Clinic Hospital	Gen	Indiv	18	10	5	122	781
Rogers Hospital	Gen	Indiv	14	9	7	70	318
Denison, 15,581—Grayson	Gen	NPAssn	35	22	8	168	661
Denison City Hospital	Gen	NPAssn	16	7	5	151	512
Long-Sneed Clinic Hospital	Gen	Part	65	29	..	..	487
Missouri, Kansas, Texas Railroad Employees Hospital	Indus	NPAssn	25	11	5	108	678
Denton, 11,192—Denton	Gen	Indiv	14	6	4	65	500
Denton Hospital and Clinic	Gen	Part	14	6	4	65	500
Medical and Surgical Clinic	Gen	Part	14	6	4	65	500
Dublin, 2,516—Erath	Gen	Indiv	14	3	3	175	350
Guy Hospital	Gen	Indiv	14	3	3	175	350
Edinburg, 8,718—Hidalgo	Gen	CyCo	48	19	8	62	607
City-County Hospital	Gen	CyCo	48	19	8	62	607
El Campo, 3,906—Wharton	Gen	County	50	20	10	121	935
Nightingale Hospital	Gen	County	50	20	10	121	935
Electra, 5,583—Wichita	Gen	Indiv	21	6	7	73	397
Electra Hospital	Gen	Indiv	21	6	7	73	397
Elgin, 2,008—Scott	Gen	NPAssn	8	3	3	16	170
Fleming Hospital	Gen	NPAssn	8	3	3	16	170
El Paso, 96,810—El Paso	Gen	NPAssn	8	3	3	16	170
El Paso City-County Hospital†	Gen	CyCo	192	117	20	579	3,885
El Paso Masonic Hospital	Gen	NPAssn	50	35	15	226	1,082
Hotel Dieu, Sisters' Hosp.†	Gen	Church	160	70	25	408	2,760
Long Sanatorium	TB	Indiv	50	17	..	..	58
Newark Conference Maternity Hospital	Mat	Church	20	5	14	268	366
Providence Hospital	Gen	Indiv	40	22	3	25	1,119
St. Joseph's Sanatorium	TB	Church	75	20	..	..	125
Southwestern General Hospital†	Gen	Corp	125	69	18	250	2,809
William Beaumont General Hospital†	Gen	Army	700	409	7	88	5,049
Floresville, 1,708—Wilson	Gen	Indiv	10	2	2	17	468
Oxford Hospital	Gen	Indiv	10	2	2	17	468
Floydada, 2,726—Floyd	Gen	Part	16	3	3	39	198
Floydada Hosp. and Clinic	Gen	Part	16	3	3	39	198
Fort Worth, 177,662—Tarrant	Gen	Church	65	53	12	481	2,531
All Saints Episcopal Hosp.†	Gen	CyCo	168	129	20	1,100	5,375
City and County Hosp.††	Gen	CyCo	168	129	20	1,100	5,375
W. I. Cook Memorial Hospital†	Gen	NPAssn	36	33	8	110	1,203
Ethel Ransom Memorial Hospital	Gen	Part	18	7	2	25	450
Fort Worth Children's Hospital†	Chil	NPAssn	37	30	..	..	328
Harris Memorial Methodist Hospital†	Gen	Church	225	132	36	898	4,422
St. Joseph's Hospital†	Gen	Church	182	110	18	640	4,995
U. S. Public Health Service	Drug	Fed	1,005	530	..	..	941
Clinic	Gen	Corp	13	5	4	41	310
Keidel Memorial Hospital and	Gen	Indiv	12	5	4	41	240
.....	Gen	NPAssn	14	10	3	182	646
.....	Gen	NPAssn	25	16	12	56	679
Galveston, 99,600—Galveston	Gen	State	100	93	..	..	450
Galveston State Psychopathic Hospital†	Ment	State	100	93	..	..	450
Hospital for Crippled and Deformed Children	Unit of	John Sealy Hospital	401	372	20	745	7,707
John Sealy Hospital††	Gen	City	401	372	20	745	7,707
Negro Hospital	Unit of	John Sealy Hospital	225	125	20	500	3,431
St. Mary's Infirmary†	Gen	Church	46	26	..	..	924
Station Hospital	Gen	Army	210	160	..	..	2,514
U. S. Marine Hospital†	Gen	USPHS	210	160	..	..	2,514

TEXAS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Georgetown, 3,682—Williamson							
Martin Hospital	Gen	Indiv	20	5	4	40	271
Gilmer, 3,138—Upsbur							
Elmwood Sanitarium	Gen	Indiv	15	..	..	..	No data supplied
Oak Lawn Sanitarium	Gen	Part	12	4	3	102	310
Ragland Clinic-Hospital	Gen	Part	19	9	6	150	615
Gladewater, 4,451—Gregg							
Gladewater Hospital	Gen	Indiv	10	3	2	40	203
Leake Clinic Hospital	Gen	Indiv	20	8	3	45	430
Gonzales, 4,722—Gonzales							
Holmes Hospital	Gen	Corp	25	5	3	15	260
Goose Creek, 6,929—Harris							
Goose Creek Hospital	Gen	Corp	12	9	6	265	663
Lillie and Duke Hospital....	Gen	Part	18	5	6	96	135
Gorman, 1,157—Eastland							
Blackwell Sanitarium	Gen	Part	30	20	3	371	600
Graham, 5,175—Young							
Graham Hospital	Gen	NPAssn	18	10	5	177	819
Greenville, 13,995—Hunt							
Dr. E. P. Beeton's Hospital Surg		Indiv	10	3	..	5	286
Goode and Phillips Hospital ..		Part	10	5	4	59	292
Dr. Joe Beeton's Hospital...	Gen	Indiv	20	6	2	25	312
Groesbeck, 2,272—Limestone							
Dr. Cox's Hospital	Gen	Indiv	10	3	5	45	110
Balliettsville, 1,581—Lavaca							
Renger Hospital	Gen	Indiv	12	5	3	34	262
Harlingen, 13,506—Cameron							
Medical Arts Clinic	Gen	Part	7	2	3	98	181
Valley Baptist Hospital	Gen	Church	35	17	10	112	896
Haskell, 3,051—Haskell							
Haskell County Hospital...	Gen	County	30	10	5	72	750
Henderson, 6,437—Rusk							
Henderson Memorial Hosp. ...	Gen	Corp	40	20	9	106	1,451
Hereford, 2,584—Deaf Smith							
Deaf Smith County Hosp. ...	Gen	County	20	5	8	120	313
Hillsboro, 7,799—Hill							
Boyd Sanitarium	Gen	Indiv	23	5	3	23	290
Houston, 384,514—Harris							
Autry Memorial Hosp.—School Unit of Houston Tuberculosis Hospital		Corp	40	29	..	..	167
Dr. Greenwood's Sanitarium. N&M		Corp	40	16	7	292	1,139
Heights Clinic-Hospital	Gen	NPAssn	250	123	20	621	4,563
Hermann Hospital†	Gen						
Houston Eye, Ear, Nose and Throat Hospital	ENT	Corp	23	9	..	..	1,144
Houston Negro Hospital	Gen	NPAssn	50	18	8	78	302
Houston Tuberculosis Hosp. TB	TB	CyCo	172	151	..	..	342
Jefferson Davis Hosp.††	Gen	CyCo	432	370	64	2,051	14,305
Memorial Hospital†	Gen	Church	195	176	20	1,095	10,897
Methodist Hospital†	Gen	Church	120	101	12	434	2,778
Park View Hospital	Gen	Corp	30	14	6	116	772
St. Joseph's Infirmary†	Gen	Church	275	215	80	3,168	10,897
Southern Pacific Hospital†	Indus	NPAssn	120	66	..	..	1,807
Turner Urological Institute. Urol		Part	16	9	..	..	378
Wright Clinic and Hospital	Gen	Indiv	27	14	4	78	643
Huntsville, 5,108—Walker							
Huntsville Memorial Hosp. ...	Gen	NPAssn	20	8	3	60	500
Jacksboro, 2,368—Jack							
Jacksboro Hospital	Gen	Part	11	5	4	89	370
Jacksonville, 7,213—Cherokee							
Nan Travis Memorial Hosp. Gen		NPAssn	65	35	9	151	2,024
Jasper, 3,497—Jasper							
Hardy-Hancock Hospital ...	Gen	Part	24	15	4	25	262
Richardson Hospital	Gen	Indiv	15	6	3	63	496
Kelly Field, —Bexar							
Station Hospital	Gen	Army	82	43	..	..	1,777
Kenedy, 2,891—Karnes							
Kenedy Clinic and Hospital. Gen		Corp	16	6	4	46	366
Kermit, —Winkler							
Robinson-McClure Clinic Hos-							
pital	Gen	Part	12	3	4	88	303
Kerrville, 5,572—Kerr							
Kerrville General Hospital. ...	Gen	NPAssn	20	7	4	28	319
Kerrville State Sanatorium. TB		State	172	170	..	..	210
Mountain View Sanatorium. TB		Indiv	20	17	..	..	50
Sunnyside Sanatorium TB		Indiv	20	16	..	..	54
Kilgore, 6,708—Gregg							
Kilgore Memorial Hospital. ...	Gen	Part	21	10	7	129	600
Kingsville, 7,782—Kieberg							
Kieberg County Hospital	Gen	County	36	25	6	100	1,024
Knox City, 1,127—Knox							
Knox County Hospital	Gen	County	20	9	4	113	345
La Grange, 2,531—Fayette							
La Grange Hospital	Gen	Corp	45	13	8	83	620
Lamesa, 6,638—Dawson							
Loveless Hospital	Gen	Indiv	23	7	6	110	449
Leico Hospital	Gen	Indiv	14	6	5	113	587
Lampasas, 3,426—Lampasas							
Rollins-Brook Hospital	Gen	Part	21	16	4	111	833
Laredo, 39,274—Webb							
Mersey Hospital	Gen	Church	75	30	10	176	1,233
Station Hospital	Gen	Army	37	6	1	4	177
La Tuna, 200—El Paso							
Federal Correctional Insti-							
tution	Inst	Fed	26	25	..	..	622
Legion, 100—Kerr							
Veterans Admin. Facility†. ...	Gen	Tb Vet	420	451	..	..	2,155
Levelland, 8,011—Hockley							
Philips-Dupre Hospital	Gen	Part	10	5	5	66	493
Liberty, 3,087—Liberty							
Mersey Hospital	Gen	Church	30	17	12	125	1,081
Littlefield, 3,617—Lamb							
Littlefield Hosp. and Clinic. Gen		Part	25	12	5	138	932
Payne-Shotwell Hospital and Clinic	Gen	Part	22	16	8	96	1,200

TEXAS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Livingston, 1,851—Polk	Gen	Indiv	16	9	2	106	679
Livingston Hospital	Gen	Indiv	16	9	2	106	679
Lockhart, 5,018—Caldwell	Gen	NPAssn	16	4	2	30	181
Lockhart Sanitarium	Gen	NPAssn	16	4	2	30	181
Longview, 13,758—Gregg	ENT	NPAssn	12	2	..	...	790
Hurst Eye, Ear, Nose and Throat Hospital	ENT	NPAssn	12	2	..	...	790
Markham-McRee Memorial Hospital	Gen	NPAssn	35	9	8	148	648
Lubbock, 31,853—Lubbock	Gen	Corp	85	53	15	138	2,816
Lubbock Sanitarium*o	Gen	Corp	85	53	15	138	2,816
St. Mary of the Plains Hospital	Gen	Church	30	15	6	222	1,297
West Texas Hospital*o	Gen	Corp	60	31	12	203	1,793
Lufkin, 9,567—Angelina	Gen	County	40	40	5	241	1,542
Angelina County Hospital	Gen	County	40	40	5	241	1,542
Madisonville, 2,095—Madison	Gen	Indiv	18	5	2	42	300
Heath Hospital and Clinic	Gen	Indiv	18	5	2	42	300
Marfa, 3,805—Presidio	Gen	Army	46	17	2	19	464
Station Hospital	Gen	Army	46	17	2	19	464
Marlin, 6,542—Falls	Gen	Indiv	23	17	2	18	650
Buile-Allen Hospital	Gen	Corp	42	20	4	73	1,387
Torbett Clinic and Hospital	Gen	Corp	42	20	4	73	1,387
Marshall, 18,410—Harrison	Gen	NPAssn	35	17	5	127	796
Kahn Memorial Hospital	Gen	NPAssn	35	17	5	127	796
Texas and Pacific Railway Employees Hospital	Indus	NPAssn	105	52	..	...	2,062
Mathis, 1,950—San Patricio	Gen	Indiv	11	5	3	45	316
Mathis Hospital	Gen	Indiv	11	5	3	45	316
McAllen, 11,877—Hidalgo	Gen	City	65	25	10	161	1,085
McAllen Municipal Hosp.o	Gen	City	65	25	10	161	1,085
McKinney, 8,555—Collin	Gen	City	46	23	5	133	1,057
McKinney City Hospital*o	Gen	City	46	23	5	133	1,057
Memphis, 3,869—Hall	Gen	Indiv	15	4	2	30	321
Memphis Hospital	Gen	Indiv	15	4	2	30	321
Mercedes, 7,624—Hidalgo	Gen	NPAssn	22	6	5	85	338
Mercedes General Hospital	Gen	NPAssn	22	6	5	85	338
Mexia, 6,410—Limestone	Gen	Indiv	20	6	3	35	385
Brown Memorial Hospital	Gen	Indiv	20	6	3	35	385
Midland, 9,352—Midland	Gen	Indiv	12	8	4	89	521
Ryan Hospital-Clinic	Gen	Part	13	5	6	112	347
Western Clinic Hospital	Gen	Part	13	5	6	112	347
Mineral Wells, 6,303—Palo Pinto	Gen	Church	40	13	5	63	616
Nazareth Hospital*	Gen	Church	40	13	5	63	616
Mt. Pleasant, 4,528—Titus	Gen	Part	14	3	3	17	145
Taylor Hospital and Clinic	Gen	Part	14	3	3	17	145
Nacogdoches, 5,687—Nacogdoches	Gen	City	40	21	5	118	1,331
City Memorial Hospital	Gen	City	40	21	5	118	1,331
Navesota, 6,138—Grimes	Gen	Corp	22	8	4	58	653
Brazos Valley Sanitarium	Gen	Corp	22	8	4	58	653
New Braunfels, 6,976—Comal	Gen	Indiv	12	7	3	22	394
New Braunfels Hospital	Gen	Indiv	12	7	3	22	394
Newgulf, —Wharton	Gen	NPAssn	23	11	2	40	448
Texas Gulf Sulphur Company Hospital	Gen	NPAssn	23	11	2	40	448
Odessa, 9,573—Ector	Gen	Indiv	25	9	10	207	803
Headlee Hospital	Gen	Indiv	25	9	10	207	803
Olney, 3,497—Young	Gen	City	18	7	6	91	585
Hamilton Hospital	Gen	City	18	7	6	91	585
Orange, 7,472—Orange	Gen	Indiv	30	7	5	105	518
Frances Ann Lutcher Hosp.	Gen	Indiv	30	7	5	105	518
Paducah, 2,677—Cottle	Gen	Indiv	20	5	4	18	324
W. Q. Richards Memorial Hospital	Gen	Indiv	20	5	4	18	324
Palestine, 12,144—Anderson	Gen	NPAssn	75	39	..	...	1,113
Missouri Pacific Lines Hosp. Indus	NPAssn	Corp	22	6	4	112	440
Palestine Sanitarium	Gen	Corp	22	6	4	112	440
Pampa, 12,895—Gray	Gen	Indiv	43	23	8	309	1,419
Worley Memorial Hospital	Gen	Indiv	43	23	8	309	1,419
Paris, 18,678—Lamar	Gen	Unit of Sanitarium of Paris	35	30	7	141	1,108
George Griffiths Memorial Hospital for Children	Gen	Unit of Sanitarium of Paris	35	30	7	141	1,108
Lamar County Hospital	Gen	County	60	14	6	103	947
St. Joseph's Hospital*	Gen	Church	72	60	7	98	2,007
Sanitarium of Paris*o	Gen	Corp	72	60	7	98	2,007
Pasadena, 3,436—Harris	Gen	Part	24	9	6	139	792
Pasadena Hosp. and Clinic	Gen	Part	24	9	6	139	792
Fearsall, 3,164—Frio	Gen	Indiv	10	4	2	30	180
Goodnight Clinic Hospital	Gen	Indiv	10	4	2	30	180
Pecos, 4,535—Reeves	Gen	Part	20	6	4	69	310
Camp and Camp Hospital	Gen	Part	20	6	4	69	310
Phillips, 2,500—Hutchinson	Gen	NPAssn	12	4	3	55	242
Pantex Hospital	Gen	NPAssn	12	4	3	55	242
Plainview, 8,263—Hale	Gen	Part	44	34	6	114	1,882
Plainview Sanitarium and Clinic*o	Gen	Part	44	34	6	114	1,882
Port Arthur, 46,140—Jefferson	Gen	Church	155	64	20	690	2,500
St. Mary's Hospital, Gates Memorial*o	Gen	Church	155	64	20	690	2,500
Prairie View (Hempstead P.O.), 10—Waller	Gen	State	52	21	4	14	794
Prairie View State College Hospital*o	Gen	State	52	21	4	14	794
Quanah, 3,767—Hardeman	Gen	County	40	14	8	82	972
Memorial Hospital	Gen	County	40	14	8	82	972
Ranger, 4,533—Eastland	Gen	CyCo	32	24	5	93	867
City-County Hospital	Gen	CyCo	32	24	5	93	867
West Texas Hospital	Gen	Corp	18	11	3	26	462
Raymondville, 4,030—Willacy	Gen	Part	11	4	3	48	201
Raymondville Hospital	Gen	Part	11	4	3	48	201
Refugio, 4,077—Refugio	Gen	Church	45	...	6	Estab. 1940	
Refugio County Hospital	Gen	Church	45	...	6	Estab. 1940	
Rio Grande City, 2,283—Starr	Gen	Army	30	7	2	12	268
Station Hospital	Gen	Army	30	7	2	12	268
Robstown, 6,780—Nueces	Gen	Corp	14	7	4	69	532
Robstown Hospital	Gen	Corp	14	7	4	69	532

TEXAS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Roscoe, 1,166—Nolan	Gen	Indiv	25	5	7	115	875
Young Hospital	Gen	Indiv	25	5	7	115	875
Rosenberg, 3,457—Fort Bend	Gen	Corp	24	10	4	128	565
Fort Bend Hospital	Gen	Corp	24	10	4	128	565
Rotan, 2,029—Fisher	Gen	Part	17	10	5	94	633
Callan Hospital	Gen	Part	17	10	5	94	633
Rusk, 5,699—Cherokee	Ment	State	2,440	2,385	..	...	435
Rusk State Hospital	Ment	State	2,440	2,385	..	...	435
San Angelo, 25,802—Tom Green	Gen	Corp	40	28	12	238	1,796
Clinic-Hospital*	Gen	Corp	40	28	12	238	1,796
St. John's Hospital*	Gen	Church	25	17	5	129	883
Shannon West Texas Memorial Hospital*o	Gen	NPAssn	100	63	15	344	3,557
San Antonio, 253,854—Bexar	Gen	Indiv	10	4	4	26	173
Central Clinic Hospital	Gen	Indiv	10	4	4	26	173
Grace Lutheran Sanatorium for Tuberculosis	TB	Church	36	29	..	...	84
Medical and Surgical Memorial Hospital*o	Gen	NPAssn	100	75	15	617	4,525
Dr. Moody's Sanitarium	N&M	Corp	50	36	..	...	193
Nix Hospital*	Gen	Corp	145	95	24	484	5,314
Robert B. Green Memorial Hospital*o	Gen	County	200	144	18	833	5,027
Sanchez Clinic	Gen	Indiv	10	3	4	48	130
San Antonio State Hospital	Ment	State	2,681	2,858	..	...	546
Santa Rosa Hospital*o	Gen	Church	237	178	31	791	7,526
Station Hospital (Fort Sam Houston)*	Gen	Army	1,200	656	23	352	11,250
Woodmen of the World War Memorial Hospital*	TB	NPAssn	150	92	..	...	163
Sanatorium, 1,040—Tom Green	TB	State	1,000	821	..	...	2,184
State Tuberculosis Sanat.	TB	State	1,000	821	..	...	2,184
San Marcos, 6,006—Hays	Gen	NPAssn	20	5	2	47	462
Soldiers' and Sailors' Memorial Hospital	Gen	NPAssn	20	5	2	47	462
Santa Anna, 1,661—Coleman	Gen	Indiv	29	6	3	84	416
Sealy Hospital*	Gen	Indiv	29	6	3	84	416
Sealy, 1,800—Austin	Gen	Indiv	8	4	2	55	320
Sealy Hospital	Gen	Indiv	8	4	2	55	320
Seguin, 7,006—Guadalupe	Gen	NPAssn	22	5	4	64	315
Seguin Hospital	Gen	NPAssn	22	5	4	64	315
Seymour, 3,328—Baylor	Gen	County	15	6	4	144	534
Baylor County Hospital	Gen	County	15	6	4	144	534
Shamrock, 3,123—Wheeler	Gen	Indiv	25	9	5	55	446
Shamrock General Hospital	Gen	Indiv	25	9	5	55	446
Sherman, 17,166—Grayson	Gen	Church	50	33	6	138	1,444
St. Vincent's Hospital*	Gen	Church	50	33	6	138	1,444
Wilson N. Jones Hospital*o	Gen	NPAssn	66	39	8	162	2,098
Shiner, 1,520—Lavaca	Gen	Indiv	16	7	3	26	312
Dr. Wagner's Hospital	Gen	Indiv	16	7	3	26	312
Slaton, 3,587—Lubbock	Gen	Church	40	8	6	44	397
Mercy Hospital	Gen	Church	40	8	6	44	397
Snyder, 3,815—Scurry	Gen	Corp	24	10	4	63	526
Snyder General Hospital	Gen	Corp	24	10	4	63	526
Spur, 2,136—Dickens	Gen	Indiv	20	5	4	30	200
Nichols Sanitarium	Gen	Indiv	20	5	4	30	200
Stamford, 4,810—Jones	Gen	Part	50	23	10	261	1,439
Stamford Sanitarium	Gen	Part	50	23	10	261	1,439
Stephenville, 4,768—Erath	Gen	NPAssn	25	14	3	88	1,021
Stephenville Hospital	Gen	NPAssn	25	14	3	88	1,021
Sugar Land, 1,840—Fort Bend	Gen	NPAssn	25	20	5	91	872
Laura Eldridge Hospital	Gen	NPAssn	25	20	5	91	872
Sulphur Springs, 6,742—Hopkins	Gen	Indiv	13	11	5	56	512
Cozad Clinic and Hospital	Gen	Indiv	13	11	5	56	512
Sweetwater, 10,367—Nolan	Gen	City	40	14	10	152	1,351
Sweetwater Hospital	Gen	City	40	14	10	152	1,351
Taylor, 7,875—Williamson	Gen	Corp	20	12	4	57	394
Stromberg Clinic and Hosp.	Gen	Corp	20	12	4	57	394
Vedemeyer Hospital	Gen	Corp	30	11	5	95	600
Tague, 3,157—Freestone	Gen	Indiv	20	6	3	95	365
Davidson Sanitarium	Gen	Indiv	20	6	3	95	365
Temple, 15,344—Bell	Gen	NPAssn	78	35	..	...	1,298
Gulf, Colorado and Santa Fe Hospitals	Indus	NPAssn	110	70	8	99	3,054
Kings Daughters Hosp.*o	Gen	NPAssn	110	70	8	99	3,054
Scott and White Hosp.*o	Gen	Corp	160	114	6	106	3,669
Terrell, 10,481—Kaufman	Gen	Indiv	25	10	2	41	665
Alexander Hospital	Gen	Indiv	25	10	2	41	665
Holton-Johnston Clinic Hosp.	Gen	Part	12	5	3	18	189
Terrell State Hospital	Ment	State	2,674	2,666	..	...	315
Texarkana, 17,019—Bowie	Gen	Fed	35	...	...	Estab. 1910	
Federal Correctional Institution	Gen	Fed	35	...	...	Estab. 1910	
Texarkana Hospital*	Gen	NPAssn	45	30	5	172	1,400
Timpson, 1,494—Shelby	Gen	Indiv	12	...	...	No data supplied	
Timpson Hospital and Clinic	Gen	Indiv	12	...	...	No data supplied	
Tyler, 23,270—Smith	Gen	Part	15	14	4	93	1,001
Bryant Clinic and Sanit.	Gen	Part	15	14	4	93	1,001
Mother Frances Hospital*	Gen	Church	62	30	18	261	1,323
Uvalde, 6,679—Uvalde	Gen	Indiv	8	5	3	42	294
Merritt Hospital	Gen	Indiv	8	5	3	42	294
Vernon, 9,277—Willbarger	Gen	Church	22	5	3	34	318
Christ the King Hospital	Gen	Church	22	5	3	34	318
Moore Brothers' Hospital	Gen	Indiv	18	7	2	40	520
Vernon Sanitarium	Gen	Indiv	20	7	8	188	701
Victoria, 11,566—Victoria	Gen	Indiv	26	13	7	79	932

TEXAS—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Waxahachie, 8,655—Ellis							
Waxahachie Sanitarium	Gen	NPAasn	30	16	2	67	684
Weatherford, 5,924—Parker							
Weatherford Sanitarium	Gen	Part	10	4	4	62	317
Wharton, 4,386—Wharton							
Caney Valley Hospital	Gen	Church	20	5	4	76	642
Wheeler, 848—Wheeler							
Wheeler Hospital	Gen	Part	14	5	3	139	448
Wichita Falls, 45,112—Wichita							
Bethania Hospital	Gen	Church	34	22	8	355	1,510
Wichita Falls Clinic Hosp.	Gen	Part	80	56	10	198	2,969
Wichita Falls State Hospital	Ment	State	2,421	2,351	..	..	758
Wichita General Hospital	Gen	CyCo	140	77	11	503	3,454
Yonkum, 4,733—Lavaca							
Huth Memorial Hospital	Gen	Church	35	10	10	58	360
Yorktown, 2,081—De Witt							
Allen Hospital	Gen	Indiv	12	3	2	10	153
Related Institutions							
Ahmeda, 300—Harris							
Keightley Hospital	N&M	Indiv	36	19	..	..	130
Arlington, 4,240—Tarrant							
Knights Templar Hospital	Inst	NPAasn	25	16	..	..	162
Austin, 87,930—Travis							
Austin State School	MeDe	State	1,844	1,725	..	..	242
Texas Confederate Home							
Hospital	Inst	State	100	21	..	..	21
Bellville, 1,347—Austin							
Bellville Hospital	Gen	Part	10	4	3	53	393
Clarendon, 2,431—Donley							
Adair Hospital	Gen	County	14	1	3	16	118
College Station, 2,184—Brazos							
Agricultural and Mechanical College Hospital	Inst	State	125	21	..	..	3,582
Dallas, 294,734—Dallas							
Good Samaritan Hospital	Gen	Part	30	18	15	370	464
Ennis, 7,087—Ellis							
Municipal Hospital	Gen	City	20	6	3	85	480
Fort Worth, 177,602—Tarrant							
Elmwood Sanatorium	TB	CyCo	61	59	..	..	59
Howard Sanitarium	N&M	Indiv	20	8	..	..	40
Hallettsville, 1,581—Lavaca							
Dufner Hospital	Gen	Indiv	8	4	2	5	51
Houston, 384,514—Harris							
Houston Sanitarium	N&M	Indiv	12	..	..	..	Estab. 1940
Huntsville, 5,108—Walker							
Texas State Prison Hosp.	Inst	State	101	118	..	..	2,144
Hutchins, 400—Dallas							
City County Convalescent Hospital	Conv	CyCo	230	200	..	..	95
Luling, 4,437—Caldwell							
Luling Hospital	Gen	Part	12	5	2	46	241
Marlin, 6,542—Falls							
Crippled Children Hospital	Orth	NPAasn	40	25	..	..	461
McCombs, 2,595—Upton							
Cooper Hospital	Gen	Indiv	7	4	7	50	197
Memphis, 3,869—Hall							
Odum-Goodall Hospital	Gen	Part	15	4	3	51	470
Mt. Vernon, 1,443—Franklin							
Crutcher Hospital	Gen	NPAasn	10	2	2	11	98
Nixon, 1,835—Gonzales							
Crest View Hospital	Gen	Indiv	8	3	2	24	124
Odessa, 9,573—Ector							
Wood Hospital	Gen	Indiv	10	4	2	47	319
Pearshall, 3,164—Frio							
Dr. J. E. Beall Hospital	Gen	Indiv	10	3	4	25	122
Pecos, 4,855—Reeves							
Pecos Sanitarium	Gen	Indiv	10	3	2	48	164
Poteet, 2,315—Atascosa							
Shotts Memorial Hospital	Gen	Indiv	9	2	3	41	135
San Antonio, 233,854—Bexar							
Medical Arts Hospital	Gen	Corp	31	21	5	113	1,686
Physicians and Surgeons Hospital	Gen	Corp	60	37	20	312	2,022
Salvation Army Women's Home	Mat	Church	11	6	18	73	79
Station Hospital (Brooks)	Gen	Army	35	11	..	..	946
..	Gen	Part	14	4	3	66	300
Colony	TB	County	75	71	..	..	161
Texon, 1,200—Reagan							
Texon Hospital	Gen	NPAasn	10	3	3	11	122

UTAH

Hospitals and Sanatoriums							
American Fork, 3,333—Utah							
American Fork Community Hospital	Gen	City	16	8	10	183	520
Bingham Canyon, 2,834—Salt Lake							
Bingham Canyon Hospital	Gen	Indiv	40	18	7	55	540
Brigham, 5,641—Box Elder							
Copley Memorial Hospital	Gen	NPAasn	30	10	12	183	775
Cedar City, 4,695—Iron							
Iron County Hospital	Gen	County	40	18	12	242	944

UTAH—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Fort Douglas, 1,071—Salt Lake							
Station Hospital	Gen	Army	70	54	..	..	894
Fort Duchesne, 104—Utah							
Utah and Ouray Agency Indian Hospital	Gen	IA	20	16	7	49	367
Heber, 2,748—Wasatch							
Heber Hospital	Gen	Indiv	14	7	5	44	145
Lehi, 2,733—Utah							
Lehi Hospital	Gen	City	13	5	8	80	219
Logan, 11,865—Cache							
Cacho Valley General Hosp.	Gen	NPAasn	44	25	18	271	828
William Budge Memorial Hospital	Gen	NPAasn	68	53	20	362	3,965
Monb, 1,084—Grand							
Grand County Public Hosp.	Gen	County	16	8	7	81	315
Ogden, 43,688—Weber							
Thomas D. Dee Memorial Hospital	Gen	Church	188	148	26	1,205	6,066
Utah State Tuberculosis Sanatorium	TB	State	96	42	..	..	89
Park City, 3,739—Summit							
Park City Miners' Hospital	Gen	NPAasn	25	14	3	71	533
Payson, 3,591—Utah							
Payson City Hospital	Gen	NPAasn	35	13	8	138	494
Price, 5,214—Carbon							
Price City Hospital	Gen	City	56	42	12	247	1,087
Provo, 18,071—Utah							
Utah State Hospital	Ment	State	1,103	1,048	..	..	376
Utah Valley Hospital	Gen	NPAasn	50	29	14	333	1,361
Richfield, 3,584—Sevier							
Sevier Valley Hospital	Gen	Indiv	20	10	5	141	461
St. George, 2,434—Washington							
D. A. McGregor Hospital	Gen	NPAasn	27	10	5	104	412
Salina, 1,616—Sevier							
Salina Hospital	Gen	Indiv	20	6	6	63	273
Salt Lake City, 149,934—Salt Lake							
Dr. W. H. Groves Latter-Day Saints Hospital	Gen	Church	380	275	60	1,867	8,838
Holy Cross Hospital	Gen	Church	200	123	54	1,143	4,492
Primary Children's Hospital	Chil	Church	25	20	..	..	91
St. Mark's Hospital	Gen	Church	150	123	14	365	3,766
Salt Lake County General Hospital	Gen	County	237	153	21	533	4,211
Shriners Hospital for Crippled Children	Orth	NPAasn	20	20	..	..	49
Veterans Admin. Facility	Gen	Vet	104	103	..	..	955
Spanish Fork, 4,167—Utah							
Hughes Memorial Hospital	Gen	Indiv	12	3	5	37	182
Tremonton, 1,443—Box Elder							
Valley Hospital	Gen	NPAasn	20	9	8	132	454

Related Institutions

American Fork, 3,333—Utah							
Utah State Training School	MeDe	State	585	566	..	..	218
Kanab, 1,265—Kane							
Kanab Hospital	Gen	Indiv	9	5	5	91	213
Murray, 5,740—Salt Lake							
Cottonwood State Maternity Hospital	Mat	Church	26	20	26	699	751

VERMONT

Hospitals and Sanatoriums							
Barre							
Barre	Gen	NPAasn	55	43	15	276	1,636
Wash	TB	State	47	44	..	..	49
Bellows Falls							
Bellows Falls	Gen	NPAasn	38	23	9	146	763
Burlington, 27,686—Chittenden							
Bishop DeGoesbriand Hospital	Gen	NPAasn	86	62	20	252	1,500
Brattleboro, 9,622—Windham							
Brattleboro Memorial Hospital	Gen	NPAasn	75	46	12	190	2,763
Brattleboro Retreat	Ment	NPAasn	900	780	..	..	380
Burlington, 27,686—Chittenden							
Bishop DeGoesbriand Hospital	Gen	Church	120	95	15	291	3,602
Green Mountain Sanatorium	IntMed	Indiv	14	5	..	..	112
..	Corp	NPAasn	25	8	..	..	41
..	Gen	NPAasn	135	120	15	518	5,708
..	Army		131	77	2	10	1,216
..	NPAasn		12	4	4	47	191
..	NPAasn		45	14	10	77	824
..	NPAasn		70	55	12	191	2,181
Morrisville, 1,967—Lamoille							
Copley Hospital	Gen	NPAasn	31	16	5	66	617
Newport, 4,902—Orleans							
Orleans County Memorial Hospital	Gen	NPAasn	20	20	6	181	701
Pittsford, 576—Rutland							
Pittsford	TB	State	85	78	..	..	125
..	Gen	NPAasn	35	12	7	60	419
..	Gen	NPAasn	53	22	10	88	702
..	Gen	NPAasn	140	91	20	394	2,844

Key to symbols and abbreviations is on page 1083

VERMONT—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
St. Albans, 8,037—Franklin St. Albans Hospital	Gen	NPAssn	50	44	8	121	1,594
St. Johnsbury, 7,437—Caledonia Brightlook Hospital	Gen	NPAssn	55	33	12	135	1,128
St. Johnsbury Hospital	Gen	Church	30	15	5	42	390
Springfield, 5,182—Windsor Springfield Hospital	Gen	NPAssn	30	24	6	168	694
Waterbury, 3,074—Washington Vermont State Hospital for the Insane	Ment	State	1,080	1,044	..	...	338
White River Junction, 2,271—Windsor Veterans Admin. Facility	Gen	Vet	188	131	..	...	1,075
Winooski, 6,036—Chittenden Fanny Allen Hospital	Gen	Church	75	67	14	163	1,137
Related Institutions							
Brandon, 2,979—Rutland Brandon State School	MeDe	State	400	352	..	...	43
Pittsford, 576—Rutland Caverly Preventorium	TB	NPAssn	77	69	..	...	149
Windsor, 3,402—Windsor Vermont State Prison Hosp.	Inst	State	11	6	..	...	101
Windsor Hospital	Gen	NPAssn	15	9	5	64	315

VIRGINIA

Hospitals and Sanatoriums							
Abingdon, 3,158—Washington Johnston Memorial Hosp.	Gen	NPAssn	60	30	6	45	971
Alexandria, 33,523—Arlington Alexandria Hospital	Gen	NPAssn	100	83	26	624	3,249
Bedford, 3,973—Bedford Hartwell Hospital	Gen	Indiv	25	11	4	38	341
John Russell Hospital	Gen	Corp	23	...No data supplied			
Bristol, 9,768—Washington Kings Mountain Memorial Hospital	Gen	NPAssn	40	23	3	217	1,329
Brook Hill, 50—Henrico Pine Camp Hospital	TB	City	286	190	..	...	178
Burkeville, 658—Nottoway Piedmont Sanatorium	TB	State	269	144	..	...	247
Catawba Sanatorium, 100—Roanoke Catawba Sanatorium	TB	State	400	350	..	...	566
Charlottesville, 19,400—Albemarle Blue Ridge Sanatorium	TB	State	370	315	..	...	497
Martha Jefferson Hospital and Sanitarium	Gen	NPAssn	50	32	10	213	1,444
University of Virginia Hospital	Gen	State	367	278	44	809	8,818
Christiansburg, 2,290—Montgomery New Altamont Hospital	Gen	Corp	25	15	8	80	1,104
Clifton Forge, 6,461—Allegheny Chesapeake and Ohio Hospital	Gen	NPAssn	135	96	8	86	3,180
Clintwood, 1,106—Dickenson Dickenson County Hospital	Gen	Indiv	20	8	4	64	864
Coeburn, 764—Wise Coeburn Hospital	Gen	Part	30	15	5	14	427
Covington, 6,300—Allegheny Covington General Hospital	Gen	Indiv	15	10	4	31	383
Dante, 2,600—Russell Clinchfield Hospital	Gen	NPAssn	25	14	2	19	593
Danville, 32,749—Pittsylvania Hilltop Sanatorium	TB	NPAssn	60	50	..	...	121
Memorial Hospital	Gen	NPAssn	118	96	14	555	5,110
Farmville, 3,475—Prince Edward Southside Community Hosp.	Gen	NPAssn	38	35	8	139	1,561
Fort Belvoir, —Fairfax Station Hospital	Gen	Army	50	31	..	...	1,177
Fort Myer, 1,050—Arlington Station Hospital	Gen	Army	139	61	..	...	1,030
Fortress Monroe, 1,265—Elizabeth City Station Hospital	Gen	Army	136	67	4	43	2,103
Franklin, 3,466—Southampton Rairford Hospital	Gen	Indiv	35	20	6	71	1,001
Fredericksburg, 10,066—Spotsylvania Mary Washington Hospital	Gen	NPAssn	75	62	10	294	2,213
Front Royal, 3,831—Warren Front Royal Hospital	Gen	Corp	25	..	4	Estab.	1040
Grundy, 1,476—Buchanan Grundy Hospital	Gen	Indiv	50	36	6	43	1,513
Hampton, 5,898—Elizabeth City Dixie Hospital	Gen	NPAssn	91	45	12	147	1,419
Harrisonburg, 8,768—Rockingham Rockingham Memorial Hospital	Gen	NPAssn	142	106	14	280	4,107
Hopewell, 8,679—Prince George John Randolph Hospital	Gen	Corp	14	7	6	85	416
Hot Springs, 1,500—Bath Community House	Gen	NPAssn	13	5	4	29	157
Lexington, 3,914—Rockbridge Stonewall Jackson Memorial Hospital	Gen	Vet	534	421	..	...	3,452
Lorton, 60—Fairfax District of Columbia Reformatory	Gen	Army	125	61	5	99	2,690
Lebanon, 622—Russell Lebanon General Hospital	Gen	Part	20	5	5	23	355
Leesburg, 1,698—Loudoun Loudoun County Hospital	Gen	County	28	15	7	72	684
Lexington, 3,914—Rockbridge Stonewall Jackson Memorial Hospital	Gen	NPAssn	57	29	8	84	1,396

VIRGINIA—Continued

Hospitals and Sanatoriums		Type of Service	Ownership or Control	Beds	Average Census†	Basins†	Number of Births	Admissions†
Luray, 1,511—Page		Gen	NPAssn	20	8	6	53	575
Page Memorial Hospital....		Gen	NPAssn	20	8	6	53	575
Lynchburg, 44,541—Campbell		Gen	City	149	108	28	352	2,450
Guggenheimer Memorial Hos- pital		Gen	Marshall City	93	72	12	310	3,093
Lynchburg General Hosp.▲		Gen	Church	100	48	16	313	1,823
Marshall Lodge Memorial Hospital▲		Gen	NPAssn	93	72	12	310	3,093
Virginia Baptist Hospital▲		Gen	Church	100	48	16	313	1,823
Lynnhaven, 250—Princess Anne		TB	NPAssn	50	48	..	...	74
Tidewater Memorial Hosp...		TB	NPAssn	50	48	..	...	74
Marion, 5,177—Smyth		Gen	Indiv	14	8	3	33	474
Homeland Hospital		Gen	NPAssn	28	..	4	Estab.	1940
Leo Memorial Hospital.....		Gen	State	1,347	1,250	..	...	365
Southwestern State Hospital		Ment	State	1,347	1,250	..	...	365
Martinsville, 10,080—Henry		Gen	Indiv	50	30	6	98	1,716
Shackelford Hospital		Gen	Indiv	50	30	6	98	1,716
Nassawadox, 1,000—Northampton		Gen	Counties	55	33	7	73	1,200
Northampton-Accomac Me- morial Hospital		Gen	Counties	55	33	7	73	1,200
Newport News, 37,067—Warwick		Gen	Indiv	90	73	10	312	2,956
Elizabeth Buxton Hosp.▲		Gen	NPAssn	100	55	14	331	2,518
Riverside Hospital▲		Gen	NPAssn	100	55	14	331	2,518
Whittaker Memorial Hosp..		Gen	NPAssn	44	15	6	39	735
Norfolk, 144,332—Norfolk		TB	City	115	102	..	...	105
Charles R. Grandy Sanat....		TB	City	115	102	..	...	105
Henry A. Wise Memorial Hospital		Gen	City	24	3	..	...	110
Hospital of St. Vincent de Paul▲		Gen	Church	228	132	22	443	4,052
Leigh Memorial Hospital▲		Gen	NPAssn	47	38	11	235	1,488
Norfolk Community Hosp.▲		Gen	NPAssn	54	32	11	70	907
Norfolk General Hosp.▲		Gen	NPAssn	242	209	30	808	8,009
U. S. Marine Hospital▲		Gen	USPHS	360	274	..	...	3,899
Norton, 4,006—Wise		Gen	Indiv	30	12	2	23	642
Norton General Hospital....		Gen	Indiv	30	12	2	23	642
Pennington Gap, 1,990—Lee		Gen	Corp	32	25	2	15	1,193
Lee General Hospital.....		Gen	Corp	32	25	2	15	1,193
Petersburg, 30,631—Dinwiddie		Ment	State	3,521	3,602	..	...	919
Central State Hospital.....		Ment	State	3,521	3,602	..	...	919
Medical Center Hospital▲ ..		Unit of	Central State Hospital	72	51	7	193	2,041
Petersburg Hospital▲		Gen	NPAssn	72	51	7	193	2,041
Petersburg State Colony.....		MeDe	State	240	197	..	...	54
Portsmouth, 50,745—Norfolk		Gen	NPAssn	109	77	16	291	2,570
Kings Daughters Hospital▲		Gen	NPAssn	109	77	16	291	2,570
Norfolk Naval Hospital▲ ..		Gen	Navy	1,069	659	21	426	9,227
Parrish Memorial Hosp.▲ ..		Gen	Corp	50	25	10	180	1,361
Pulaski, 8,792—Pulaski		Gen	Corp	60	41	6	128	1,675
Pulaski Hospital▲		Gen	Corp	60	41	6	128	1,675
..		N&M	Part	46	40	..	...	335
..		Gen	Corp	95	59	8	150	2,729
..		Gen	Indiv	75	49	8	72	1,773
Richmond, 193,042—Henrico		Orth	NPAssn	120	97	..	...	230
Crippled Children's Hosp.▲		Orth	NPAssn	120	97	..	...	230
Dooley Hospital		Unit of	Med. Col. of Va.,	85	72	12	398	3,683
Grace Hospital▲		Gen	Corp	85	72	12	398	3,683
Johnston-Willis Hospital▲		Gen	Corp	122	101	20	618	5,317
Medical College of Virginia, Hospital Division▲		Gen	State	472	409	40	838	10,142
Memorial Hospital		Unit of	Med. Col. of Va.,	90	56	10	385	2,317
Retreat for the Sick▲		Gen	NPAssn	90	56	10	385	2,317
Richmond Community Hosp.		Gen	NPAssn	25	13	4	56	346
St. Elizabeth's Hospital▲		Gen	Corp	50	44	..	...	1,513
St. Luke's Hospital▲		Gen	Corp	82	73	20	418	2,518
St. Philip Hospital		Unit of	Med. Col. of Va.,	78	62	7	136	1,370
Sheltering Arms Hospital▲		Gen	NPAssn	94	74	18	389	2,891
Stuart Circle Hospital▲ ..		Gen	Corp	50	26	..	...	476
Tucker Sanatorium▲		N&M	Corp	135	92	..	...	281
Westbrook Sanatorium		N&M	Corp	135	92	..	...	281
Roonoke, 69,287—Roonoke		Gen	NPAssn	38	...No data supplied			
Burrell Memorial Hospital▲		Gen	NPAssn	38	...No data supplied			
Gill Memorial Eye, Ear and Throat Hospital▲		ENT	NPAssn	25	4	..	...	722
Jefferson Hospital▲		Gen	NPAssn	102	79	12	556	2,914
Lewis-Gale Hospital▲		Gen	NPAssn	122	77	12	182	3,470
Roonoke City Tubercular Sanatorium		TB	City	69	30	..	...	84
Roonoke Hospital▲		Gen	NPAssn	92	52	14	387	2,588
Shenandoah Hospital▲		Gen	Corp	50	24	8	237	1,807
Veterans Admin. Facility▲		Ment	Vet	1,090	1,026	..	...	781
Saltville, 2,650—Smyth		Gen	NPAssn	16	6	3	37	556
Mathieson Hospital		Gen	NPAssn	16	6	3	37	556
South Boston, 5,252—Halifax		Gen	Indiv	34	14	4	61	556
South Boston Hospital.....		Gen	Indiv	34	14	4	61	556
Staunton, 13,337—Augusta		Gen	NPAssn	78	41	10	139	1,361
Kings Daughters Hospital▲		Gen	NPAssn	78	41	10	139	1,361
Stuart, 720—Patrick		Gen	Indiv	21	8	3	36	263
Stuart Hospital		Gen	Indiv	21	8	3	36	263
Suffolk, 11,343—Nansemond		Gen	Corp	65	30	6	79	1,156
Lakeview Hospital▲		Gen	Corp	65	30	6	79	1,156
Virginia General Hospital...		Gen	NPAssn	25	8	5	38	270
University, —Albemarle		Gen	NPAssn	25	8	5	38	270
University of Virginia Hosp.		See	Charlottesville					
Waynesboro, 7,373—Augusta		Gen	NPAssn	33	15	6	115	620
Waynesboro Community Hospital		Gen	NPAssn	33	15	6	115	620
Williamsburg, 3,912—James City		Gen	Indiv	17	7	3	45	401
Bell Hospital		Gen	Indiv	17	7	3	45	401
Eastern State Hospital.....		Ment	State	1,794	1,748	..	...	535
Winchester, 12,095—Frederick		Gen	NPAssn	123	75	18	316	2,957
Winchester Memorial Hos- pital▲		Gen	NPAssn	123	75	18	316	2,957
Woodstock, 1,546—Shenandoah		Gen	Indiv	32	14	3	24	572
Cora Miller Memorial Hosp.		Gen	Indiv	32	14	3	24	572

VIRGINIA—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Beaumont, —Powhatan Virginia Industrial School for Boys	Inst	State	21	7	..	...	350
Colony, 100—Amherst Medical Center Hospital*... Unit of Lynchburg State Colony	MeDe	State	1,530	1,465	..	...	320
Falls Church, 2,576—Fairfax Gundry Home and Training School for Feeble-minded... McDe	Indiv	Indiv	80	78	..	...	7
Lawrenceville, 1,703—Brunswick Louie Taylor Letcher Memorial Hospital	Inst	Church	18	1	1	4	169
Martinsville, 10,080—Henry St. Mary Hospital	Gen	Indiv	14	5	2	35	148
Norfolk, 144,332—Norfolk McCoy Stokes Hospital	ENT	Part	11	3	..	...	331
Richmond, 193,042—Henrico City Home	InstGen	City	425	433	25	91	1,621
Penitentiary Hospital	Inst	State	50	30	..	...	960
State Farm, 60—Goochland State Farm Hospital	Inst	State	50	31	..	...	350
Stonegap, 251—Wise Stonegap Hospital	Indus	NPAasn	16	4	..	...	152
Staunton, 13,337—Augusta DeJarnette Sanatorium	Unit of Western State Hospital	State	2,438	2,440	..	...	1,021
Sweet Briar, 200—Amherst Sweet Briar College Infirmary	Inst	NPAasn	20	2	..	...	102

WASHINGTON

Hospitals and Sanatoriums

Aberdeen, 18,846—Grays Harbor St. Joseph's Hospital*.....	Gen	Church	60	53	20	368	1,853
American Lake, 800—Pierce Veterans Admin. Facility*... Ment	Vet		710	681	..	...	361
Anacortes, 5,875—Skagit Anacortes Hospital	Gen	Corp	25	4	5	76	510
Auburn, 4,211—King Suburban Hospital	Gen	Corp	30	13	0	79	467
Bellingham, 29,413—Whatcom St. Frances Hospital	Gen	Indiv	17	7	4	68	240
St. Joseph's Hospital*.....	Gen	Church	100	68	15	405	2,107
St. Luke's General Hosp.*.....	NPAasn	County	70	49	12	280	2,003
Whatcom County Hospital	Gen	County	80	58	8	128	854
Bremerton, 15,134—Kitsap U. S. Naval Hospital*.....	Gen	Navy	308	157	8	96	2,858
Centralia, 7,414—Lewis St. Luke's Hospital and Sweet Clinic	Gen	Part	25	13	10	149	629
Chehalis, 4,857—Lewis St. Helen's Hospital	Gen	Church	23	14	8	147	690
Chevelah, 1,565—Stevens St. Joseph's Hospital	Gen	Church	21	15	7	118	550
Columbia, 2,853—Whitman St. Ignatius Hospital*.....	Gen	Church	60	42	10	198	1,578
Colville, 2,418—Stevens Mt. Carmel Hospital	Gen	Indiv	30	19	6	130	770
Dayton, 3,026—Columbia John Brining Memorial Hospital	Gen	Indiv	20	13	4	87	455
Ellensburg, 3,914—Kittitas Ellensburg General Hosp.*... Gen	Corp	Corp	25	10	10	108	667
Valley General Hospital	Gen	Part	15	8	6	108	397
Elma, 1,370—Grays Harbor Elma General Hospital	Indiv	Indiv	17	6	6	98	279
Oakhurst Sanatorium*.....	TB	County	65	66	..	...	70
Everett, 30,224—Snohomish General Hospital*.....	Gen	NPAasn	80	67	16	414	2,511
Providence Hospital*.....	Gen	Church	114	68	22	435	2,313
Forks, 600—Clallam Olympic Hospital	Gen	Indiv	28	7	3	28	366
Fort Lewis, —Pierce Station Hospital*.....	Gen	Army	432	131	8	118	3,208
Fort Steilacoom, 2,080—Pierce Western State Hospital*.....	Ment	State	2,885	2,641	..	...	782
Fort Worden (Port Townsend P.O.), 387—Jefferson Station Hospital	Gen	Army	45	12	2	10	171
Kirkland, 2,084—King Kirkland Hospital	Gen	Indiv	12	4	6	75	248
Lakeview, 300—Pierce Mountain View Sanatorium. TB	County	County	140	120	..	...	201
Leavenworth, 1,608—Chelan Cascade Sanitarium	Gen	NPAasn	35	23	6	106	1,102
Longview, 12,385—Cowlitz Cowlitz General Hospital	Gen	NPAasn	45	26	14	322	1,487
Longview Memorial Hospital	Gen	Corp	60	33	16	313	1,670
Mason City, —Okanogan Mason City Hospital	Gen	Corp	50	33	12	265	2,100
Medical Lake, 2,114—Spokane Eastern State Hospital*.....	Ment	State	1,992	1,866	..	...	468
Mt. Vernon, 4,278—Skagit Mt. Vernon General Hospital	Gen	Indiv	30	11	6	72	615
Nespelem, 300—Okanogan Colville Indian Hospital	Gen	IA	40	31	5	74	614
Newport, 1,174—Pend Oreille Newport Community Hosp.	Gen	NPAasn	15	10	4	67	295
Olympia, 13,254—Thurston St. Peter's Hospital*.....	Gen	Church	100	67	15	286	2,223
Pasco, 3,913—Franklin Our Lady of Lourdes Hospital*.....	Gen	Church	58	29	0	177	1,082

WASHINGTON—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Port Angeles, 9,409—Clallam Davidson and Hay Hospital	Gen	Part	60	21	10	127	1,694
Port Angeles General Hospital*.....	Gen	NPAasn	87	41	12	197	1,599
Port Gamble, 500—Kitsap McCormick General Hospital	Gen	Indiv	14	4	2	47	282
Port Townsend, 4,683—Jefferson St. John's Hospital	Gen	Church	80	32	12	95	688
Puyallup, 7,889—Pierce Puget Sound Sanatorium	N&M	Indiv	26	11	..	...	103
Puyallup General Hospital	Gen	Part	24	12	8	120	610
Renton, 4,488—King Bronson Memorial Hospital	Gen	Indiv	33	10	8	118	632
Richmond Highlands, 600—King Firland Sanatorium and Isolation Hospital*.....	TbIso	City	230	235	..	...	271
Seattle, 268,302—King Ballard General Hospital	Gen	NPAasn	30	14	10	91	814
Children's Orthopedic Hospital*.....	Orth	NPAasn	124	114	..	...	1,444
Cobb Building Surgery	Surg	Indiv	20	10	..	...	1,457
.. .. .	Gen	Church	200	94	30	688	3,429
.. .. .	N&M	Corp	20	16	..	...	41
.. .. .	Gen	County	454	387	51	931	13,109
King County Tuberculosis Hospital*.....	TB	County	167	159	..	...	104
Laurel Beach Sanatorium	TB	Part	85	84	..	...	194
Maynard Hospital*.....	Gen	NPAasn	100	78	35	880	2,891
Meadows Sanatorium	N&M	Corp	35	24	..	...	127
Medical and Dental Building Surgery	Surg	Indiv	15	10	..	...	2,173
Providence Hospital*.....	Gen	Church	342	251	58	1,101	10,375
Riverton Hospital for Chest Diseases	TB	NPAasn	88	79	..	...	121
Sentilo General Hospital*.....	Gen	NPAasn	100	95	25	517	3,536
Station Hospital	Gen	Army	20	2	..	...	175
Swedish Hospital*.....	Gen	NPAasn	255	203	65	1,131	6,297
U. S. Marine Hospital*.....	Gen	USPHS	400	333	..	...	11,477
Virginia Mason Hospital*.....	Gen	NPAasn	137	110	80	503	4,311
Sedro Woolley, 2,954—Skagit Memorial Hospital	Gen	NPAasn	32	17	8	154	625
Northern State Hospital*.....	Ment	State	1,955	1,932	..	...	387
Shelton, 3,707—Mason Shelton General Hospital*.....	Gen	NPAasn	45	36	12	200	1,323
Snohomish, 2,794—Snohomish Aldercrest Sanatorium	TB	County	57	54	..	...	36
Snohomish General Hospital	Gen	Indiv	16	6	4	76	311
Snoqualmie Falls, —King Snoqualmie Falls Hospital	Gen	Indiv	25	12	6	52	422
Soap Lake, 622—Grant McKay Memorial Research Hospital	Gen	State	22	14	..	...	101
South Bend, 1,771—Pacific South Bend General Hosp.	Gen	Part	20	5	6	66	122
Spokane, 122,001—Spokane Deaconess Hospital*.....	Gen	Church	185	125	36	780	5,480
Edgeliff Sanatorium*.....	TB	County	140	121	..	...	113
Sacred Heart Hospital*.....	Gen	Church	300	237	46	1,215	8,128
St. Luke's Hospital*.....	Gen	NPAasn	100	103	20	374	3,554
Salvation Army Women's Hospital and Home	Ment	Church	42	25	25	105	111
Shriners Hospital for Crippled Children*.....	Orth	NPAasn	20	20	..	...	135
Station Hospital	Gen	Army	56	45	..	...	583
Stanwood, 600—Snohomish Stanwood General Hospital	Gen	Indiv	14	6	3	35	170
Tacoma, 100,408—Pierce Northern Pacific Beneficial Association Hospital*.....	Gen	NPAasn	111	57	9	40	2,099
Pierce County Hospital*.....	Gen	County	168	167	22	454	3,789
St. Joseph's Hospital*.....	Gen	Church	279	110	60	727	5,294
Tacoma General Hosp.*.....	Gen	NPAasn	185	124	35	1,126	5,813
Tacoma Indian Hospital*.....	GenTb	IA	268	238	..	...	1,027
Tappanish, 3,683—Yakima Yakima Sanatorium	TB	IA	37	30	..	...	60
Vancouver, 18,788—Clark Clark County Hospital	Gen	County	40	33	8	44	723
Clark General Hospital	Gen	NPAasn	43	26	12	177	1,034
St. Joseph's Hospital*.....	Gen	Church	80	53	20	291	2,143
Station Hospital*.....	Gen	Army	132	68	4	37	1,563
Walla Walla, 18,109—Walla Walla St. Mary's Hospital*.....	Gen	Church	85	65	15	298	2,348
Veterans Admin. Facility*.....	GenTb	Vet	421	391	..	...	1,795
Walla Walla General Hosp.*.....	Gen	Church	50	23	9	125	739
Wenatchee, 11,620—Chelan Central Washington Deaconess Hospital*.....	Gen	Church	50	37	14	261	1,406
St. Anthony's Hospital*.....	Gen	Church	60	40	15	280	1,324
Yakima, 27,221—Yakima St. Elizabeth's Hospital*.....	Gen	Church	164	140	30	1,062	4,783
Yakima County Hospital	Gen	County	148	92	13	225	2,263

Related Institutions

Chehalis, 4,857—Lewis State Training School for Boys	Inst	State	49	11	..	...	610
Cle Elum, 2,230—Kittitas Roslyn Cle Elum Beneficial Company Hospital	Gen	NPAasn	23	15	..	...	616
Ione, 631—Pend Oreille Ione Hospital	Gen	Indiv	11	5	2	24	173
Medical Lake, 2,114—Spokane Eastern State Custodial School	MeDe	State	1,468	1,540	..	...	99

Key to symbols and abbreviations is on page 1083

WASHINGTON—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Monroe, 1,590—Snohomish Snohomish County Hospital and Farm	InstGen	County	62	49	7	46	478
Mt. Vernon, 4,278—Skagit Rowley General Hospital....	Gen	Indiv	35	21	8	159	676
Seattle, 363,302—King Florence Crittenton Home..	Mat	NPAasn	30	22	16	60	92
Freedlander's Sanitarium ...	Conv	Part	11	6	..	..	90
Junior League Convalescent Home	Conv	NPAasn	20	16	..	..	68
King County Hospital, Unit 2 (Georgetown Branch)....	InstChr	County	267	247	..	..	866
Shadel Sanitarium	Alcoh	Corp	21	7	..	..	339
University of Washington Health Center	Inst	State	75	15	..	..	1,680
Spokane, 122,001—Spokane Florence Crittenton Home..	Mat	NPAasn	14	1	14	25	31
Rivercrest Hospital	Iso	City	100	7	..	..	135
Stellacoom, 832—Pierce U. S. Penitentiary Hospital▲	Inst	Fed	85	69	..	..	714
Tacoma, 109,408—Pierce Washington Minor Hospital Gen	NPAasn	14	9	..	..	..	1,204
White Shield Home	Mat	NPAasn	20	20	10	52	61
Tulalip, 100—Snohomish Tulalip Hospital	Gen	IA	9	8	3	73	248
Walla Walla, 18,109—Walla Walla Blue Mountain Sanatorium..	TB	County	36	26	..	..	45
Washington State Peniten- tiary Hospital	Inst	State	60	52	..	..	293
White Salmon, 985—Klickitat Klickitat General Hospital... Gen	Indiv	12	8	4	78	211	
Yakima, 27,221—Yakima Dopps Sanatorium	TB	Indiv	32	30	..	..	44

WEST VIRGINIA

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Beckley, 12,852—Raleigh Beckley Hospital▲	Gen	Part	160	126	10	128	4,734
Pinecrest Sanitarium▲	TB	State	460	428	..	..	653
Raleigh General Hospital▲ ..	Gen	Corp	69	52	7	56	1,727
Bluefield, 20,641—Mercer Bluefield Sanitarium▲	Gen	Corp	110	84	10	182	4,117
Brown's Hospital	Gen	Indiv	42	15	3	18	857
Providence Hospital	Gen	Indiv	25	11	3	15	410
St. Luke's Hospital▲	Gen	Corp	75	50	8	84	2,008
Buckhannon, 4,450—Upshur St. Joseph's Hospital▲	Gen	Church	44	22	6	79	798
Charleston, 67,914—Kanawha Charleston General Hospi- tal▲	Gen	NPAasn	240	220	30	466	8,017
Kanawha Valley Hosp.▲	Gen	Corp	130	102	12	191	3,182
McMillan Hospital▲	Gen	Corp	80	53	12	178	2,632
Mountain State Hospital▲ ..	Gen	Corp	77	64	12	281	3,180
St. Francis Hospital▲	Gen	Church	100	71	15	301	2,820
Salvation Army Hospital... Gen	Church	28	13	4	110	629	
Staats Hospital	Gen	Corp	50	30	3	48	1,374
Charles Town, 2,926—Jefferson Charles Town General Hosp. Gen	NPAasn	25	12	6	73	441	
Clarksburg, 30,579—Harrison St. Mary's Hospital▲	Gen	Church	141	86	12	222	3,139
Union Protestant Hosp.▲ ..	Gen	NPAasn	52	40	10	213	1,709
Denmar, —Pocahontas Denmar Sanatorium	TB	State	100	105	..	..	134
East Rainelle, 1,515—Greenbrier East Rainelle General Hosp. Gen	Corp	35	11	4	26	430	
Elkins, 8,133—Randolph Davis Memorial Hospital▲ ..	Gen	NPAasn	108	57	11	56	2,341
Elkins City Hospital▲	Gen	Corp	66	25	6	48	928
Fairmont, 23,105—Marion Fairmont Emergency Hospi- tal▲	Gen	State	68	47	5	63	1,177
Fairmont General Hosp.▲ ..	Gen	NPAasn	110	89	10	366	3,229
Glen Dale, 1,348—Marshall Reynolds Memorial Hosp.▲ ..	Gen	Church	80	27	10	178	971
Hinton, 5,815—Summers Hinton Hospital▲	Gen	Corp	67	34	6	34	1,367
Holden, 4,000—Logan Holden Hospital	Gen	Corp	24	13	1	9	609
Hopemont, 300—Preston Conley Hospital	Unit of	Hopemont Sanitarium	495	465	..	..	420
Hopemont Sanitarium▲ ..	TB	State	495	465	..	..	420
Huntington, 78,836—Cabell Chesapeake and Ohio Hos- pital▲	Gen	NPAasn	110	102	20	58	2,807
Huntington Memorial Hos- pital▲	Gen	NPAasn	122	80	22	211	2,697
Huntington Orthopedic Hos- pital	Orth	NPAasn	50	28	..	..	408
Moore-Beckner Eye, Ear and Throat Hospital	ENT	Part	5	2	..	..	423
St. Mary's Hospital▲	Gen	Church	200	122	30	951	4,946
Veterans Admin. Facility▲ ..	Gen	Vet	317	259	..	..	2,557
Keyser, 6,177—Mineral Potomac Valley Hospital▲ ..	Gen	Corp	50	26	8	108	1,122
Kingwood, 1,676—Preston Kercheval Memorial Clinic... Gen	Corp	10	8	4	32	800	
Lakin, 50—Mason Lakin State Hospital.....	Ment	State	400	387	..	..	76
Logan, 5,166—Logan Logan General Hospital▲ ..	Gen	Corp	100	45	8	93	2,308
Mercy Hospital	Gen	Corp	75	41	5	52	1,782
Marlington, 1,641—Pocahontas Pocahontas Memorial Hosp. Gen	County	35	12	4	51	411	

WEST VIRGINIA—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Martinsburg, 15,063—Berkeley City Hospital	Gen	NPAasn	75	20	10	56	610
Kings Daughters Hosp.▲ ..	Gen	NPAasn	70	45	8	142	1,404
Matawan, 905—Mingo Matawan Clinic Hospital....	Gen	Corp	42	12	1	42	936
McKendree, 50—Fayette McKendree Emergency Hos- pital	Gen	State	60	..	..	..	No data supplied
Milton, 1,041—Cabell Morris Memorial Hospital for Crippled Children	Conv	NPAasn	75	50	..	..	148
Montgomery, 3,231—Fayette Laird Memorial Hospital▲ ..	Gen	Corp	127	82	8	95	3,613
Morgantown, 16,655—Monongalia City Hospital	Gen	Indiv	85	52	12	180	2,302
Monongalia General Hosp.▲ ..	Gen	County	100	54	15	181	1,670
Mulens, 3,036—Wyoming Wyle Hospital	Gen	Indiv	30	13	2	20	446
New Martinsville, 3,491—Wetzel Wetzel County Hospital.....	Gen	NPAasn	30	17	5	59	896
Oak Hill, 3,213—Fayette Oak Hill Hospital	Gen	Part	45	43	5	39	1,452
Parkersburg, 30,103—Wood Camden-Clark Memorial Hos- pital▲	Gen	City	165	70	18	306	2,888
St. Joseph's Hospital▲	Gen	Church	125	82	14	209	2,457
Parsons, 2,077—Tucker Tucker County Hospital....	Gen	Indiv	12	9	5	62	371
Philippi, 1,955—Barbour Myers Clinic Hospital.....	Gen	Part	35	24	3	53	1,048
Princeton, 7,426—Mercer Mercer Memorial Hospital... Gen	Corp	30	22	6	51	1,115	
Princeon Hospital	Gen	Indiv	22	11	2	15	568
Richwood, 5,031—Nicholas McClung Hospital	Gen	Indiv	50	12	6	32	407
Sacred Heart Hospital	Gen	Church	54	14	6	34	710
Ronceverte, 2,665—Greenbrier Greenbrier Valley Hosp.▲ ..	Gen	Corp	50	29	3	23	1,153
Sistersville, 2,702—Tyler Sistersville General Hospital Gen	NPAasn	20	..	..	..	..	No data supplied
South Charleston, 10,377—Kanawha Dunn Hospital	Gen	Indiv	35	11	7	80	580
Spencer, 2,497—Roane De Pue Hospital	Gen	Indiv	20	10	6	18	515
Welch, 6,264—McDowell Grace Hospital▲	Gen	Corp	135	75	6	71	2,190
Stevens Clinic Hospital▲ ..	Gen	Corp	139	90	6	142	5,473
Welch Emergency Hospital▲ ..	Gen	State	86	52	4	48	3,693
Weston, 8,368—Lewis General Hospital	Gen	Indiv	44	19	4	38	884
Weston City Hospital.....	Gen	Corp	30	10	7	49	515
Wheeling, 61,699—Ohio Ohio Valley General Hospi- tal▲	Gen	NPAasn	251	213	24	934	7,246
Wheeling, 61,699—Ohio Ohio Valley General Hospi- tal▲	Gen	Church	220	100	30	599	3,516
Wheeling, 61,699—Ohio Ohio Valley General Hospi- tal▲	Gen	Corp	100	65	5	135	3,090

Related Institutions

Berkeley Springs, 1,145—Morgan "The Pines" West Virginia Foundation for Crippled Children	Orth	NPAasn	40	13	..	..	25
Charleston, 67,914—Kanawha Hill Crest Sanatorium.....	TbChil	NPAasn	52	32	..	..	33
Huntington, 78,836—Cabell Huntington State Hospital..	Ment	State	960	942	..	..	360
Moundsville, 14,168—Marshall Grand View Sanatorium....	TB	County	26	24	..	..	16
West Virginia Penitentiary Hospital	Inst	State	72	56	..	..	496
Spencer State Hospital.....	Ment	State	85	80	..	..	7
Tridelfia, 359—Ohio Ohio County Tuberculosis Sanatorium	TB	County	947	918	..	..	339
Weston, 8,268—Lewis Weston State Hospital.....	Ment	State	1,700	1,716	..	..	599
Wheeling, 61,699—Ohio Florence Crittenton Home..	Mat	NPAasn	22	15	18	26	54

WISCONSIN

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admis- sions †
Adams, 1,310—Adams Adams-Friendship Hospital..	Gen	Corp	10	5	2	24	219
Algoma, 2,632—Kewaunee Algoma Hospital	Gen	NPAasn	10	5	4	41	203
Amery, 1,461—Polk Amery Hospital	Gen	Indiv	16	8	5	33	367
Antigo, 4,493—Langlade Langlade County Memorial Hospital	Gen	Church	50	37	10	157	1,321
Appleton, 23,436—Outagamie St. Elizabeth Hospital▲	Gen	Church	170	111	40	921	4,123
Ashland General Hospital▲ ..	Gen	NPAasn	67	45	8	151	1,224
St. Joseph's Hospital▲	Gen	Church	125	87	15	271	2,461
Baldwin, 918—St. Croix Baldwin Community Hosp. Gen	NPAasn	15	10	6	95	264	

WISCONSIN—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Baraboo, 6,415—Sauk	Gen	Church	45	23	15	109	949
St. Mary's Ringling Hospital	Gen	Church	43	25	8	164	1,018
Beaver Dam, 10,356—Dodge	Gen	Church	60	24	14	133	879
B...	Gen	City	80	55	25	516	3,097
Berlin Memorial Hospital...	Gen	NPAssn	28	16	7	112	703
Black River Falls, 2,539—Jackson	Gen	Part	28	23	10	252	770
Krohn Clinic and Hospital...	Gen	Part	22	4	3	40	187
Boscobel, 2,008—Grant	Gen	NPAssn	33	20	10	171	820
Brookside-Parker Hospital...	Gen	Church	115	77	12	243	2,143
Burlington, 4,414—Racine	Gen	Church	40	26	12	135	692
Burlington Memorial Hospital...	Gen	Part	22	6	4	60	325
Chippewa Falls, 10,365—Chippewa	Gen	Church	8	5	5	38	249
St. Joseph's Hospital...	Gen	NPAssn	22	17	5	88	665
Eau Claire, 30,745—Eau Claire	Gen	Church	51	35	12	160	1,275
Luther Hospital*AO	Gen	NPAssn	135	100	20	530	3,834
Mt. Washington	Gen	County	91	91	...	...	80
Sacred Heart	Gen	Church	132	94	26	401	3,237
Edger	Gen	NPAssn	25	12	9	135	767
El...	Gen	County	75	52	11	300	1,606
Fond du Lac, 27,260—Fond du Lac	Gen	Church	203	185	30	702	5,150
St. Agnes Hospital*AO	Gen	Indiv	12	...	...	...	No data supplied
Fort Atkinson, 6,153—Jefferson	Gen	Indiv	12	9	4	80	523
Fort Atkinson General Hosp.	Gen	Corp	21	15	4	72	574
Frederic, 725—Polk	Gen	Church	78	65	11	354	2,492
Frederic Hospital	Gen	Church	100	58	22	569	3,256
Grantsburg, 874—Burnett	Gen	Church	225	165	25	700	7,230
Community Hospital	Gen	Church	50	25	8	118	823
Green Bay, 46,235—Brown	Gen	County	142	135	...	...	86
Bellin Memorial Hospital*AO	Gen	IA	45	39	10	116	827
St. Mary's Hospital*AO	Gen	Indiv	25	15	5	42	467
St. ...	Gen	Corp	20	10	5	25	280
Har...	Gen	Church	122	78	22	406	2,266
Haw...	Gen	County	80	75	...	...	73
Middle River Sanatorium*AO	Gen	County	59	54	...	...	67
Hayward, 1,571—Sawyer	Gen	County	65	58	...	...	105
Hayward Indian Hospital...	Gen	NPAssn	150	62	30	423	2,300
Hillsboro, 1,146—Vernon	Gen	Church	47	35	21	416	1,427
Hansberry Hospital	Gen	County	58	43	...	...	41
Iola, 746—Waupaca	Gen	Church	65	33	7	124	845
...	Gen	NPAssn	106	39	10	102	1,276
Pinchurst Sanatorium*AO	Gen	NPAssn	40	23	12	124	1,220
Jefferson, 3,039—Jefferson	Gen	Church	120	83	9	174	2,674
Forest Lawn Sanatorium...	Gen	Church	30	20	30	703	744
Kaukauna, 7,382—Outagamie	Gen	Church	256	197	36	774	5,106
Riverview Sanatorium*AO	Gen	Church	35	17	6	199	974
Kenosha, 48,765—Kenosha	Gen	Indiv	11	5	5	42	326
Kenosha Hospital*AO	Gen	Part	12	5	5	16	112
St. Catherine's Hospital and Sanatorium*AO	Gen	Indiv	15	8	5	52	309
St. Francis Hospital*AO	Gen	County	150	144	...	...	121
Ladysmith, 3,071—Rusk	Gen	NPAssn	178	128	25	654	5,633
...	Gen	Church	110	46	14	112	2,174
Lancaster General Hospital...	Gen	Church	55	48	...	...	56
Laona, 1,500—Forest	Gen	Corp	34	17	...	...	191
Owitz Hospital	Gen	Church	175	138	50	1,060	5,156
Madison, 67,447—Dane	Gen	State	650	669	22	300	14,696
Lake View Sanatorium*AO	Gen	Unit of State of Wisconsin General Hosp.	...	...	...	...	...
Madison General Hospital*AO	Gen	Unit of State of Wisconsin General Hosp.	...	...	...	...	...
Methodist Hospital*AO	Gen	Church	125	65	20	440	2,371
Morningside Sanatorium	Gen	Church	180	110	18	360	3,399
Normandale	Gen	Corp	38	19	6	92	865
St. Mary's Hospital*AO	Gen	Corp	38	22	6	85	853
State of Wisconsin General Hospital*AO	Gen	State	...	...	...	...	...
Wisconsin Orthopedic Hospital for Children	Gen	State	...	...	...	...	...
Wisconsin Psychiatric Insti...	Gen	State	...	...	...	...	...
Marshfield, 10,359—Wood	Gen	Church	125	65	20	440	2,371
St. Joseph's Hospital*AO	Gen	Church	180	110	18	360	3,399
Mauston, 2,621—Juneau	Gen	Corp	38	19	6	92	865
Mauston Hospital	Gen	Corp	38	22	6	85	853
Medford, 2,361—Taylor	Gen	Corp	38	22	6	85	853
Medford Clinic	Gen	Corp	38	22	6	85	853

WISCONSIN—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Bassinets	Number of Births	Admissions †
Mendota, 400—Dane	Gen	City	25	10	7	112	743
Mendota State Hospital...	Gen	County	50	31	11	262	1,201
Veterans Admin. Facility*AO	Gen	County	27	22	4	53	281
Menomonie, 6,582—Dunn	Gen	City	125	85	25	525	3,367
...	Gen	Church	140	85	28	601	4,494
Columbia Hospital*AO	Gen	Church	25	18	4	5	5,303
Evangelical Deaconess Hos...	Gen	NPAssn	205	105	...	...	3,814
Johnston Emergency Hosp.*AO	Gen	Unit of Milwaukee County Hospital, Wauwatosa	224	226	48	1,024	7,408
Milwaukee Children's Hospi...	Gen	Church	114	73	40	658	2,764
Milwaukee County Hospital, Dispensary-Emergency Unit	Gen	NPAssn	160	123	30	878	5,570
Milwaukee Hospital*AO	Gen	Church	300	166	...	...	2,042
Misericordia Hospital*AO	Gen	Church	50	34	16	489	2,075
Mt. Sinai Hospital*AO	Gen	Church	325	185	72	1,746	8,027
Sacred Heart Sanitarium*AO	Gen	Church	145	65	35	514	2,904
St. Anthony Hospital	Gen	Church	100	79	30	875	4,000
St. Joseph's Hospital*AO	Gen	Church	104	72	...	...	455
St. Joseph's Hospital Annex	Gen	Church	170	112	30	558	6,410
St. Luke's Hospital*AO	Gen	Corp	50	...	...	...	No data supplied
St. Mary's Hill	Gen	City	250	57	...	...	763
St. Mary's Hospital*AO	Gen	Unit of Milwaukee Children's Hospital	1,193	1,024	...	...	5,305
Shorewood Hospital-Sanit...	Gen	NPAssn	28	7	7	56	513
South View Hospital	Gen	Part	15	...	6	...	Estab. 1940
Stark Hospital	Gen	Church	35	15	15	83	468
Veterans Admin. Facility*AO	Gen	Church	60	41	16	237	1,381
West Side	Gen	Church	56	40	17	345	1,434
...	Gen	NPAssn	50	27	13	197	851
Lincoln Clark Memorial Hos...	Gen	NPAssn	13	5	6	29	130
New London, 4,825—Waupaca	Gen	Church	54	40	...	...	102
Community Hospital	Gen	Corp	35	26	6	60	425
Memorial Hospital	Gen	City	12	6	3	61	236
Oconomowoc, 4,562—Waukesha	Gen	County	65	65	...	...	115
Rogers Memorial Sanitarium	Gen	Part	12	5	2	28	261
Summit Hospital	Gen	Church	190	119	34	457	3,247
Oconto Falls, 1,888—Oconto	Gen	Indiv	29	11	4	72	530
Oconto Falls Hospital	Gen	Counties	42	35	...	...	66
Onalaska, 1,742—La Crosse	Gen	Indiv	25	6	4	14	251
Oak Forest Sanatorium*AO	Gen	Part	25	7	5	52	196
Oscoda, 612—Polk	Gen	Indiv	15	9	5	67	292
...	Gen	Church	36	17	8	125	601
Park Falls, 3,252—Price	Gen	County	92	85	...	...	57
Park Falls Hospital	Gen	Church	68	39	14	224	1,302
Pewaukee, 1,352—Waukesha	Gen	Indiv	21	11	4	62	357
Oak Sanatorium	Gen	NPAssn	50	28	8	88	1,275
Platteville, 4,762—Grant	Gen	Corp	50	34	4	14	125
Andrew Hospital	Gen	Counties	68	62	...	...	77
Wilson Cunningham Hosp...	Gen	Church	118	71	38	505	2,667
Plum City, 368—Pierce	Gen	Church	180	100	33	621	4,563
Plymouth, 4,170—Sheboygan	Gen	County	81	75	...	...	54
Plymouth Hospital	Gen	City	30	14	8	124	619
Rocky Knoll Sanatorium*AO	Gen	Church	75	40	10	215	1,381
Portage, 7,016—Columbia	Gen	Church	65	32	15	192	1,956
St. Saviour's General Hosp...	Gen	Church	40	27	8	110	1,191
Prairie du Chien, 4,622—Crawford	Gen	NPAssn	62	35	12	159	1,775
Beaumont Hospital	Gen	City	18	15	6	102	525
Prairie du Chien Sanitarium	Gen	City	25	9	8	94	326
Hospital	Gen	Indiv	20	11	4	29	320
Prescott, 857—Pierce	Gen	Corp	50	28	4	14	125
St. Croixdale Sanitarium...	Gen	County	68	62	...	...	77
Pureair (Bayfield P.O.)—Bayfield	Gen	Church	118	71	38	505	2,667
Pureair Sanatorium*AO	Gen	Church	180	100	33	621	4,563
Racine, 67,195—Racine	Gen	County	81	75	...	...	54
St. Luke's Hospital*AO	Gen	City	30	14	8	124	619
St. Mary's Hospital*AO	Gen	Church	75	40	10	215	1,381
Sunny Rest Sanatorium*AO	Gen	Church	65	32	15	192	1,956
Reedsburg, 3,608—Sauk	Gen	Church	40	27	8	110	1,191
Reedsburg Municipal Hosp...	Gen	NPAssn	62	35	12	159	1,775
Rhineland, 8,501—Oneida	Gen	City	18	15	6	102	525
...	Gen	City	25	9	8	94	326
St. Joseph's Hospital	Gen	Indiv	20	11	4	29	320
Richland Center, 4,364—Richland	Gen	Corp	55	34	16	227	1,424
Richland Hospital	Gen	Church	131	134	18	623	3,501
Ripon, 4,566—Fond du Lac	Gen	NPAssn	86	62	18	364	2,106
Ripon Municipal Hospital...	Gen	Indiv	11	3	3	14	141
River Falls, 2,806—Pierce	Gen	Indiv	13	6	4	82	372
City Hospital	Gen	...	...	...	...	...	...
St. Croix Falls, 1,007—Polk	Gen	...	...	...	...	...	...
St. Croix Falls Hospital...	Gen	...	...	...	...	...	...
Shawano, 5,565—Shawano	Gen	...	...	...	...	...	...
Shawano Municipal Hospital	Gen	...	...	...	...	...	...
Sheboygan, 40,638—Sheboygan	Gen	...	...	...	...	...	...
St. Nicholas Hospital	Gen	...	...	...	...	...	...
Sheboygan Memorial Hosp.*AO	Gen	...	...	...	...	...	...
Shullsburg, 1,197—Lafayette	Gen	...	...	...	...	...	...
Dr. Ennis' Hospital	Gen	...	...	...	...	...	...
South Milwaukee, 11,134—Milwaukee	Gen	...	...	...	...	...	...
South Milwaukee Hospital...	Gen	...	...	...	...	...	...

WISCONSIN—Continued

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Sparta, 5,820—Monroe							
St. Mary's Hospital.....	Gen	Church	75	45	13	270	1,443
Stanley, 2,021—Chippewa							
Victory Hospital.....	Gen	NPAssn	21	10	4	63	725
Statesan, 121—Waukesha							
Wisconsin State Sanat.†A...	TB	State	246	166	..	...	141
Stevens Point, 15,777—Portage							
River Pines Sanatorium†A...	TB	Church	62	62	..	...	150
St. Michael's Hospital†A...	Gen	Church	75	60	15	221	2,054
Stoughton, 4,743—Dane							
Stoughton Community Hosp. Gen		NPAssn	24	15	10	131	653
Sturgeon Bay, 5,439—Door							
Egeland Memorial Hospital. Gen		Indiv	28	12	6	92	724
Leasum Hospital.....	Gen	Indiv	15	No data supplied			
Superior, 35,136—Douglas							
St. Francis Hospital.....	Gen	Church	50	36	10	153	916
St. Joseph's Hospital.....	Gen	Church	35	23	14	295	776
St. Mary's Hospital†A...	Gen	Church	142	66	28	295	1,925
Tomah, 3,817—Monroe							
Tomah Indian Hospital.....	Gen	IA	42	35	6	59	451
Tomahawk, 3,305—Lincoln							
Sacred Heart Hospital.....	Gen	Church	60	21	10	40	507
Two Rivers, 10,302—Manitowoc							
Two Rivers Municipal Hosp. Gen		City	40	27	10	154	977
Washburn, 2,363—Bayfield							
Washburn Hospital.....	Gen	NPAssn	14	5	5	21	210
Watertown, 11,301—Jefferson							
St. Mary's Hospital.....	Gen	Church	75	48	17	308	1,621
Waukesha, 19,242—Waukesha							
Waukesha Memorial Hosp.....	Gen	City	85	58	24	515	3,632
Waukesha Springs Sanit.....	N&M	Corp	50	..	..	...	...
Waupaca, 3,458—Waupaca							
City Hospital.....	Gen	Part	12	8	2	29	312
Waupun, 6,798—Fond du Lac							
Central State Hospital for Insane	Ment	State	325	312	..	...	73
Wausau, 27,268—Marathon							
Dr. Lee M. Willard Memorial Preventorium.....	Unit of	Mount View Sanatorium					
Mount View Sanatorium†A...	TB	County	92	76	..	...	88
St. Mary's Hospital†A...	Gen	Church	120	76	20	401	2,443
Wausau Memorial Hospital†A	Gen	NPAssn	95	60	22	364	2,318
Wauwatosa, 27,769—Milwaukee							
Blue Mound Preventorium...	Unit of	Muirdale Sanatorium					
Milwaukee County Asylum for Chronic Insane.....	Ment	County	1,680	1,639	..	...	200
Milwaukee County Hospital†A...	Gen	County	1,050	576	75	1,315	17,312
Milwaukee County Hospital for Mental Diseases†...	Ment	County	1,104	1,008	..	...	343
Milwaukee Sanitarium†...	N&M	Corp	147	139	..	...	300
Muirdale Sanatorium†A...	TB	County	530	504	..	...	621
West Bend, 5,452—Washington							
St. Joseph's Hospital.....	Gen	Church	25	18	8	109	675
West De Pere, —Brown							
Hickory Grove Sanatorium. TB		County	109	93	..	...	66
Whitehall, 1,035—Trempealeau							
Whitehall Community Hosp. Gen		NPAssn	26	20	5	87	675
Whitelaw, 268—Manitowoc							
Maple Crest Sanatorium†A...	TB	County	54	48	..	...	101
Winnebago, 150—Winnebago							
Sunny View Sanatorium†A...	TB	Counties	98	97	..	...	99
Winnebago State Hospital†A	Ment	State	839	750	..	...	868
Wisconsin Rapids, 11,416—Wood							
Riverview Hospital.....	Gen	NPAssn	35	33	12	353	1,538
Related Institutions							
Appleton, 28,436—Outagamie							
Outagamie County Asylum..	Ment	County	260	252	..	...	26
Barron, 2,059—Barron							
Barron City Hospital.....	Gen	Indiv	15	6	4	22	213
Chippewa Falls, 10,368—Chippewa							
Chippewa County Chronic Insane Asylum.....	Ment	County	355	349	..	...	65
Northern Wisconsin Colony and Training School.....	MeDe	State	1,625	1,600	5	4	214
Clintonville, 4,134—Waupaca							
Clintonville Community Hospital.....	Gen	Indiv	12	7	6	44	191
Dodgeville, 2,209—Iowa							
Iowa County Insane Asylum	Ment	County	182	166	..	...	29
Eau Claire, 30,745—Eau Claire							
Eau Claire County Insane Asylum.....	Ment	County	252	246	..	...	25
Elkhorn, 2,382—Walworth							
Walworth County Asylum for the Insane.....	Ment	County	238	222	..	...	35
Fond du Lac, 27,209—Fond du Lac							
Fond du Lac County Insane Asylum.....	Ment	County	326	295	..	...	18
Green Bay, 46,235—Brown							
Brown County Insane Asylum	Ment	County	304	299	..	...	51
Wisconsin State Reformatory Hospital.....	Inst	State	10	3	..	...	174
Hazel Green, 582—Grant							
Fillbach Hospital.....	Gen	Part	7	2	3	21	72
Itasca, 315—Douglas							
Douglas County Asylum, Home and Sanatorium....	Ment	County	132	126	..	...	42
Janesville, 22,992—Rock							
Rock County Hospital.....	Ment	County	350	325	..	...	117
Jefferson, 3,039—Jefferson							
Jefferson County Asylum for Chronic Insane.....	Ment	County	230	214	..	...	50

WISCONSIN—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinets	Number of Births	Admissions †
Juneau, 1,301—Dodge							
Dodge County Insane Asylum and Poor House.....	Ment	County	268	252	..	...	47
Kewaunee, 2,533—Kewaunee							
Dana and Dockry Hospital. Gen		Part	10	2	4	29	149
Lake Tomahawk, 60—Oneida							
Lake Tomahawk State Camp TB	TB	State	48	47	..	...	43
Lancaster, 2,963—Grant							
Grant County Asylum.....	Ment	County	250	250	..	...	25
Madison, 67,447—Dane							
East Washington Avenue Hospital.....	Iso	City	55	5	..	...	117
Manitowoc, 24,404—Manitowoc							
Manitowoc County Insane Asylum.....	Ment	County	220	212	..	...	23
Marshfield, 10,359—Wood							
Wood County Asylum for Chronic Insane.....	Ment	County	241	232	..	...	24
Menomonee, 6,582—Dunn							
Dunn County Asylum.....	Ment	County	184	160	..	...	14
Milwaukee, 587,472—Milwaukee							
Layton Home.....	Incur	Church	35	35	..	...	8
Monroe, 6,182—Green							
Green County Asylum.....	Ment	County	222	213	..	...	37
Neillsville, 2,562—Clark							
Neillsville Hospital.....	Gen	Indiv	18	8	4	38	223
New Richmond, 2,112—St. Croix							
St. Croix County Asylum for Chronic Insane.....	Ment	County	182	177	..	...	18
Oconto, 5,362—Oconto							
Oconto County and City Hospital.....	Gen	NPAssn	50	20	6	67	769
Oshkosh, 39,089—Winnebago							
Alexian Brothers Hospital..	N&M	Church	83	70	..	...	57
Owen, 1,083—Clark							
Clark County Hospital.....	Ment	County	363	355	..	...	53
Oxford, 404—Marquette							
Oxford Hospital.....	Gen	Indiv	10	6	1	4	67
Peshigo, 1,947—Marquette							
Marquette County Insane Asylum.....	Ment	County	260	240	..	...	48
Racine, 67,195—Racine							
Lincoln Memorial Hosp. for Communicable Diseases... TB	Iso	City	50	11	..	...	170
Racine County Asylum.....	Ment	County	325	321	..	...	51
Racine County Hospital.....	Gen	County	52	53	..	...	115
Reedsburg, 3,008—Sauk							
Sauk County Asylum.....	Ment	County	206	189	..	...	39
Richland Center, 4,364—Richland							
Richland County Asylum for Insane.....	Ment	County	154	147	..	...	16
Shawano, 5,565—Shawano							
Shawano County Insane Asylum.....	Ment	County	190	185	..	...	16
Sheboygan, 40,638—Sheboygan							
Sheboygan County Hospital for Chronic Insane.....	Ment	County	288	205	..	...	37
Sparta, 5,820—Monroe							
Monroe County Insane Asylum.....	Ment	County	175	168	..	...	33
Union Grove, 973—Racine							
Southern Wisconsin Colony and Training School.....	MeDe	State	834	747	..	...	107
Verona, 535—Dane							
Dane County Asylum for Chronic Insane.....	Ment	County	295	284	..	...	18
Viroqua, 3,549—Vernon							
Vernon County Asylum.....	Ment	County	151	135	..	...	36
Viroqua Hospital.....	Gen	Part	21	10	5	79	601
Watertown, 11,301—Jefferson							
Bethesda Lutheran Home for Feebleminded and Epileptics.....	MeDe	Church	375	375	..	...	31
Waukesha, 19,242—Waukesha							
Waukesha County Asylum for Chronic Insane.....	Ment	County	230	223	..	...	146
Waupaca, 3,458—Waupaca							
Waupaca Hospital and Clinic	Gen	Part	12	8	2	30	276
Waupun, 6,798—Fond du Lac							
Clark and Swartz Hospital..	Gen	Part	8	5	4	33	158
Wisconsin State Prison Hospital.....	Inst	State	21	18	..	...	350
Wausau, 27,268—Marathon							
Marathon County Asylum for Chronic Insane.....	Ment	County	189	189	..	...	30
Marathon County Home and Hospital.....	Inst	County	50	50	..	...	163
Wauwatosa, 27,769—Milwaukee							
Milwaukee County Home for Dependent Children.....	Inst	County	80	28	..	...	1,401
St. Camillus Hospital.....	Incur	Church	65	60	..	...	185
Salvation Army Martha Washington Women's Home and Hospital.....	Mat	Church	76	46	14	125	133
West Bend, 5,452—Washington							
Washington County Asylum for Chronic Insane.....	Ment	County	154	149	..	...	8
West Salem, 1,254—La Crosse							
La Crosse County Asylum for Insane.....	Ment	County	255	269	..	...	31
Weyauwega, 1,173—Waupaca							
Waupaca County Insane Asylum.....	Ment	County	196	192	..	...	23

WISCONSIN—Continued

Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Whitehall, 1,035—Trempealeau							
Trempealeau County Asylum	Ment	County	150	...	..	...	...
Winnebago, 150—Winnebago							
Winnebago County Asylum	Ment	County	262	256	..	...	26
Wyocena, 706—Columbia							
Columbia County Asylum...	Ment	County	200	263	..	...	44

WYOMING

Hospitals and Sanatoriums	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Basin, 1,090—Big Horn							
Wyoming Tuberculosis Sanatorium	TB	State	33	27	..	...	52
Casper, 17,964—Natrona							
Memorial Hospital of Natrona County	Gen	County	140	56	24	411	2,440
Cheyenne, 22,474—Laramie							
Memorial Hospital of Laramie County	Gen	County	133	58	20	441	2,700
Veterans Admin. Facility	Gen	Yet	151	100	..	...	867
Cody, 2,536—Park							
Cody Hospital	Gen	NPAssn	23	...	6	Estab. 1940	
Douglas, 2,205—Converse							
Douglas Hospital	Gen	Indiv	19	9	4	31	360
Evanston, 3,605—Uinta							
Wyoming State Hospital	Ment	State	655	600	..	...	140
Fort Warren, 22—Laramie							
Station Hospital	Gen	Army	240	103	6	41	2,411
Fort Washakie, 150—Fremont							
Wind River Indian Hospital	Gen	IA	49	28	6	89	617
Gillette, 2,177—Campbell							
McHenry Hospital	Gen	Part	15	6	6	27	227
Jackson, 1,046—Teton							
St. John's Hospital	Gen	Church	25	8	5	65	412
Kemmerer, 2,026—Lincoln							
Lincoln County Miner's Hospital	Gen	NPAssn	30	15	5	89	536
Lander, 2,594—Fremont							
Bishop Randall Hospital	Gen	Church	20	13	6	59	522
Laramie, 10,627—Albany							
Iverson Memorial Hospital	Gen	County	71	39	14	276	2,553
Lovell, 2,175—Big Horn							
Lovell Hospital	Gen	Part	20	10	6	189	379
Powell, 1,948—Park							
Whitlock Hospital	Gen	Corp	30	...	No data supplied		
Rock Springs, 9,827—Sweetwater							
Wyoming General Hospital	Gen	State	100	60	12	328	2,317
Sheridan, 10,529—Sheridan							
Sheridan County Memorial Hospital	Gen	County	68	50	11	272	1,329
Veterans Admin. Facility	Ment	Yet	596	540	..	...	276
Wheatland, 2,110—Platte							
Wheatland General Hosp.	Gen	NPAssn	41	17	7	97	855
Worland, 2,710—Washakie							
Worland Hospital	Gen	Corp	18	11	8	130	626
Related Institutions							
Basin, 1,090—Big Horn							
Basin Hospital	Gen	Part	10	4	2	51	116
Evanston, 3,605—Uinta							
Jacoby Hospital	Gen	Indiv	10	2	3	7	127
Greybull, 1,825—Big Horn							
St. Luke's Hospital	Gen	Part	10	4	3	39	147
Hanna, 1,127—Carbon							
Hanna Hospital	Gen	NPAssn	12	5	3	38	244
Lander, 2,594—Fremont							
Wyoming State Training School	MeDe	State	200	382	..	...	36
... Gen	Indiv		9	4	6	100	197
... Gen	Part		20	6	6	44	388
Yellowstone Park, 200—Yellowstone National Park							
Yellowstone Park Hospital	Gen	Indiv	53	14	3	3	236

ALASKA

Hospitals, Sanatoriums and Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Anchorage, 2,277							
Alaska Railroad Base Hosp.	Gen	Fed	30	19	5	29	3,348
Providence Hospital	Gen	Church	65	28	10	90	1,050
Bethel, 278							
Indian Service Hospital	Gen	IA	40	...	6	Estab. 1940	
Cordova, 980							
Cordova General Hospital	Gen	Indiv	10	7	3	20	160
Fairbanks, 2,101							
St. Joseph's Hospital	Gen	Church	50	...	6	...	...
Fort Yukon, 304							
Hudson Stuck Memorial Hospital	Gen	Church	40	...	2	...	...
Haines, 344							
Station Hospital	Gen	Army	15	7	1	3	141
Juneau, 4,043							
St. Ann's Hospital	Gen	Church	54	28	9	119	852
U. S. Hospital for Natives	Gen	TB	53	44	8	35	291
Kanakanak, 177							
Kanakanak Native Hospital	Gen	IA	18	22	1	27	263
Ketchikan, 3,796							
Ketchikan General Hospital	Gen	Church	65	38	10	110	1,233
Kodiak, 442							
Griffin Memorial Hospital	Gen	Ter	20	...	5	Estab. 1940	
Kotzebue, 291							
Kotzebue Hospital	Gen	IA	16	...	1	...	...

ALASKA—Continued

Hospitals, Sanatoriums and Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Mountain Village, 76							
Mountain Village Hospital	Gen	IA	19	13	2	9	96
Nome, 1,213							
Maynard-Columbus Hospital	Gen	Church	20	7	2	17	172
Palmer							
Matanuska Valley Hospital	Gen	Corp	26	14	4	40	350
...							
...		City	9	5	4	26	228
...		Fed	10	4	2	15	100
Seward, 835							
Seward General Hospital	Gen	Church	30	14	4	36	490
Sitka, 1,056							
Pioneers' Home Hospital	Inst	Ter	45	...	...	...	...
Skagway, 492							
White Pass Hospital	Gen	NPAssn	8	3	2	15	106
Tanana, 185							
Tanana Hospital	Gen	IA	30	...	4	...	...
Wrangell, 948							
Bishop Rowe General Hosp.	Gen	Church	14	...	3	...	...

CANAL ZONE

Hospitals, Sanatoriums and Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Ancon, 1,140							
Gorgas Hospital	Gen	Fed	1,340	724	48	833	20,964
Bahon, 2,002							
Palo Seco Leper Colony	Lepro	Fed	129	127	..	...	9
Station Hospital	Gen	Army	35	...	...	...	...
Corozal, 1,790							
Corozal Hospital	Ment	Fed	340	303	..	...	311
Station Hospital	Gen	Army	47	33	..	...	1,006
Cristobal, 599							
Colon Hospital	Gen	Fed	114	105	16	488	5,203
Fort Davis, 293							
Station Hospital	Gen	Army	60	52	..	...	2,543
Fort Randolph (Coco Solo P.O.), 724							
Station Hospital	Gen	Army	25	17	..	...	1,560
Fort Sherman, 786							
Station Hospital	Gen	Army	59	53	..	...	1,295

GUAM

Hospitals, Sanatoriums and Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Agana							
Susana Hospital for Natives of Guam		Unit of U. S. Naval Hospital					
U. S. Naval Hospital	Gen	Navy	171	...	10	...	...

HAWAII

Hospitals, Sanatoriums and Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basins	Number of Births	Admissions †
Aiea, 3,021—Honolulu							
Honolulu Plantation Company's Hospital	Gen	NPAssn	44	...	4	60	...
Eleele, 312—Kauai							
McBryde Sugar Company's Hospital	Gen	NPAssn	29	...	5	47	...
Ewa, 4,739—Honolulu							
Ewa Plantation Company Hospital	Gen	NPAssn	46	24	6	127	1,011
Haina, —Hawaii							
Honokaa Sugar Company Hospital	Gen	NPAssn	28	...	4	28	...
Hakalau, 525—Hawaii							
Hakalau Plantation Hosp.	Gen	NPAssn	28	10	3	31	500
Hana, 293—Maui							
Hana County Hospital	Gen	County	36	20	4	110	...
Hanalei, 1,088—Kauai							
Betsul Hospital	Gen	Indiv	10	4	2	36	312
Hilo, 19,468—Hawaii							
Hilo Memorial Hospital	Gen	County	140	72	18	296	2,416
Dr. Z. Matayoshi Hospital	Gen	Indiv	27	10	..	3	495
Puuwale Home	TB	County	165	151	..	...	114
Honokaa, 1,069—Hawaii							
Okada Hospital	Gen	Indiv	6	4	3	11	115
Honolulu, 137,582—Honolulu							
Japanese Hospital	Gen	NPAssn	150	91	8	165	2,302
Kalihi Hospital	Lepro	Ter	44	...	...	...	...
Kapiolani Maternity and Gynecological Hospital	GynMat	NPAssn	49	32	30	1,138	1,737
Kauikolani Children's Hosp.	Chil	NPAssn	75	52	..	...	2,701
Leahi Home	TB	NPAssn	500	429	..	5	276
Queen's Hospital	Gen	NPAssn	284	225	30	1,196	10,301
St. Francis Hospital	Gen	Church	65	51	10	375	2,571
Shriners Hospital for Crippled Children	Orth	NPAssn	28	28	..	...	86
Tripler General Hospital	Gen	Army	407	279	10	105	4,242
Hoolahua, —Maui							
Robert W. Shingle Jr. Memorial Hospital	Gen	Church	19	10	5	60	503
Kahuku, 1,505—Honolulu							
Kahuku Hospital	Gen	NPAssn	30	17	6	110	829
Kalaupapa, —Kalaupapa							
Kalaupapa Hospital	Ter	Ter	400	352	2	8	37
Kaneohe							
Terro							
Terro							
Kealahou, 350—Hawaii							
Kona Hospital	Gen	County	50	30	6	59	440
Kealia, 100—Kauai							
Samuel Mahelona Memorial Hospital	TB	County	115	108	..	...	55
Kilauea, 1,232—Kauai							
Kilauea Hospital	Gen	NPAssn	17	9	5	39	456
Kohala, 720—Hawaii							
Kohala County Hospital	Gen	County	50	20	6	122	701

Key to symbols and abbreviations is on page 1083

HAWAII—Continued

Hospitals, Sanatoriums and Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Koloa, 1,844—Kauai							
Koloa Sugar Company Hospital	Gen	NPAasn	22	8	3	45	347
Kula (Waiakoa P.O.), 25—Maui							
Kula General Hospital	Gen	County	21	12	3	32	362
Kula Sanatorium	TB	County	185	180	...	...	89
Lahaina, 2,730—Maui							
Pioneer Mill Company's Hospital	Gen	NPAasn	65	41	9	178	1,317
Lanai City, —Maui							
Lanai City Hospital	Gen	NPAasn	22	14	5	82	789
Lihue, 2,399—Kauai							
G. N. Wilcox Memorial Hospital	Gen	NPAasn	94	35	11	195	1,763
Makaweli, 974—Kauai							
Hawaiian Sugar Company's Hospital	Gen	NPAasn	43	11	3	115	1,036
Maunaloa, —Maui							
Maunaloa Hospital	Gen	NPAasn	19	5	5	28	359
Olaa, 597—Hawaii							
Olaa Hospital	Gen	NPAasn	37	25	6	110	988
Ookala, 526—Hawaii							
Ookala Hospital	Gen	NPAasn	10	...	4	25	...
Paauihu, 536—Hawaii							
Paauihu Sugar Company Hospital	Gen	NPAasn	18	...	2	26	...
Paauihu, 1,233—Hawaii							
Hamakua Mill Company Hospital	Gen	NPAasn	12	...	2	24	...
Pahala, 290—Hawaii							
Hawaiian Agricultural Company Hospital	Gen	NPAasn	39	19	6	110	668
Paia, 4,171—Maui							
Maui Agricultural Company's Hospital	Gen	NPAasn	102	...	10	194	...
Papaaloa, 73—Hawaii							
Laupahoehoe Sugar Company Hospital	Gen	NPAasn	18	7	4	22	263
Papaikou, 518—Hawaii							
Papaikou Hospital	Gen	Indiv	18	12	1	22	432
Pearl City, 1,071—Honolulu							
Waimano Home for Feeble-minded Persons	McDe	Ter	368	364	...	...	31
Pearl Harbor, 200—Honolulu							
U. S. Naval Hospital	Gen	Navy	178	140	...	...	3,589
Pepeekeo, 620—Hawaii							
Pepeekeo Hospital	Gen	NPAasn	41	12	4	121	878
Puunene, 4,080—Maui							
Puunene Hospital	Gen	NPAasn	100	73	24	284	3,028
Schofield Barracks, 4,250—Honolulu							
Station Hospital	Gen	Army	530	305	13	100	6,271
Wahiawa, 3,370—Honolulu							
Meek Hospital	Gen	Indiv	9	2	2	19	77
Waiakua, 4,511—Honolulu							
Waiakua Agricultural Company, Ltd. Hospital	Gen	NPAasn	40	20	6	143	762
Wailuku, 6,998—Maui							
Malulani Hospital	Gen	County	97	62	10	226	2,172
Yamashiro Hospital	Gen	Indiv	20	...	1	...	...
Waimoa, 2,091—Kauai							
Waimoa Hospital	Gen	NPAasn	36	32	6	109	984
Waiapahu, 5,874—Honolulu							
Oahu Sugar Company Hosp.	Gen	NPAasn	65	50	10	98	1,445
Tamara Hospital	Gen	Indiv	7	4	3	48	174

PHILIPPINES

Angeles, 30,543—Pampanga							
Angeles Hospital	Gen	Indiv	24	1	2	39	341
Provincial Maternity and Children's Hospital	MatCh	Gov't	62	...	18	...	...
Baguio, 5,464—Benguet							
Baguio Hospital	Gen	Gov't	80	117	8	155	3,633
Hospital Notre Dame de Lourdes	Gen	Church	100	34	10	58	846
Mercy Hospital	Gen	Indiv	12	9	4	15	306
St. Francis Hospital	Gen	Corp	25	3	2	25	500
Station Hospital	Gen	Army	50	...	...	...	...
Batangas, 41,182—Batangas							
Batangas Provincial Hosp.	Gen	Gov't	27	25	3	41	818
Bayombong, 5,585—Nueva Vizcaya							
Bayombong Hospital	Gen	Gov't	27	20	1	11	851
Bontoc, 609—Mountain							
Bontoc Hospital	Gen	NPAasn	15	...	2	...	...
Butan, 9,790—Agusan							
Butan Public Hospital	Gen	Gov't	60	37	3	41	1,347
Cabanatuan, 15,282—Nueva Ecija							
Nueva Ecija Provincial Hospital	Gen	Gov't	34	34	...	34	2,164
Capiz, 13,955—Capiz							
Capiz Provincial Hospital	Gen	Gov't	73	...	6	...	...
Canlubang, —Laguna							
Canlubang Hospital	Gen	Church	50	...	5	...	...
Calamba Sugar Estate Hosp.	Gen	NPAasn	25	27	1	42	1,503
Capiz, 21,906—Capiz							
Emmanuel Hospital	Gen	Church	30	...	...	...	...

PHILIPPINES—Continued

Hospitals, Sanatoriums and Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Cavite, 22,163—Cavite							
Cosca Hospital	Gen	Part	12	4	9	105	143
U. S. Naval Hospital	Gen	Navy	209	163	5	37	2,995
Cebu, 65,300—Cebu							
Cebu General Clinic	Gen	Part	22	...	2	...	...
Cebu Maternity House	Mat	NPAasn	33	24	26	1,395	1,481
Chong Hoa Chinese Hosp.	Gen	NPAasn	20	...	...	...	...
Clinica Medico-Quirurgica	Gen	Indiv	20	...	...	...	...
St. Joseph's Hospital	Gen	NPAasn	24	...	6	...	...
Southern Islands Hospital	Gen	Gov't	136	133	7	131	5,763
Cervantes, 2,513—Ilocos Sur							
Cervantes Hospital	Gen	Gov't	30	...	2	...	...
Corregidor, —Cavite							
Corregidor Hospital	Gen	Army	178	70	6	114	2,190
Cotabato, 410—Cotabato							
Cotabato Public Hospital	Gen	Gov't	40	...	2	...	...
Culion, —Palawan							
Culion Leper Colony	Gen	Lepro	618	...	16	...	...
Emergency Hospital No. 1	Unit of	Culion Leper Colony Hospitals					
Cuyo, 14,768—Palawan							
Cuyo Public Hospital	Gen	Gov't	20	...	3	...	...
Dagupan, 22,612—Pangasinan							
Pangasinan Provincial Hospital	Gen	Gov't	75	...	8	...	...
Dabacan, —Camarines Norte							
Dabacan Hospital	Gen	NPAasn	34	31	1	14	1,221
Dansalan, 5,988—Lanao							
Lanao Public Hospital	Gen	Gov't	50	...	...	...	...
Dapitan, 12,865—Zamboanga							
Rizal Memorial Hospital	Gen	Gov't	30	16	3	103	906
Daraga, —Albay							
Albay Provincial Hospital	Gen	Gov't	35	...	2	...	...
Davao, 13,046—Davao							
Davao Mission Hospital	Gen	Church	40	...	1	...	...
Davao Oriental Hospital	Gen	NPAasn	35	23	...	16	1,336
Davao Public Hospital	Gen	Gov't	60	...	6	...	...
Mintal Hospital	Gen	Corp	75	...	10	...	...
Del Carmen, —Pampanga							
Del Carmen Hospital	Gen	NPAasn	32	26	6	59	1,406
Dumaguete, 16,227—Oriental Negros							
Dumaguete Mission Hospital	Gen	Church	75	38	3	79	1,632
Fabrica, —Occidental Negros							
Ico Hospital	Gen	NPAasn	50	41	...	58	1,374
Fort Stotsenburg, —Pampanga							
Station Hospital	Gen	Army	112	57	6	209	2,156
Iloilo, 49,114—Iloilo							
Iloilo Mission Hospital	Gen	Church	100	71	12	112	2,302
Iloilo Polyclinic and Hosp.	Gen	Indiv	25	...	6	...	...
St. Paul's Mission Hospital	Gen	Church	100	...	...	...	...
Jolo, 5,796—Sulu							
Sulu Public Hospital	Gen	Gov't	46	...	10	...	...
Kabasaran, —Zamboanga							
Pathfinder Estate Hospital	Gen	NPAasn	10	...	...	...	...
Kiangan, 276—Iligan							
Kiangan Hospital	Gen	Gov't	15	...	1	...	...
Kolambugan, 1,200—Lanao							
Kolambugan Hospital	Gen	NPAasn	30	...	2	...	...
Laoag, 38,460—Ilocos Norte							
Sallie Long Read Memorial Hospital	Gen	Church	40	...	2	...	...
San Antonio Hospital	Gen	Indiv	18	...	1	...	...
Larap, —Camarines Norte							
Philippine Iron Mine Hosp.	Gen	NPAasn	83	43	4	21	2,356
Legaspi, 52,756—Albay							
Bicol Treatment Station	Lepro	Gov't	250	...	...	...	...
Milwaukee Hospital	Gen	Church	52	35	6	39	1,601
Los Banos, 6,335—Laguna							
University of the Philippines							
Los Banos Infirmary	Gen	Gov't	25	...	2	...	...
Lubang, 226—Kalinga							
Lubang Public Hospital	Gen	Gov't	10	11	2	11	520
Lucena, 11,930—Tayabas							
Tayabas Provincial Hospital	Gen	Gov't	80	68	3	63	2,017
Makati, 12,470—Rizal							
Hospital Espanol de Santiago	Gen	NPAasn	75	...	17	...	...
Malaybalay, 9,808—Bukidnon							
Bukidnon Public Hospital	Gen	Gov't	16	...	1	...	...
Malolos, 26,444—Bulacan							
Bulacan Provincial Hosp.	Gen	Gov't	45	43	6	72	1,422
Manapla, —Occidental Negros							
North Negros Sugar Company Hospital	Gen	NPAasn	63	37	4	51	2,442
Mandaluyong, 6,235—Rizal							
National Psychopathic Hosp.	Ment	Gov't	2,975	2,801	...	...	1,997
Mandaue, 21,464—Cebu							
Eversley Childs Treatment Station	Lepro	Gov't	780	1,089	...	4	262
Manila, 285,306—Rizal							
Bilibid Hospital	Gen	Gov't	300	...	6	...	...
Chinese General Hospital	Gen	NPAasn	150	...	18	...	...
Hospital de San Juan de Dios	Gen	Church	272	...	36	...	...
Mary Chiles Hospital	Gen	NPAasn	70	...	12	...	...
Mary Johnson Hospital	Gen	Church	81	71	29	703	1,064
Maternity and Children's Hospital	MatCh	Gov't	72	72	45	3,894	8,923
Philippine General Hospital	Gen	Gov't	714	...	...	...	...
Sacred Heart Hospital	Gen	Indiv	20	...	...	...	...
St. Joseph's Hospital	Gen	Corp	75	42	15	25	2,450
St. Luke's Hospital	Gen	Church	150	116	10	29	2,734
St. Paul's Hospital	Gen	Church	106	71	14	304	2,650
St. Theresa's Hospital	Gen	Indiv	65	...	10	...	...
Sampaloc General Hospital	Gen	Indiv	20	10	10	95	315

Key to symbols and abbreviations is on page 1083

PUERTO RICO—Continued

Hospitals, Sanatoriums and Related Institutions	Type of Service	Ownership or Control	Beds	Average Census †	Basinsets	Number of Births	Admissions †
Cayey, 5,953—Guayama							
Clinica Dr. Villeneuve.....	Gen	Indiv	12	...	12	...	...
Central Aguirre—Guayama							
Central Aguirre Hospital...	Gen	NPAssn	37	19	2	14	529
Ciales, 1,786—Arecibo							
Hospital Municipal.....	Match	City	20	...	..	...	...
Fajardo, 7,322—Humacao							
Coomb's Hospital.....	Gen	NPAssn	30	4	1	3	1,029
Fajardo Charity District Hospital	Gen	Gov't	300	...	35	Estab.	1940
Lui	Gen	City	33	...	4	...	...
Guay							
Gu							
torium.....	TB	Gov't	100	100	..	...	286
Guabo, 3,468—Humacao							
Municipal Hospital.....	Gen	CyCo	14	...	2	...	...
Humacao, 7,937—Humacao							
Clinica Oriente.....	Gen	Part	34	14	3	11	604
Ryder Memorial Hospital...	Gen	Church	54	39	8	55	1,028
Jayuya, 4,808—Ponce							
Catalina Figueras Memorial Hospital.....	Gen	City	14	9	..	23	222
Juana Diaz, 2,466—Ponce							
Municipal Hospital.....	Gen	City	40	35	6	77	1,150
Juncos, 5,297—Humacao							
Hospital Municipal.....	Gen	City	16	...	..	...	...
Lares, 3,049—Aguadilla							
Clinica San Jose.....	Gen	Indiv	8	...	2	...	...
Las Piedras, 1,333—Humacao							
Las Piedras Municipal Hosp.	Gen	City	16	...	..	...	...
Loiza, 1,606—Humacao							
Loiza Municipal Hospital...	Gen	City	18	...	..	...	...
Manati, 7,449—Arecibo							
Hospital Municipal Manati...	Gen	City	60	...	5	...	...
Mayaguez, 37,060—Mayaguez							
Clinica Betances.....	Gen	Indiv	70	31	6	23	517
Mayaguez and Western Poly-clinic.....	Gen	Part	100	...	2	...	...
Tuberculosis Hospital.....	TB	Gov't	200	195	..	...	469
Naguabo, 4,087—Humacao							
Municipal Hospital.....	Gen	City	36	...	2	...	...
Ponce, 53,430—Ponce							
Asylum for the Blind.....	Inst	Gov't	100	90	..	...	227
Clinica Quirurgica Dr. Pila◊	Gen	NPAssn	152	96	10	62	2,866
Hospital Municipal Valentin Tricoche◊	Gen	City	197	...	12	...	...
St. Luke's Memorial Hosp.◊	Gen	Church	75	42	6	62	1,809
Santo Asilo de Damas Hospital◊	Gen	Church	90	...	..	...	...
Tuberculosis Hospital and Center.....	TB	Gov't	312	...	..	...	...
Rio Piedras, 13,408—San Juan							
Clinica Dr. M. Julia.....	N&M	Indiv	150	125	..	...	188
Insular Tuberculosis Sanat...	TB	Gov't	846	821	..	18	1,182
Insular Leper Colony.....	Lepro	Gov't	80	50	..	...	57
Psychiatric Hosp. of P. rto Rico	Ment	Gov't	1,000	...	..	...	...
Sanatorio de la Sociedad Espanola de Auxilio Mutuo y Beneficiencia de Puerto Rico	Gen	NPAssn	120	75	25	98	1,501
Salinas, 2,252—Guayama							
Hospital Municipal.....	Gen	City	40	40	6	125	1,644
San Juan, 114,715—San Juan							
Capital City Hospitals◊.....	Gen	City	304	...	60	...	...
Clinica Diaz Garcia◊.....	Gen	Corp	81	...	6	...	...
Clinica Miramar.....	Gen	Indiv	160	...	5	...	...
Contagious Disease Hospital	Gen	Gov't	50	...	..	...	...
Hospital San Jose.....	Gen	Corp	132	...	14	...	...
Instituto Medico Quirurgico.	Gen	NPAssn	25	...	6	...	...
Ophthalmic Institute of Puerto Rico	Eye	Corp	50	41	..	...	1,841
Presbyterian Hospital◊◊	Gen	Church	120	112	22	510	2,691
Puerto Rico Sanatorium.....	Gen	Indiv	16	...	16	...	...
Station Hospital.....	Gen	Army	150	...	2	...	...
University Hosp. of the School of Tropical Medicine◊.....	Gen	Gov't	50	Reopened	March 1940		
Santurce, —San Juan							
Hospital Mimiya.....	Gen	Indiv	100	43	15	43	742
Utua, 4,758—Arecibo							
Clinica San Miguel.....	Gen	Indiv	80	...	3	...	...
Vega Baja, 4,784—Arecibo							
Dr. J. M. Armalz's Hospital.	Gen	Indiv	15	...	2	...	...
Vega Baja Municipal Hosp..	Gen	City	25	...	6	...	...
Vieques, 3,101—Humacao							
Municipal Hospital.....	Gen	CyCo	40	...	10	...	...
Yabucoa, 3,841—Humacao							
Yabucoa City Hospital.....	Gen	City	24	...	2	...	...
Yauco, 8,607—Mayaguez							
Clinica "El Amparo".....	Gen	Indiv	22	...	1	...	...
Yauco Hospital.....	Gen	City	30	...	..	...	...

VIRGIN ISLANDS

Barceloneta Municipal Hosp.	Gen	City	35	...	...	...	Municipal Hospital	Gen	CyCo	100	...	...	...
Bayamon, 12,986—San Juan							Christiansted, 3,767—St. Croix Island						
Bayamon-Charity District	Gen	Gov't	279	...	35	...	Christiansted Municipal Hos.	Gen	City	64	...	8	...
Hospital*								Ment	City	50	...	...	...
Hospital Municipal de Bay-	Gen	City	30	...	...	...		Tenro	City	92	...	...	...
amon							F						
Cabo Rojo, 4,605—Mayaguez	Gen	City	25	...	...	...	"			
Hospital Municipal													
Caguas, 19,791—Guayama	Gen						pital	Gen	City	46	...	11	...
Clinica San Rafael.....	Gen	Indiv	65	...	4	...							

Key to symbols and abbreviations is on page 1083

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SATURDAY, MARCH 15, 1941

INTERNS—SUPPLY AND DEMAND

At present, probably more than ever previously, a need for clear thinking on the subject of the supply of interns in relation to the demand by hospitals for their services is desirable. Some hospitals have been unable to secure any interns and others have not secured their usual number. The demand exceeds the supply. The size of senior classes in approved medical schools has remained almost constant since 1934, while the number of appointments available each year in approved hospitals has steadily increased. Although statistics are not yet available, the number of graduates of European schools seeking internships in this country has diminished greatly within the past year. While the number of interns recruited from this source has never been large, the recent decrease has served to accentuate the disproportion between supply and demand.

The approved medical schools with their present facilities cannot increase the size of their classes without sacrificing accepted educational standards. Furthermore, the function of medical schools is to educate physicians to supply the medical needs of the country, not merely to develop young physicians to meet the demand of hospitals for low cost house staff personnel. Until approved medical schools are able to train more students (assuming that more applicants could qualify for admission) the supply of prospective interns will not increase.

Even the present flow of graduates from approved schools into internships may be reduced by the selective service act. The crucial needs of the preparation for national defense, especially the necessity of expanding the Army and Navy Medical Corps, will no doubt reduce still further the number of graduates available for hospital service beyond the first year of intern training. This will affect hospitals which have internships more than one year in length as well as those which have extended training services in the form of residencies.

No doubt graduates will continue to prefer appointments in hospitals that provide the best training for internships and residencies. These are the hospitals in which attending staffs are not only unusual in ability but, even more important, most willing to give their time to the instruction of the house staff. There will probably also be a continued preference for hospitals with large charity wards, especially those with long established educational services.

With these considerations clearly before them, the boards of hospitals which have experienced difficulty in attracting the usual number of interns and residents may examine their problem and prepare to make the necessary adjustments. Physicians in many localities have taken for granted the provision, by the administration of hospitals, of medically trained personnel capable of relieving the physicians of certain time-consuming procedures necessary to the care of patients. The attending physicians should realize two principles of basic importance in this connection: First, interns and residents are employed on an apprenticeship basis whereby the compensation for their services is mainly the instruction they receive from the attending staff. Second, the duties performed by house staff personnel are properly the responsibility of the individual attending physicians, not that of the hospital administration. In the absence of sufficient house staff assistance, the attending men may well find it necessary to perform these tasks for some or even all of their patients.

USE AND MISUSE OF HOSPITAL STATISTICS

A greater percentage of the hospital facilities of the United States were occupied during 1940 than for any other year for which records are available. The proportion of general hospital beds in use has risen during the past year from 69.2 per cent to 70.3 per cent. This is the first year that the occupancy of general hospitals has risen above 70 per cent. This is in strict contrast with the situation in 1933, when there was only 59.9 per cent occupancy. Where is the saturation point? What is a reasonable supply of facilities per given unit of population?

The numerous studies that have been made by competent persons have led to some helpful conclusions. General hospitals cannot have their beds 100 per cent occupied. As an emergency institution a general hospital does not have patients waiting in line. Time is required to prepare a room after the discharge of a patient. Rooms, wards and even whole floors in buildings must be closed for renovation and repairs. Then too there are seasonal fluctuations. In many hospitals there are clinical classifications of patients, such as medical and surgical sections. Separations, particularly of ward patients, are based on sex. Rooms vary in

expensiveness. After these variations have been accommodated there must still be a reserve for emergencies. Large hospitals can usually maintain a higher rate of occupancy than small hospitals.

Those who are best qualified to advise with regard to amount of facilities now say that the optimal rate of occupancy in general hospitals usually approximates 75 to 85 per cent. All agree that it varies and that a definite formula cannot be established—each hospital in each community is an individual case. The provision of additional facilities should always be based on the present and future needs of the community as determined through study of the need in relation to available facilities, including expert counsel and interpretation, but always with a liberal use of common sense.

Hospitals should be built only where there are people to be served and where both professional talent and means for support are available.

The cooperation of hospital administrators and other officers in making possible the vast amount of reliable information presented in the preceding pages is gratefully acknowledged.

IMMUNITY VS. ANTIBODY TITER IN POLIOMYELITIS

Detailed studies of immunity in monkeys convalescent from poliomyelitis are reported by Kessel and Stimpert¹ of the University of Southern California School of Medicine. Their data seem to furnish the first statistically adequate evidence of the lack of correlation between tissue immunity and antibody titer in this disease.

Occasional discrepancy between serum titer and susceptibility to poliomyelitis has been suggested by numerous investigators. Schultz, Gebhardt and Bullock,² for example, found that specific complement fixing and precipitating antibodies are often absent from the serum of hyperimmunized convalescent monkeys. This was confirmed by Sabin and Olitsky,³ who found that experimentally infected monkeys often develop a resistance to intranasally instilled homologous virus before virucidal antibodies can be detected in their blood stream. In contrast, Olitsky and Cox⁴ found that virucidal antibodies are often produced as a result of the injection of chemically killed viruses, without the production of demonstrable resistance to homologous infection. None of these tests, however, were adequate to establish the mathematical frequency of such discrepancies.

1. Kessel, J. F., and Stimpert, F. D.: *J. Immunol.* **40**: 61 (Jan.) 1941.

2. Schultz, E. W.; Gebhardt, L. P., and Bullock, L. T.: *J. Immunol.* **21**: 171 (Sept.) 1931.

3. Sabin, A. B., and Olitsky, P. K.: *J. Exper. Med.* **61**: 739 (Nov.) 1936.

4. Olitsky, P. K., and Cox, H. R.: *J. Exper. Med.* **63**: 109 (Jan.) 1936.

In the research of the southern California investigators, six different strains of poliomyelitis virus were used, varying from the highest virulent to the lowest virulent strains thus far isolated. One hundred and forty-nine convalescent monkeys were retested by intracerebral injection of 10 minimum lethal doses of homologous or heterologous strains. Kessel found that 61 per cent of these convalescent monkeys exhibited a complete immunity to reinfection with their arbitrary test dose. In addition, 30 per cent of the convalescent monkeys showed a partial immunity manifest by a reduced death rate. The highest percentage of immunity was observed in animals retested with homologous virus. Percental variations were observed with different vaccines, ranging from 47 per cent complete immunity for the least effective vaccine to 86 per cent for the most effective (average 61 per cent).

Serologic tests were made on 100 of the convalescent monkeys immediately before the immunity test. Twenty-eight of these monkeys showed positive *in vitro* neutralization antibodies associated with complete immunity. In contrast, 31 demonstrably immune monkeys yielded negative serums, while 19 nonimmune monkeys yielded positive serologic titers. The remaining 22 monkeys gave negative results in both immunity and serologic tests. Summarizing their results, Kessel and Stimpert conclude that positive correlation between immunity and serum titer existed in but 50 per cent of their convalescent monkeys. With a positive serum titer, therefore, there is only one chance in two that the animal is immune. With such a low percentage of correlation, virucidal titer lacks diagnostic significance. Evidently the dominant or essential factor in poliomyelitis immunity does not exist in the form of circulating antibodies.

REDUCING MEDICAL FACILITIES

A new attitude is apparently influencing recent medical surveys. In the past these have been conducted too largely by persons without medical training who were mainly concerned in laying the groundwork for an argument for some sort of profound change in medical service. The first extensive survey to secure the wide cooperation of all those sufficiently concerned with medical matters to have specific information was the one conducted by the American Medical Association on "Medical Care in the United States—Demand and Supply."

The survey of Rochester, N. Y., by Dr. Wilson G. Smillie is an example of the new and much more valuable type of survey that it is hoped may displace the old ones.¹ A collection of the factual data as to existing facilities for the care of the sick in 1930, 1935 and 1940 showed the existence of certain definite

1. Smillie, Wilson G.: *A Survey of the Facilities for the Care of the Sick of Rochester, New York, Conducted for the Survey Committee of the Rochester Community Chest, Inc., January 1941.*

trends: (1) an increase in hospitalization cost due to increased demands for hospital bed care, (2) increased cost of hospitalization due largely to better and more expensive service, (3) change in the type of demand for hospital facilities, particularly an increasing demand for hospitalization of chronic disease due to aging of the population, and (4) an extraordinary increase in hospital insurance.

The Monroe County Medical Society undertook to judge the adequacy of existing facilities. The reason for this action was that:

The obvious fact that the practicing physician is the keystone of all medical care is frequently overlooked or forgotten. *He is medical care.* All the facilities—hospitals, clinic services, laboratories, nursing service, technical equipment and the like—are the tools with which he must do his work. Who, then, should know better than the physician whether or not his tools are adequate? Who is a better judge of the defects of the equipment with which he must accomplish his tasks?

The physicians recognized the need of the following facilities: more low cost hospital beds for care of acute illness of private patients; better provisions for psychiatric care in general hospitals and additional outpatient facilities in psychiatry; more beds for the chronic sick, especially for arthritis and heart disease, and more facilities for the care of convalescents and especially for mental and dental care.

A new feature of this survey is an analysis of public opinion conducted by an expert in this type of survey. The inadequacies which the public believe existed agree closely with those of the physicians. One of the questions was to determine the attitude of the public toward medical insurance. While a decided majority expressed themselves in favor of some type of medical insurance, it was found, when these replies were broken down by income classes, that few of those in favor of it could afford such insurance and that the "theoretical potential market" for such insurance was only about 17 per cent of the total population. Ninety-five per cent of the public gave a negative answer to the question "Has your family ever had any kind of difficulty in securing it when they needed medical, hospital or nursing care?" Ninety-two per cent stated that they did not know of any family in Rochester that needed such care and was unable to get it.

It may be significant of the confused character of the propaganda for "socialized medicine" that 43 per cent when asked "What, in your opinion, does the term 'socialized medicine' mean?" replied "Don't know" and that the rest gave replies that showed that they had little idea of the meaning of such a term.

That the "family doctor" has not disappeared may be suggested by the fact that 80 per cent stated that when they wished to call a doctor they would "usually go to the same doctor" and that 95 per cent of them preferred an M.D. to any other type of practitioner.

Current Comment

INCREASING HOSPITAL COSTS

In March 1940 the annual report of the Bridgeport, Conn., Hospital giving figures since the beginning of the century was analyzed to show, among other things, how the cost per patient day had increased from \$1.32 in 1899 to \$5.04 in 1939.¹ The latest report of the same hospital adds another column of data covering forty years of hospital experience. The additional information gives the average hospital cost per patient by years. This cost, which was \$44.88 in 1899, then declined irregularly to a low of \$25.11 in 1913. Probably much of this decline was due to falling prices during this period. From this point the rise has been general until in 1940 it was \$54.88, or more than twice as much as in 1913. Depression conditions probably account for the temporary decline from 1930 to 1935. The steady rise which followed can possibly be best explained by the great advances in medicine and hospital administration since the war of 1914-1918. Incidentally, the Bridgeport Hospital administrators seem to be entitled to favorable mention for having reduced their annual deficit in 1940 to the lowest point since 1919. This has been done in the face of declining gifts, which have to some extent been replaced by increased income from group hospitalization.

CARBOHYDRATE FORMATION FROM THREONINE

A portion of the amino acids commonly yielded on digestion gives rise to the formation of sugar in the organism. The classic work of Lusk evaluated this function for those amino acids known before 1920. Vars¹ showed the glycogenic nature of methionine, which was discovered in 1921. Hall and his associates² have reported on the role assumed by threonine in the formation of carbohydrate. Since conclusive proof of the presence of alpha-amino-beta-hydroxybutyric acid in proteins was established,³ information regarding the metabolic pathways that this compound might follow in the organism has been awaited. The fact that threonine was found to be an indispensable amino acid served to heighten the interest of investigators in its metabolism. Now it has been reported that both dl-threonine and the optical isomer dl-allothreonine form glycogen in the rat and may thus be classed as glycogenic amino acids. It has, moreover, been found that experimental ketonuria in rats is ameliorated when the animals are fed either of these amino acids. The significant reduction in excretion of acetone bodies observed in this instance is likewise indicative of the potentialities of these amino acids for carbohydrate formation in the body.

1. Trends in Hospitalization, Organization Section, J. A. M. A. **114**: 1272 (March 30) 1940.

1. Vars, H. M.: Amino Acid Metabolism, Proc. Soc. Exper. Biol. & Med. **31**: 129 (Oct.) 1933.

2. Hall, W. K.; Doty, J. R., and Eaton, A. G.: The Availability of dl-Threonine and dl-Allothreonine for the Formation of Carbohydrate, Am. J. Physiol. **131**: 252 (Nov.) 1940.

3. McCoy, R. H.; Meyer, C. E., and Rose, W. C.: Feeding Experiments with Mixtures of Highly Purified Amino Acids: VIII. Isolation and Identification of a New Essential Amino Acid, J. Biol. Chem. **112**: 283 (Dec.) 1935.

MEDICAL PREPAREDNESS

In this section of The Journal each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY SECOND CORPS AREA

The following additional medical reserve corps officers have been ordered to duty by the Commanding General, Second Corps Area, which comprises the states of New York, New Jersey and Delaware:

- ADLER, Daniel K., 1st Lieut., Syracuse, N. Y., Fort Bragg, N. C.
ADLER, Harry, 1st Lieut., Elmira, N. Y., Camp Peay, Tenn.
ALONZO, Gerard J., 1st Lieut., Lyndhurst, N. J., Camp Forrest, Tenn.
ANDERSON, Albert V., 1st Lieut., New York, Fort Devens, Mass.
ANGIOLETTI, Louis V., 1st Lieut., Fort Lee, N. J., Fort Monmouth, N. J.
BAMBARA, Aurelius J., 1st Lieut., Flemington, N. J., Camp Forrest, Tenn.
BAR, Samuel, 1st Lieut., Englishtown, N. J., Camp Forrest, Tenn.
BARON, Benjamin, Captain, Astoria, N. Y., Fort Jackson, S. C.
BASHEIN, Gus, Captain, Forest Hills, N. Y., Fort Hancock, N. J.
BATTISTA, Louis C., 1st Lieut., Watertown, N. Y., Casey Jones's Aeronautical School, Newark, N. J.
BAUMANN, Frank A., Jr., 1st Lieut., Binghamton, N. Y., Camp Forrest, Tenn.
BEDNARKIEWICZ, Ignatius A., Captain, Schenectady, N. Y., Camp Croft, S. C.
BETCHER, Albert M., 1st Lieut., Jersey City, N. J., Camp Forrest, Tenn.
BICK, Edgar M., Captain, New York, Fort Monmouth, N. J.
BIUNNO, Anthony J., 1st Lieut., Newark, N. J., Fort Bragg, N. C.
BLASH, Andrew A., 1st Lieut., Elmira, N. Y., Camp Forrest, Tenn.
BLONSTEIN, Max, 1st Lieut., Brooklyn, Fort Ethan Allen, Vt.
BOLTEN, Bernard, 1st Lieut., Newark, N. J., Camp Claiborne, La.
BRADFORD, Vance A., 1st Lieut., Syracuse, N. Y., Camp Blanding, Fla.
BROWN, Leonard, 1st Lieut., Ridgfield, N. J., Camp Forrest, Tenn.
BROWN, Walter E., Jr., 1st Lieut., Schenectady, N. Y., West Point, N. Y.
BROWN, William, 1st Lieut., Long Island City, N. Y., Fort Monmouth, N. J.
BUCKBEE, Harold F., 1st Lieut., Dolgeville, N. Y., Madison Barracks, N. Y.
CAMPANELLA, Paul J., 1st Lieut., Fulton, N. Y., Fort Ontario, N. Y.
CARBONE, Ralph, 1st Lieut., Coytesville, N. J., Camp Livingston, La.
CHILDRESS, Harold McF., 1st Lieut., Jamestown, N. Y., Camp Croft, S. C.
CHRISTOPH, Francis T., 1st Lieut., Maplewood, N. Y., Camp Claiborne, La.
COHEN, Abraham G., Captain, New York, Induction Station, Albany, N. Y.
COTTON, Thomas S., 1st Lieut., Hornell, N. Y., Camp Croft, S. C.
CRUDEN, Allen B., Jr., 1st Lieut., Montclair, N. J., Fort Jackson, S. C.
D'ADDARIO, Anthony R., 1st Lieut., Newark, N. J., Fort Jackson, S. C.
D'AMANDA, William, 1st Lieut., Rochester, N. Y., Camp Croft, S. C.
DAVY, Lloyd F., 1st Lieut., Williamson, N. Y., Camp Claiborne, La.
DE BLASE, Joseph A., 1st Lieut., Schenectady, N. Y., Camp Peay, Tenn.
DE LESSIO, Frank A., 1st Lieut., Haverstraw, N. Y., Fort Bragg, N. C.
DEMICHELE, Roland V., Captain, Newark, N. J., Camp Forrest, Tenn.
DE TROIA, Frederick C., 1st Lieut., Newark, N. J., Camp Forrest, Tenn.
DONATO, Marion T., 1st Lieut., Batavia, N. Y., Camp Claiborne, La.
EMERSON, William C., Captain, Rome, N. Y., Fort Bragg, N. C.
FAIRFAX, Kenneth T., Captain, Geneva, N. Y., Camp Croft, S. C.
FINKELSTEIN, Herman, 1st Lieut., Roseland, N. J., Camp Forrest, Tenn.
FINKELSTEIN, Leonard E., 1st Lieut., Brooklyn, Fort Monmouth, N. J.
FLAX, Ralph W., 1st Lieut., Long Beach, L. I., N. Y., Reception Center, Camp Upton, N. Y.
FORTUNATO, Samuel J., 1st Lieut., Newark, N. J., Camp Claiborne, La.
FRANK, Norris H., Captain, Collins Center, N. Y., Camp Stewart, Ga.
FRANZESE, Pasquale, 1st Lieut., Brooklyn, Fort Dix, N. J.
FRAULO, Louis, 1st Lieut., Clifton, N. J., Fort Dix, N. J.
FRIEDENTHAL, Bernard, 1st Lieut., New Brunswick, N. J., Fort Bragg, N. C.
FRUCHTBAUM, Robert P., 1st Lieut., Nutley, N. J., Camp Croft, S. C.
FRUMKIN, Jacob, Captain, Schenectady, N. Y., Camp Claiborne, La.
FUNK, Joseph E., 1st Lieut., Floral Park, N. Y., Fort Jackson, S. C.
GAETA, Louis E., 1st Lieut., Jackson Heights, N. Y., Fort Jackson, S. C.
GELB, Jerome, 1st Lieut., Newark, N. J., Camp Croft, S. C.
GOLDBERG, Leon, Major, New York, Army & Navy General Hospital, Hot Springs, Ark.
GOLDMAN, Harry, 1st Lieut., Brooklyn, Camp Peay, Tenn.
GOODMAN, Sol, 1st Lieut., Albany, N. Y., West Point, N. Y.
GOODMAN, Soll, 1st Lieut., Albany, N. Y., West Point, N. Y.
GREENBERG, Morris W., 1st Lieut., Brooklyn, Fort Jackson, S. C.
GREENBERG, Nathan H., 1st Lieut., Irvington, N. J., Camp Forrest, Tenn.
GROSS, Herbert F., 1st Lieut., New York, Camp Blanding, Fla.
HARRIS, Harold E., 1st Lieut., Brooklyn, Fort Dix, N. J.
HARTMAN, Winfield L., 1st Lieut., South Orange, N. J., Carlisle Barracks, Pa.
HARWOOD, Bruno S., Major, Saranac Lake, N. Y., Plattsburg Barracks, N. Y.
HAWRO, Vincent A., 1st Lieut., Buffalo, Camp Claiborne, La.
HOROWITZ, Samuel, 1st Lieut., Ogdensburg, N. Y., Madison Barracks, N. Y.
IAMELE, Louis A., 1st Lieut., Brooklyn, Fort Bragg, N. C.
JACOBS, William, 1st Lieut., Irvington, N. J., Fort Bragg, N. C.
JACOBSON, Morton A., 1st Lieut., Yonkers, N. Y., Fort Bragg, N. C.
JACOBSON, Murray B., 1st Lieut., Perth Amboy, N. J., Camp Croft, S. C.
JUDGE, Arnold F., Captain, Albany, N. Y., Camp Peay, Tenn.
KALB, John A., 1st Lieut., Endicott, N. Y., Camp Claiborne, La.
KATZ, Jacob F., 1st Lieut., New York, N. Y., Fort Hancock, N. J.
KIRSNER, Morris H., Captain, Yonkers, N. Y., Fort McClellan, Ala.
KLEIN, Milton D., 1st Lieut., Brooklyn, Fort Bragg, N. C.
KORKOSZ, August B., 1st Lieut., Schenectady, N. Y., West Point, N. Y.
KRIEGLER, Joseph, 1st Lieut., Lackawanna, N. Y., Fort McClellan, Ala.
KRITKAUSKY, Anthony R., 1st Lieut., Johnson City, N. Y., Fort Bragg, N. C.
KUCZMARSKI, Leo Norman, 1st Lieut., Buffalo, Fort McClellan, Ala.
LA ROSA, Frank J., 1st Lieut., Rego Park, N. Y., Camp Blanding, Fla.
LA SORSA, Francis P., 1st Lieut., New York, Fort Bragg, N. C.
LEMKIN, Sam, 1st Lieut., Newark, N. J., Camp Forrest, Tenn.
LIPSCHITZ, Samuel, Captain, New York, Fort Dix, N. J.
LIPSON, Lester, 1st Lieut., Monticello, N. Y., 10th Coast Artillery, Fort Adams, R. I.
LUTSKY, Solomon, 1st Lieut., Brooklyn, Fort Bragg, N. C.
MAFFEO, Carl E., 1st Lieut., Newark, N. J., Camp Shelby, Miss.
MAGGIORE, Michael J., 1st Lieut., Endicott, N. Y., Fort Ontario, N. Y.
MALGERI, John, 1st Lieut., East Orange, N. J., Fort Bragg, N. C.
MANCUSO, Natale P., 1st Lieut., Buffalo, Fort Niagara, N. Y.
MANDOUR, Ibrahim A., 1st Lieut., Utica, N. Y., Camp Stewart, Ga.
MASCIA, Franklin J., 1st Lieut., Newark, N. J., Camp Claiborne, La.
MILANESI, Armand M., 1st Lieut., Union City, N. J., Camp Croft, S. C.
MIRANTI, Paul J., 1st Lieut., Jersey City, N. J., Governors Island, N. Y.
MOSKOWITZ, Harry, 1st Lieut., Long Island, N. Y., Fort McClellan, Ala.
MOSKOWITZ, Irving L., 1st Lieut., Brooklyn, 10th Coast Artillery, Fort Adams, R. I.
NOTKIN, Meyer, 1st Lieut., Paterson, N. J., Camp Claiborne, La.
NULAND, William, 1st Lieut., New York, Fort Hamilton, N. Y.
OCHERET, Irving, 1st Lieut., Orange, N. J., Camp Croft, S. C.
O'CONNOR, Maurice N., 1st Lieut., Springville, N. Y., Camp Claiborne, La.
PALMER, Francis R., Major, Passaic, N. J., Camp Claiborne, La.
PELLICANO, Victor L., 1st Lieut., Niagara Falls, N. Y., Fort Bragg, N. C.
PELLICIANI, D. Donald, 1st Lieut., East Orange, N. J., Fort Bragg, N. C.
PERILO, Louis A., 1st Lieut., New York, Fort Jackson, S. C.
PIGNATARO, Frank P., 1st Lieut., Marlboro, N. J., Camp Livingston, La.
PINK, Solomon H., 1st Lieut., Butler, N. J., Fort Dix, N. J.
POLLOCK, Franklin J., 1st Lieut., Newark, N. J., Camp Shelby, Miss.
POLSKY, Murray, 1st Lieut., Brooklyn, Fort Bragg, N. C.
POOLER, Harold A., Captain, Binghamton, N. Y., Fort Bragg, N. C.
PORTER, Richard C., 1st Lieut., Buffalo, Fort Monmouth, N. J.
PSCHIERER, Francis J., 1st Lieut., Buffalo, Fort Niagara, N. Y.
RAPPAPORT, Arthur E., 1st Lieut., Caledonia, N. Y., Fort Niagara, N. Y.
RATZAN, Martyn C., 1st Lieut., Brooklyn, 11th Coast Artillery, Fort H. G. Wright, N. Y.
REMS, Jacob P., 1st Lieut., Belmont, N. Y., Fort Niagara, N. Y.
ROSEFSKY, Israel, 1st Lieut., Binghamton, N. Y., Fort Ontario, N. Y.
ROTHSTEIN, Isadore, 1st Lieut., New York, Army Medical Center, Washington, D. C.
ROWE, Kenneth T., 1st Lieut., Dansville, N. Y., Camp Stewart, Ga.
SABIN, Howard Q., 1st Lieut., New York, Fort Hancock, N. J.
SANDS, Abraham M., 1st Lieut., Brooklyn, Fort Bragg, N. C.
SCHLOSSMAN, Howard H., 1st Lieut., Jersey City, N. J., Fort Bragg, N. C.
SCHMIDT, Christian W., 1st Lieut., Burdett, N. Y., Fort Ontario, N. Y.
SCHNEE, Isadore M., 1st Lieut., Brooklyn, Fort Jackson, S. C.
SCONEZ, Lawrence J., 1st Lieut., Brooklyn, Fort Benning, Ga.
SEBASTIAN, Martin L., 1st Lieut., Brooklyn, Fort Jackson, S. C.
SHARE, William L., 1st Lieut., Syracuse, N. Y., Fort Bragg, N. C.
SILVER, George A., 3d, 1st Lieut., Hightstown, N. J., Camp Forrest, Tenn.

SLOBODKIN, Morris, 1st Lieut., Brooklyn, Camp Peay, Tenn.
SPIRITO, Michael W., 1st Lieut., Elizabeth, N. J., Fort Monmouth, N. J.
SPITZER, Norman, 1st Lieut., Yonkers, N. Y., Fort Bragg, N. C.
STALKUS, Anthony J., 1st Lieut., Maspeth, L. I., N. Y., Fort Bragg, N. C.
STARK, Julius, 1st Lieut., Brooklyn, Fort McClellan, Ala.
STETSON, Charles G., 1st Lieut., New York, Pine Camp, N. Y.
TAMASI, Joseph John, 1st Lieut., Garden City, N. Y., 134th Medical Regiment, Albany, N. Y.
TELLMAN, Edwin T., 1st Lieut., Palmyra, N. Y., Fort Ontario, N. Y.
THALER, Joseph I., 1st Lieut., Rochester, N. Y., Fort Ontario, N. Y.

TRAVIS, Richard E., 1st Lieut., Hornell, N. Y., Fort Niagara, N. Y.
VELLUZZI, Joseph F., 1st Lieut., Bayonne, N. J., Fort Dix, N. J.
WANGNER, William F., 1st Lieut., Bloomfield, N. J., Fort Bragg, N. C.
WARRING, Willard B., 1st Lieut., Albany, N. Y., Camp Peay, Tenn.
WATERMAN, Samuel, M., Captain, Newark, N. J., Fort Bragg, N. C.
WEINBERG, Paul V., 1st Lieut., Brooklyn, Camp Livingston, La.
WELLES, Stanley L., 1st Lieut., Edgemere, N. Y., Fort Dix, N. J.
WETCHLER, Benjamin B., 1st Lieut., New York, Fort Bragg, N. C.
WILLIAMS, Robert X., 1st Lieut., Clymer, N. Y., Camp Forrest, Tenn.
YASUNA, Alvin D., Captain, New York, Fort Jackson, S. C.
ZANCA, Peter, 1st Lieut., Verplanck, N. Y., Fort Bragg, N. C.
ZUSSMAN, Bernard, 1st Lieut., New York, Camp Claiborne, La.

THIRD CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Third Corps Area, which comprises the states of Pennsylvania, Virginia, District of Columbia and Maryland:

BOYZER, Oren Douglas, 1st Lieut., Rural Retreat, Va., Fort Eustis, Va.
BUCCARD, Harry Williams, 1st Lieut., Williamsport, Pa., Fort Belvoir, Va.
CAMPANA, Frederick Thomas, Captain, Monessen, Pa., Camp Lee, Va.
DEGNAN, Philip Augustus, 1st Lieut., Washington, D. C., Camp Lee, Va.
DVORCHAK, George Edward, 1st Lieut., Patton, Pa., Camp Lee, Va.
FRALEY, Henry Watson, 1st Lieut., Leechburg, Pa., Camp Lee, Va.
GREEN, Manuel Edwin, Captain, Pittsburgh, Fort Eustis, Va.
GUTHRIE, Michael Aloysius, Captain, Pittsburgh, Fort Belvoir, Va.
HANES, William James, Captain, Strafford, Pa., Fort Belvoir, Va.
HEIMBACH, James Alvin, Major, Altoona, Pa., Camp Pendleton, Va.
KILDAY, John, Captain, Frostburg, Md., Fort Belvoir, Va.
LAUGHLIN, Kenneth Francis, 1st Lieut., Washington, D. C., Fort Belvoir, Va.
LESLIE, Frank George, 1st Lieut., Butler, Pa., Camp Lee, Va.
LISKA, John Robert, 1st Lieut., Greensburg, Pa., Camp Lee, Va.
MATEER, Eugene Henry, 1st Lieut., State College, Pa., Fort Benning, Ga.

MEDOF, Milton Irving, Captain, Pittsburgh, Savannah Air Base, Savannah, Ga.
MINTER, James William, Captain, Ridgway, Pa., Camp Lee, Va.
MORAN, John Anthony, 1st Lieut., Baltimore, Langley Field, Va.
MORGAN, Thomas Addison, 1st Lieut., Franklin, Va., Fort Story, Va.
PURVIS, James David, 1st Lieut., Pittsburgh, Camp Lee, Va.
RICHARDSON, Emmett Vynston, Captain, Marion, Fort Eustis, Va.
ROBBINS, Leo Edward, 1st Lieut., Philadelphia, Camp Lee, Va.
SILVER, Sam, 1st Lieut., Waynesboro, Pa., Fort Belvoir, Va.
SILVERBLATT, Bernard Leslie, 1st Lieut., Pittsburgh, Camp Lee, Va.
SNEAD, Howard Garnett, 1st Lieut., Franklin, Va., Fort Eustis, Va.
STEIN, Milton Robert, 1st Lieut., Baltimore, Fort Belvoir, Va.
STOCK, Aaron Hirsh, 1st Lieut., Pittsburgh, Fort Belvoir, Va.
THOMAS, Henry Malcolm, Jr., Major, Baltimore, Fort George G. Meade, Md.
THOMAS, John Lloyd, 1st Lieut., Greenville, Pa., Fort Belvoir, Va.
ZUPNIK, Howard Lester, 1st Lieut., Baltimore, Camp Lee, Va.

CORRECTION

Major Pelzman Instead of Reizman.—In the Medical Preparedness section of THE JOURNAL, March 1, page 843, under the Third Corps Area, the name Major Reizman, Ivy Albert, was erroneously spelled and should have been Pelzman, Ivy Albert.

FIFTH CORPS AREA

The following additional medical reserve officers have been ordered to active duty by the Commanding General, Fifth Corps Area, which comprises the states of Ohio, West Virginia, Indiana and Kentucky:

BAKER, Simeon S., 1st Lieut., Lynch, Ky., Fort Knox, Ky.
BARNETT, William E., 1st Lieut., Logansport, Ind., Fort Knox, Ky.
BLEMKER, Russell M., Captain, Greensburg, Ind., Fort Knox, Ky.

CARLISLE, Richard C., 1st Lieut., Columbus, Ohio, Fort Knox, Ky.
GREER, Oliver W., Captain, Indianapolis, Fort Knox, Ky.
JONES, Francis P., Captain, Indianapolis, Fort Knox, Ky.
LAKE, Willard, Major, McHenry, Ky., Fort Knox, Ky.
KOSTOFF, Albert, Captain, Columbus, Ohio, Fort Knox, Ky.
STARCHER, Everett H., Major, Earling, W. Va., Charleston, W. Va.
STONE, Sydney R., Captain, Cleveland, Fort Knox, Ky.
SUTTON, William E., 1st Lieut., Edinburg, Ind., Fort Knox, Ky.
TOTH, Daniel F., Captain, Cleveland, Fort Knox, Ky.

MEDICAL SUPPLIES FOR GREECE

Five tons of medical and surgical supplies has been shipped to Greece by the Medical and Surgical Supply Committee of America in response to an appeal issued in February by Dr. Haven Emerson, New York, chairman of the American Physicians' Committee to Aid Greece. The shipment included four operating tables, nine thousand tablets of sulfathiazole, five hundred vials of tetanus antitoxin, surgical dressings, antiseptics, vitamins, sedatives and concentrated foods. The committee's announcement said that more than two hundred and eighty-five physicians and surgeons in the principal cities of the United States assisted in the drive for raising funds and collecting the supplies.

Two ambulances for the Greek army, one contributed by the students and faculty of Columbia University, New York, and the other by colleges and universities throughout the United States and Canada, were presented to the Greek government through the Greek consul general in New York with ceremonies on the Columbia campus, February 23.

COURSE IN MILITARY MEDICINE

The American College of Physicians has arranged as one of its annual postgraduate courses a course in military medicine, to be given April 7-18 under the auspices of the Army Medical Corps, the Navy Medical Corps and the U. S. Public Health Service. The directors of the program will be Col. Charles C. Hillman, U. S. Army; Lieut. Col. William C. Munly, U. S. Army; Comdr. Frederick R. Hook, U. S. Navy, and Dr. Roscoe Spencer, U. S. Public Health Service. The minimal registration will be twenty-five and the maximal seventy-five. Instruction will be offered at Walter Reed General Hospital, the U. S. Naval Hospital and at the headquarters

of the U. S. Public Health Service by a large number of officers of the services stationed in Washington and by some speakers from outside Washington. Among the subjects listed for the course are physical standards for selection of military personnel, detection of tuberculosis in selectees, food inspection, deficiency diseases, shock and the use of blood and blood substitutes, war neuroses, venereal diseases, aviation medicine, subsurface medicine, epidemiology, immunization and treatment of communicable and infectious diseases (other than venereal), industrial medicine and tropical medicine.

NEW SOCIETY OF SELECTIVE SERVICE

The Maryland Society of Selective Service has been created with Dr. Sydney R. Miller, Baltimore, as permanent chairman. This is a volunteer organization for the discussion of problems that arise in selective service work, which aims to render uniform throughout Maryland the interpretation of regulations. At a meeting on January 31 Dr. Charles R. Austrian, Baltimore, was chairman of the organization committee. At a statewide meeting on February 28 plans for the society were drawn up. There are no dues.

MILITARY MEDICINE PROGRAM AT CLEVELAND ACADEMY

At a meeting of the Military Medicine section of the Academy of Medicine of Cleveland, February 24, Col. John C. Darby, Medical Reserve Corps, discussed "Current Progress of the Military Mobilization Plan" and Dr. George M. Saunders, visiting lecturer for tropical diseases at Western Reserve University School of Medicine and epidemiologist for the Leonard Wood Memorial, spoke on "Medical Problems of the Caribbean Area in Relation to National Defense."

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA
VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGEONS, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOE, ROSCO GENUNG LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MC GOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 1009)

FEBRUARY 24—MORNING

(In the absence of the jury, the Court gave his decision not to admit the proceedings of the hearings of Drs. Lee and Scandiffo before the District of Columbia Medical Society.)

In his decision the Court said it seemed to him that the record would serve no good purpose and that there is no reasonable grounds for its admission. It would lead to a prolonged indefinite diversion of this case through the trial of the issues on that phase, collateral in their nature. It is impossible to see where such a diversion would lead to. It would certainly becloud and confuse the issues in this case and make a case which by its very nature, by its length and many details involved, and the extended indictment on which it is predicated, more difficult than in its nature it is.

TESTIMONY OF WILLIAM C. KIRKPATRICK
DIRECT EXAMINATION

By Mr. Lewin:

William C. Kirkpatrick said he is employed in the auditing division of the Reconstruction Finance Corporation, assigned to the Curtiss Aeroplane Division of the Curtiss-Wright Corporation in Buffalo. In 1937 and 1938 he was supervisor of tax section for the Home Owners Loan Corporation. He first became actively interested in Group Health Association in January 1937. At the time he was a director of the Federal Credit Union that was in existence in the Home Owners Loan Corporation. He first heard about Group Health from Mr. Raymond R. Zimmerman who was then the personnel director of the Home Owners Loan Corporation. He attended the first organization meeting of January 1937. This organization meeting was held in the departmental auditorium on Constitution Avenue, between Fourteenth and Fifteenth. About two hundred or three hundred employees of the Home Owners Loan Corporation were present. The organization was formed and the members were asked whether or not they would be interested in forming such an organization; and the president of the organization was elected; and the secretary and treasurer, and some of the trustees. In April 1937 he was elected vice president by the board of trustees. Mr. William F. Penniman was elected president; Mr. Raymond T. Berry was elected secretary and treasurer, and Mr. C. K. Berlin was elected assistant treasurer. He became president in January 1938.

Q.—January 18. Now, tell the jury, if you will, what were the facts with regard to the hospitalization of Group Health patients when you became president in January of 1938.

A.—Well, I found there was a continued stalemate with respect to admission of the members of our staff to the courtesy privileges in hospitals in Washington. That was the situation which confronted me when I became president.

Q.—Were there any cases awaiting hospital treatment?

A.—There were at the time I became president approximately 75 elective operations on the books.

Q.—What is an elective operation?

A.—Well, an elective operation is one where an operation may be necessary where the patient elects to have it; as distinguished from an emergency operation which must be performed, regardless.

Q.—Now, you say they were on the books. What does that mean?

A.—They were on our books for attention. They had come in and been examined and the physicians had determined that these operations were necessary sometime or other.

Q.—And were they receiving treatment in the hospitals?

A.—No. None of them were receiving treatment in the hospitals.

Q.—All right. Now it has been testified here that the first medical director was Dr. Henry Rolf Brown. Did you participate in his selection?

A.—I participated in his selection as a member of the board of trustees.

Q.—Yes. Now, what other doctors had been engaged for the medical staff when you became president in January 1938?

A.—Dr. Raymond E. Selders; Dr. Stephen Hulburt; Dr. Cahoon; Dr. Halstead.

Q.—I wonder if you are correct there. Dr. Cahoon, did he come to that staff that early, when you became president?

A.—I will have to withdraw that. He became later on. Dr. Scandiffo; Dr. Richardson.

Q.—And had you had any other doctors who had joined you and then had resigned?

A.—Yes. Dr. Lee was a member of the staff at the time and had resigned.

Q.—That is Dr. Allan E. Lee?

A.—Dr. Allan E. Lee.

Q.—I wonder if you could tell us what compensations were being made these doctors who were on the staff, the doctors you have named.

A.—As near as I can recall, Mr. Lewin, compensation ranged from \$2,000 per annum for part-time service to \$7,200 per annum for full-time services.

Q.—Yes. Now, who drew the \$7,200?

A.—The director, Dr. Brown.

Q.—And who were the part-time men?

A.—Dr. Scandiffo was a part-time man. I think Dr. Lee, when he first came there, was a part-time man.

Q.—What was the arrangement with Dr. Richardson?

A.—Dr. Richardson was employed to take care of house calls because there were so many house calls at the time that it disrupted the operations of the clinic to have doctors called out from their work during the day.

Q.—Yes.

A.—So we arranged to have one doctor confine himself to house calls.

Q.—Yes. Mr. Kirkpatrick, who picked out these doctors for employment by Group Health?

A.—The medical director selected every one of them.

Q.—And was it on his recommendation that they were elected to the medical staff?

A.—It was on his recommendation to the board of trustees that they were put on the pay roll.

Q.—Was any change later made in the employment of Dr. Scandiffo?

A.—Yes. He was taken on full time.

Q.—When did that occur?

A.—As near as I can recall, that occurred sometime in the early summer of 1938.

Q.—What salary did he receive when he was employed?

A.—He received \$6,000 when he was put on full time.

Q.—Was there any change made in Dr. Hulburt's employment?

A.—Yes. Dr. Hulburt was increased two or three times. You mean for that particular time?

Q.—What was his initial salary?

A.—I think his initial salary was twenty-four hundred, if I am not mistaken. I may have to be refreshed as to that particular figure.

Q.—I don't suppose there is any objection to that. I have been informed that his initial salary was \$3,600.

A.—That is perhaps so.

Q.—Mr. Kelleher corrects me and says I am wrong about that, that it was \$2,000, and it was raised to thirty-six hundred.

A.—Yes. I think it was nearer twenty-four hundred than thirty-six at the start.

Q.—What arrangement did Group Health Association make for taking care of the examination of the eyes?

A.—Well, we entered into an arrangement with Dr. Moretti, who had an office on Sixteenth Street, under which he would perform the refractions for \$5 each.

Q.—Is that Dr. Frederick A. Moretti?

A.—That is Frederick A. Moretti. At the time that we entered into that arrangement with him I think there were some 150 to 200 eye refractories awaiting attention at the time, and Dr. Moretti worked those down and later on he was given more.

Q.—How long was he with you, would you say?

A.—He was with us approximately six months under the arrangement, until we obtained a permanent eye man.

Q.—Yes. And who was he?

A.—Dr. Virginius Dabney.

Q.—When did you obtain him?

A.—He came on about March or April in 1938.

Q.—During 1938 were there additions to the medical staff from time to time?

A.—Yes, there were.

Q.—About how many members of Group Health did you have at the start?

A.—We had approximately 900.

Q.—Now, will you tell the jury what changes were made in the number of the members of Group Health during the period that you were with them?

A.—Yes. When we started out in November of 1937 we had on the rolls approximately 900 members, all of whom were employees of the Home Owners Loan Corporation. Shortly after the first of the year 1938, we received requests from two or three other government departments to have other employees participate in this Association and in this service. As a result of that request we had a meeting at the clinic with these representatives of these other departments, and the trustees agreed to throw open the list of membership to these particular departments, and later on we increased the representation to some forty-odd bureaus, agencies, and departments of the Government here in Washington.

Q.—What changes were effected in the number of members that you had?

A.—Well, we went from approximately 900 in November 1937 to about 2,500 or 2,600 in March and April 1938.

Q.—Yes. Had the board decided on any limitation of the members?

A.—Yes. We had a limitation, I think it was 3,300, beyond which we felt we could not go safely.

Q.—Why was that limitation put on?

A.—On account of the limited facilities of the clinic.

Q.—Did you ever attain that maximum amount of 3,300?

A.—No, we never did. Not while I was active in the Association.

Q.—Now, when you became president, did you know that Mr. Penniman had been having some correspondence with the Washington private hospitals?

A.—Yes, I was aware of that.

Q.—You were aware of that. Did you do anything further with regard to getting the Group Health doctors admitted to those hospitals?

A.—Yes. Immediately I assumed that office I corresponded with most of the hospitals in the city asking them to advise me of the status—

Q.—I hand you what purports to be your letter to the Superintendent of the Children's Hospital, dated Feb. 2, 1938, and ask you if you sent that letter?

A.—That is a copy of my letter.

Q.—And you say you sent a letter similar to this to some of the other hospitals?

A.—Nine or ten of them; yes, sir.

Q.—This letter is to Miss Mattie M. Gibson, Superintendent of the Children's Hospital, Washington, D. C.?

THE COURT:—Are they all alike?

Mr. Lewin:—Not quite, your Honor. They have some slight variations. There are other letters exactly like that but there are some variations too.

THE COURT:—Where they are substantially alike, couldn't they sort of be grouped, one question and one answer, to save time?

Mr. Lewin:—Yes, I think we can do that to some extent, your Honor. There was one letter that came later that went to all of them.

Mr. Lewin:—Before I read it I should like to read these exhibits that were offered and received in evidence relating to the correspondence of Mr. Penniman to the Children's Hospital that preceded this letter. The first is Exhibit 27, which is a letter from Mr. Penniman, President of Group Health Association, to the Children's Hospital, dated Nov. 8, 1937:

U. S. EXHIBIT 27

"The Group Health Association, Inc., a mutual, voluntary organization, has been created by the employees of the Federal Home Loan Bank Board and its agencies for the purpose of providing themselves and dependent members of their families with medical and surgical care and, when necessary, with hospitalization in recognized hospitals of high standing.

"As the representative of the Group Health Association, I hereby request the Children's Hospital to admit members of the Group Health Association for customary hospital service upon the request of its Medical Director, Dr. Henry Rolf Brown.

"Request is also made to permit Dr. Raymond E. Selders, Surgeon, attached to the staff of the Group Health Association, to attend these patients while hospitalized. For your information, we are attaching hereto a record of Dr. Selders' education, training and experience.

"The Group Health Association will be responsible for the payment of the costs of hospitalization at customary rates, in each case for a period limited to 21 days for any one illness for each patient admitted upon the request of the Medical Director.

"If you desire further information or a conference with us, we shall be glad to have you let us know. Because of the importance of this request, however, an early and favorable reply will be appreciated.

"Very truly yours, William F. Penniman, President."

That is followed by Exhibit 359, which is a letter from Mattie M. Gibson, Superintendent of the Children's Hospital, back to Mr. Penniman, dated Nov. 16, 1937:

U. S. EXHIBIT 359

"Dear Mr. Penniman:

"At a meeting of the Board of Directors of the Children's Hospital, held November 15th, I was authorized to reply to your letter of November 8th, addressed to the Hospital and to Mr. Drayton as President, as follows:

"The Children's Hospital will accept for treatment or hospitalization any patient in need of care, under its charter, rules and regulations.

"This pertains to indigent, semi-indigent, and a very limited number of pay patients—as we have only twenty-seven beds available for pay patients.

"All physicians treating patients while in the hospital must be members of the Medical or Courtesy Staff, appointments to which are made annually by its Board of Directors after individual examination into the qualifications of applicants by regular hospital channels.

"Yours sincerely, Mattie M. Gibson, Superintendent."

Then comes Exhibit No. 360, which is Mr. Penniman's letter back to Miss Gibson, the Superintendent of Children's Hospital, dated Nov. 18, 1937:

U. S. EXHIBIT 360

"My Dear Miss Gibson:

"Please accept our thanks for your very prompt and courteous reply to our letter, addressed to The Children's Hospital, under date of November 8th, in which we requested permission to admit patients who are Members of the Group Health Association, at the request of its Medical Directors, Dr. Henry Rolf Brown, also to permit Dr. Selders, Surgeon, attached to the Staff of the Group Health Association, to attend these patients while hospitalized.

"I note with much pleasure that at the meeting of the Board of Directors of The Children's Hospital, held November 15th, you were authorized to advise that the Children's Hospital will accept for treatment or hospitalization any patient in need of care, under its charter, rules and regulations. I further note that this pertains to indigent, semi-indigent, and a very limited number of pay patients, since there are only 27 beds available for pay patients.

"I want you to know, and may I ask that you convey to your Board of Directors, our appreciation for their favorable action on this request.

"Relative to our request to permit Dr. Raymond E. Selders, Surgeon, attached to the Staff of the Group Health Association, to attend these patients while hospitalized, we note that all physicians treating patients while in the hospital must be members of the Medical or Courtesy Staff, appointments to which are made annually by its Board of

Directors, after individual examination into the qualifications of applicants by regular hospital channels. I assume that the proper procedure would be to have Dr. Selders fill out an application form or questionnaire. If this is the case, would you be good enough to furnish us with the proper form to be used by Dr. Selders in making this application.

"With very kind regards, I am

"Cordially yours, William F. Penniman, President."

That is Nov. 18, 1937.

Here comes another letter from Mr. Penniman to the same superintendent, Dec. 14, 1937:

U. S. EXHIBIT 362

"Dear Miss Gibson:

"You will recall that we wrote to you on November 18th, relative to your letter of November 16th concerning our request to admit patients who are members of the Group Health Association and to permit Dr. Raymond E. Selders, Surgeon, attached to the Staff of the Group Health Association to attend these patients while hospitalized.

"As stated in our letter of November 18th, we note that all physicians treating patients while in the Children's Hospital must be members of the Medical or Courtesy Staff, appointments to which are made annually by the Board of Directors. We also stated that Dr. Selders will gladly fill out an application form for the consideration of the Board.

"As we have not heard further from you we would appreciate knowing what action has been taken thus far on our request. Would you be good enough to favor us with a prompt reply.

"Yours very truly, William F. Penniman, President."

Then comes 363, which is from the Superintendent, Miss Mattie M. Gibson, back to Mr. Penniman, dated Dec. 15, 1937:

U. S. EXHIBIT 363

"Dear Sir:

"I regret this delay in replying to your letter of November 18th, as I was led to believe that the forms had been sent to your office, but due to the quite serious illness of Mrs. Tabb, my secretary, it must have been left undone.

"I am herewith sending these forms for the use of members of your Medical Staff.

"Sincerely yours, Mattie M. Gibson, Superintendent."

Then 364 is a letter from Mr. Penniman back to Miss Gibson. Mr. Kelleher:—As I understand it, the application of Dr. Selders, attached to Government Exhibit 364, should be withdrawn; and we now do so.

Mr. Lewin:—Government's Exhibit 364 from Mr. Penniman to Miss Gibson, Superintendent of Children's Hospital, dated Dec. 18, 1937:

U. S. EXHIBIT 364

"My Dear Miss Gibson:

"I acknowledge with pleasure the receipt of your letter of December 15th.

"Relative to our request to permit Dr. Raymond E. Selders, Surgeon, attached to the Group Health Association, to attend patients who are members of the Group Health Association, while hospitalized in the Children's Hospital, I take pleasure in handing you herewith the application which you forwarded and which has been prepared by Dr. Selders.

"He has asked me to say to you that upon approval of his application, he will be happy to extend to the Children's Hospital the fullest cooperation in all matters where it is felt that he or his services would be useful.

"Pending such investigation as is found to be necessary, some of the hospitals have been good enough to grant permission to Dr. Selders to treat emergency cases, explaining that this is a customary privilege extended to physicians and surgeons who are duly licensed to practice in the District of Columbia. If this temporary courtesy could be extended to Dr. Selders in the interim period, it would be greatly appreciated.

"Thanking you, I am,

"Very sincerely yours, William F. Penniman, President."

Now comes Exhibit 374, which was the letter that Mr. Kirkpatrick just identified. It is dated Feb. 2, 1938. To Miss Mattie M. Gibson, Superintendent, the Children's Hospital:

U. S. EXHIBIT 374

"My dear Miss Gibson:

"This will refer to your letter of Dec. 15, 1937, addressed to Mr. William F. Penniman, and also Mr. Penniman's reply of Dec. 18, 1937, both of which relate to an application of Dr. Raymond E. Selders, a member of the staff of Group Health Association, Inc., for courtesy privileges at The Children's Hospital.

"Inasmuch as this matter is one of great importance to us, we will very much appreciate a prompt reply to this letter indicating what action has been taken in the matter of Dr. Selders' application.

"Very sincerely yours,

"W. C. Kirkpatrick

"President."

By Mr. Lewin:

Q.—Now I hand you what purports to be a letter from Miss Gibson to you, dated Feb. 3, 1938, and ask if you received that in reply to your letter of February 2.

A.—I did.

Mr. Lewin:—Exhibit 375 is a letter from the superintendent of Children's Hospital, Miss Gibson, to Mr. Kirkpatrick, dated Feb. 3, 1938:

U. S. EXHIBIT 375

"Dear Mr. Kirkpatrick:

"This refers to your letter of February 2nd regarding Dr. Selders' application for courtesy privilege at this Hospital.

"As is our custom, we have referred this matter to the Credentials Committee of our Medical Staff and we shall see that you are promptly informed when that Committee has acted upon Dr. Selders' application.

"With all good wishes to you, I am

"Sincerely yours, Mattie M. Gibson, Superintendent."

By Mr. Lewin:

Q.—Now, did you receive any further word or notification from Miss Gibson or the Children's Hospital between that time and July 28, 1938?

A.—I did not.

Q.—Did you write again to the hospital on July 28, 1938?

A.—I did.

Q.—And did you write a similar letter to all of the other hospitals?

A.—I think substantially all of them, if not all of them.

Q.—Yes. Now, I show you what purports to be a copy of your letter dated July 28, 1938, addressed to Mr. Charles D. Drayton, the President of the Board of Trustees of Children's Hospital.

A.—That is a copy of the letter I wrote.

Q.—Yes. And you say the letter which you sent to almost all the others was exactly the same?

A.—I think it was identical.

Q.—What was the purpose of sending this letter, Mr. Kirkpatrick?

Mr. Leahy:—I object. The letter speaks for itself.

Mr. Lewin:—No. Just the purpose.

Mr. Leahy:—That may be.

Mr. Lewin:—Take a look at it, if you care to.

(Mr. Leahy examined paper.)

• This is Government's Exhibit 376, which is a letter from Mr. Kirkpatrick to Mr. Drayton, President of the Board of Trustees of Children's Hospital, dated July 28, 1938:

U. S. EXHIBIT 376

"My dear Mr. Drayton:

"In view of Justice Bailey's decision yesterday establishing the legality of Group Health Association, Inc., it is respectfully requested that Dr. Raymond E. Selders, a member of our staff, be admitted to the courtesy staff of Children's Hospital, and that he may attend members of this Association admitted as patients there.

"We shall appreciate the courtesy of an early reply.

"Very truly yours, W. C. Kirkpatrick, President."

By Mr. Lewin:

Q.—Now, I would like to ask you who is Justice Bailey to whom you refer.

THE COURT:—I will tell you who he is.

Mr. Lewin:—I would like the jury to know.

THE COURT:—I think we all understand he is a member of this Court.

Mr. Lewin:—A member of this Court.

By Mr. Lewin:

Q.—And what was the decision you were referring to?

A.—Decision in declaratory judgment.

Mr. Leahy:—I object. Just the fact.

Mr. Lewin:—That is all we are asking for.

THE WITNESS:—It is in the matter of a declaratory judgment brought by Group Health Association.

By Mr. Lewin:

Q.—When was the suit for declaratory judgment brought by Group Health Association?

A.—In January 1938.

Q.—January 1938. And it was brought before Justice Bailey of this Court?

A.—That's right.

Q.—And do you remember what character of judgment it sought?

A.—To declare whether or not we were a corporation illegally engaged in the practice of medicine and whether we were engaged in the insurance business.

Q.—And was Justice Bailey's decision on that law favorable or unfavorable?

A.—Favorable to our Association in both instances.

Q.—And what was it?

A.—Generally that we were not engaged in any way in the practice of medicine; that we were in no way involved in the business of insurance.

Q.—And was the purpose of that letter to bring that to the attention of these hospitals?

A.—In the light of that decision to again renew our plea for admission of those doctors to those hospitals.

Mr. Lewin:—Government Exhibit 377 is a letter on the letter-head of Charles D. Drayton, dated Aug. 4, 1938, and reads:

U. S. EXHIBIT 377

"My dear Mr. Kirkpatrick:

"Yours of July 28th has been forwarded to me here.

"As soon as our board meets in September I shall take up the question as to what position we should now take respecting Group Health Association, Inc., and advise you on behalf of Children's Hospital. Since the matter is one of great importance and since our position heretofore has resulted from formal action taken by our board, you will understand that I am not able now to announce any change. I trust, therefore, you will allow us sufficient time to reconsider the matter in the light of subsequent developments.

"Very truly yours, Charles D. Drayton,
President, The Children's Hospital."

Now, did you respond to that letter?

A.—Yes, sir.

U. S. EXHIBIT 378

"Dear Mr. Drayton:

"Thank you very much indeed for your letter of Aug. 4, 1938.

"It will be entirely satisfactory to the Association if you will take up at your next Board of Trustees meeting the question of Dr. Selder's admission to the courtesy staff of Children's Hospital.

"Very truly yours, W. C. Kirkpatrick, President."

By Mr. Lewin:

Q.—Now, did you hear anything further from Mr. Drayton and the Children's Hospital between that time and Sept. 16, 1938?

A.—No, sir.

U. S. EXHIBIT 379

"Dear Mr. Drayton:

"On Aug. 4, 1938, in response to my letter of July 28, 1938, you were good enough to advise me that the subject matter of my letter would be referred to your Board of Directors some time in September.

"I shall appreciate it very much if I may be advised by you whether or not your Board has yet had an opportunity to give consideration to the subject matter of my letter of July 28, 1938.

"Very truly yours, W. C. Kirkpatrick, President."

Q.—Did you receive a reply from Mr. Drayton, the President of Children's Hospital (indicating)?

A.—This letter was in response to that last letter.

U. S. EXHIBIT 380

"Dear Mr. Kirkpatrick:

"Replying to yours of September 16th"—

THE COURT:—A little louder, please.

Mr. Lewin (continues reading):

"When I wrote you that The Children's Hospital Board would meet in September, I was under a misapprehension. We have no September meeting, but just as soon as the matter can be given consideration at the October 10th meeting, I will advise you further concerning our position.

"Very truly yours, Charles D. Drayton, President."

By Mr. Lewin:

Q.—Did you receive another letter from Mr. Drayton?

A.—Yes, sir.

U. S. EXHIBIT 381

"Dear Mr. Kirkpatrick:

"I have not been more prompt in replying to your several communications dated July 28 and Aug. 6, 1938, asking that Dr. Raymond E. Selders, a member of your staff, be admitted to the courtesy staff of The Children's Hospital, and that he may attend members of your association admitted as patients there, for the reason that, in view of the several court proceedings now under way involving Group Health Association, Inc., it did not seem possible for us to give any final answer on any aspect of the controversy.

"I believe you have been heretofore furnished with a copy of the memorandum of April 1, 1938, embodying the rule promulgated by our medical staff and adopted by our Board governing admissions to the hospital where an emergency exists and also the attendance upon such children of members of your staff. However, I am enclosing herewith another copy of that memorandum.

"Yours very truly, Charles D. Drayton, President."

By Mr. Lewin:

Q.—Mr. Kirkpatrick, had you received before that time this copy of the memorandum that Mr. Drayton refers to?

A.—No. This is the first time I ever saw that.

Q.—The first time you ever saw it. Now, he talks about several court proceedings now under way. When was the Bailey decision?

A.—Handed down July 27, 1938.

Q.—What court proceedings was he referring to in this letter? Were there any court proceedings?

A.—I don't know of any other court proceedings at the time of that letter.

Q.—Did you know anything about a bill in equity being filed by certain members of the District Medical Society in August 1938?

A.—There was a bill. I don't know what you call a bill in equity but there was some legal action brought by three members of the Medical Society, Ruff and Titus, and I have forgotten the other's name.

Q.—Prentiss Willson. A defendant in this case?

A.—If he is a defendant in this case?

Q.—Could you tell us what the nature of that suit was?

A.—If I understand it, it was a suit to enjoin us from operating.

Q.—And it was filed after the decision of Justice Bailey. This is in August. Can you state what the general grounds were for enjoining you?

A.—I think they were substantially the same grounds that were involved in the suit for declaratory judgment, namely, that we were a corporation illegally engaged in the practice of medicine and that we were in the insurance business.

Q.—Can you think of any other court proceedings that were pending at that time when this letter of Nov. 2, 1938, was written?

A.—Well, I think the grand jury proceedings.

Q.—Grand jury proceedings?

A.—Yes.

Q.—Can you think of any others?

A.—The one we just referred to, the three doctors.

THE COURT:—What date is the indictment?

Mr. Lewin:—The date of the indictment is Dec. 20, 1938. That is over a month after this letter was written.

The Witness:—You asked me if I knew what he was referring to. I don't know what he was referring to but I know what was going on.

By Mr. Lewin:

Q.—Were the Group Health doctors ever admitted to the Children's Hospital during the period in which you were president?

A.—No, sir.

Q.—That is, down to the date in the indictment, Dec. 20, 1938, they were not admitted?

A.—No, sir.

Q.—And the letter I have just read you from Mr. Drayton is the last communication you received from them?

A.—That is correct.

(Mr. Lewin then took the witness over a similar series of letters covering correspondence with Columbia Hospital and Dr. Percy M. Ashburn.)

(The attorney, Mr. Lewin, then took the witness over the correspondence with Emergency Hospital and Mr. Gist Blair and Mr. B. B. Sandidge.)

The correspondence indicated that Emergency Hospital had refused Dr. Selders a place on its staff and had stated patients could be admitted only for doctors on the staff. A conference was held between Major Blair, Dr. Mitchell, Mr. Sandidge, Mr. Horace Russell and Mr. Kirkpatrick.

Next came similar correspondence between Penniman and Kirkpatrick and the Episcopal Eye, Ear and Throat Hospital represented by Henry P. Blair.

Admission to the courtesy staff had been requested for Dr. Virginius Dabney.

By Mr. Lewin:

Q.—Did you receive any reply or replies from the Episcopal Hospital from Mr. Blair to either of your letters, dated July 28, 1938, or Sept. 16, 1938?

A.—No, sir, never did.

Q.—You had no further word from them down to the date of the indictment?

A.—No, sir.

Q.—Let me ask you this: In the spring of 1938 were any of the Group Health patients—or let us put it this way: Were any persons, members of Group Health Association, actually treated at the Episcopal Eye, Ear and Throat Hospital?

A.—Yes, some 50 or 60 of them.

Q.—Who treated them?

A.—Dr. Dabney.

Q.—What was the arrangement?

A.—The arrangement was that Dr. Dabney took these patients in, you might say, through the back door.

Mr. Leahy:—I object to the characterization by the witness. I move to strike his answer.

THE COURT:—Yes, it is a characterization; it will be stricken.

By Mr. Lewin:

Q.—Well, how did he take them in?

A.—Took them in as his own private patients without reference to Group Health.

Mr. Leahy:—I object to that; that must be based on hearsay.

Mr. Lewin:—It is not hearsay; it is within the knowledge of the witness.

Mr. Leahy:—The fact that Dr. Dabney may or may not have treated these persons as his private patients at the Episcopal Hospital could be nothing else than hearsay, and I move to strike the answer.

Mr. Lewin:—No, it is not hearsay. You might just as well say that to all of this. The best evidence rule applies to documents; it has no application to oral testimony within the knowledge of the witness.

THE COURT:—I sustain the objection. Unless this gentleman was here how could he know?

Mr. Lewin:—He knew because this line of correspondence shows he was head over heels engaged in this controversy personally.

THE COURT:—If you can indicate how he could have had any personal knowledge of this matter, all right; otherwise it would be hearsay.

Then came correspondence between Penniman and Kirkpatrick with Dr. W. A. Bloedorn, Medical Director, George Washington University Hospital, in which Dr. Selders had been refused hospital privileges.

Attempts had also been made to secure courtesy staff privileges at the Eastern Dispensary and Casualty Hospital.

A conference was held between Mr. Kirkpatrick, Mr. Ormand Loomis, executive assistant of the Home Owners' Loan Board, who was secretary to Mr. Fahey; Mr. Baker, its treasurer, and another director with Mr. Rogers, the superintendent of the hospital, and Dr. Richard Young, chief of the medical staff. They discussed admission of members of the staff to the courtesy staff at the Casualty Hospital.

The letters indicated that the hospital had referred the matter to the medical staff and thereafter had failed to appoint Dr. Selders. There followed correspondence with Dr. Lewis H. Taylor, President, Sibley Memorial Hospital.

FEBRUARY 24, AFTERNOON

On Feb. 24, 1938:

U. S. EXHIBIT 412

"My dear Doctor Selders:

"Your application for Medical, Major and Minor Surgical, and Major Gynecological privileges in Sibley Memorial Hospital were, at your request, again submitted to the Executive Committee of the Medical Council of Sibley Memorial Hospital for reconsideration of their action in refusing the same.

"I regret to inform you that the Committee did not reverse its action and your request has been refused.

"Very sincerely yours,
Lewis H. Taylor, M.D.

"President, Sibley Memorial Hospital."

Next came correspondence with Mr. Eisenman, secretary and Mr. Aspinwall, president of Garfield Memorial Hospital.

A conference had been held between Mr. Kirkpatrick, Mr. Aspinwall, Mr. Ormand Loomis and Mr. Louis Reed of the Social Security Board. The final letter indicated the Staff of the Hospital had made no recommendation relative to the appointment of Dr. Selders to the Courtesy Staff.

Then came correspondence with the Very Reverend Arthur A. O'Leary, S. J., President, Georgetown University.

Government's Exhibit 442 is Father O'Leary's response dated Oct. 11, 1938:

U. S. EXHIBIT 442

"Dear Mr. Kirkpatrick:

"In reply to your letter of Sept. 16th, 1938, I wish to state that at the meeting of the Executive Staff of Georgetown University Hospital, held yesterday, it was the decision of the Staff that no change should be made in the case of the refusal to admit Dr. Raymond E. Selders to the Courtesy Staff of Georgetown University Hospital.

"Dr. Selders was informed on March 4, 1938, by Dr. Fred O. Coe, Secretary of the Executive Staff, that his application to treat minor surgical, major surgical and gynecological cases at the hospital had been rejected.

"Very truly yours,
"Arthur A. O'Leary, S.J., President."

Next were letters to Dr. J. Gregg Custis, executive officer, Board of Trustees and Fred McGee, president of the Board of Trustees of National Homeopathic Hospital.

The government then presented correspondence between W. C. Kirkpatrick and H. E. Rice, credit manager, Washington Sanitarium and Hospital, Takoma Park, Washington, D. C.; Robert A. Hare, M.D., and W. C. Kirkpatrick.

There were also letters from Mr. Kirkpatrick to Dr. Caylor, the secretary of Providence Hospital.

And another from Mr. Kirkpatrick to Sister Rosa, the acting president of the board of trustees of Providence Hospital.

Mr. Kirkpatrick testified in reply to questions that he and Mr. Ivan Carson, a trustee of G. H. A., Inc., had called on Mr. Rice, credit manager of the Washington Sanitarium and Hospital at Takoma Park, Maryland.

Q.—Do you know why application had not been made to that hospital before that time?

A.—Well, that hospital is located just outside of the District of Columbia, and we felt somewhat impelled to use the hospitals in the city before we went elsewhere.

There followed discussion between attorneys on admissibility of evidence.

By Mr. Lewin:

Q.—Mr. Kirkpatrick, by December 20, 1938, when this indictment was returned, what was the situation with regard to the hospitalization of Group Health Association patients? How many at that time were awaiting hospitalization and elective surgical operations?

A.—About that time the number was in the neighborhood of forty-five.

Q.—And, now, what had happened during 1938 to account for the difference between the number that was waiting when you assumed office at the beginning of the year and this lesser number awaiting in December?

A.—Well, as these were all elective cases, some of them concluded, along with their physician, that they could postpone—

Mr. Leahy:—I object; that would be pure hearsay, if your Honor please.

Mr. Lewin:—I don't think it is hearsay.

THE COURT:—Well, I think he may say it was postponed, if that is a fact, without stating the conclusions of others or himself about it.

THE WITNESS:—The operations were postponed, and in other cases they resorted to outside physicians to have the operations performed.

Q.—And how were those doctors compensated; do you know?

By Mr. Lewin:

Q.—Now, who compensated those outside doctors who were not on the staff of Group Health Association, who performed these operations on Group Health members during '38?

A.—Group Health Association compensated them.

Q.—So that was an additional expense for medical service to the salaries that you paid your regular staff?

A.—It was.

Q.—And why was it necessary for them to seek these outside doctors?

Mr. Leahy:—I object, if your Honor please.

THE WITNESS:—Because the hospitals would not admit our physicians.

Mr. Leahy:—Wait just a minute.

THE COURT:—I thought you said—

Mr. Leahy:—I don't think it is competent, if your Honor please.

Mr. Burke:—Argumentative. The question starts with "why." It is an argumentative question.

Mr. Lewin:—All questions starting with "why" are banned?

THE COURT:—What was the question, Mr. Lewin?

Mr. Lewin:—I want to know why it was necessary for these members of Group Health to seek these outside doctors.

Mr. Leahy:—How would he know except from hearsay?

Mr. Lewin:—Oh, mercy! Hearsay! You are overworking that.

Mr. Leahy:—I don't think so, if your Honor please.

THE COURT:—I think it is in the form of a conclusion, isn't it?

Mr. Lewin:—He paid the bills for all those.

Mr. Leahy:—It does not answer the question.

THE COURT:—I am agreeing with you absolutely.

Mr. Lewin:—You agree with me?

THE COURT:—Except that I think he should state why he paid them, why it was necessary for him to employ them and pay them.

Mr. Lewin:—That is what I wanted to know. According to Mr. Burke's idea any question beginning with "Why" is bad.

THE COURT:—You sometimes misconstrue my remarks. I am with you.

Mr. Lewin:—I am so pleasantly surprised, your Honor.

By Mr. Lewin:

Q.—Now, Mr. Kirkpatrick, tell us—

The Witness:—May I have the question repeated, please?

Mr. Lewin:—Gracious, I am afraid to do it.

Mr. Leahy:—Go ahead; ask it again.

THE COURT:—Let me put the question; then there will be no objection to it.

Mr. Richardson:—I am not so sure about that.

BY THE COURT:

Q.—What was your reason for compensating these doctors?

A.—Well, primarily because they presented us a bill for their services.

Q.—Well, what was your current obligation?

A.—Well, these members of Group Health Association were entitled to receive this service, and if we couldn't supply it with our own staff we felt obligated to supply it elsewhere.

THE COURT:—I think that covers it.

By Mr. Lewin:

Q.—Why couldn't you supply it with your own staff?

A.—For the reason that our own staff was not admitted to the hospitals to perform the operations that were needed.

Q.—Yes, sir. All right.

Now, I shall show you Government's Exhibit 458 and ask you if that is a copy of your letter to the defendant Thomas E. Neill, president of the Medical Society of the District of Columbia, dated March 21, 1938.

A.—It is.

Q.—I show you Government's Exhibit 459 and ask you if that is the defendant Neill's response to you, dated March 22, 1938.

A.—That is the response to that letter.

Q.—I show you Government's Exhibit 460 and ask you if that is a letter which you received from the defendant Neill, dated April 11, 1938.

A.—It is.

Q.—And I show you Government's Exhibit 461 and ask you whether that is a copy of your reply to Dr. Neill, dated April 19, 1938.

A.—That is a copy of my reply.

Mr. Lewin:—Yes. I offer those letters in evidence.

Here followed discussion of admissibility of evidence consisting of letters between G. H. A., Inc., and the hospitals. The letters were written by R. T. Berry, secretary of G. H. A., Inc.

(Handing letters to Mr. Leahy.)

(Letters heretofore marked Government's Exhibits 458 through 461, inclusive, for identification, were offered in evidence.)

FEBRUARY 25

THE COURT:—Members of the jury: One of our alternate jurors is absent. We have a report that he is quite sick. I haven't yet any report as to exactly what his illness is, but I am informed it is something in the nature of an acute cold or influenza. I have taken the matter up with the attorneys and they have reached the understanding that they will let the matter go over until tomorrow.

FEBRUARY 26—MORNING

(The trial proceeded in the absence of the alternate juror who was ill.)

Mr. Lewin:—May it please the Court, I should like to begin this morning with the reading of two exhibits which have been received in evidence:

EXHIBIT 458

Mr. Lewin:—Exhibit 458 is a letter from Mr. Kirkpatrick, president of Group Health Association, Inc., to the defendant Thomas E. Neill, president of the Medical Society of the District of Columbia, dated March 21, 1938:

"Dear Dr. Neill:

"A situation arose yesterday, March 20, in regard to a member of Group Health Association who is seriously ill with coronary thrombosis, which gives us the gravest concern for the welfare of 2,500 members of our Association and their 3,500 dependents. If the instructions you are reported to have issued to a distinguished physician in good standing with the Medical Society of the District of Columbia are correctly reported to us, your action not only discredits the medical profession as a whole but would violate every humane precept that has been the cornerstone of the practice of medicine since the time of Hippocrates.

"The facts as reported to me in my official capacity as President of Group Health Association are these:

"Dr. Richard H. Price, a member of the Group Health medical staff, has been attending a patient, a member of Group Health Association who has been suffering from a serious heart affliction known as coronary thrombosis. His condition reached such a serious stage yesterday that Dr. Price wished to call into consultation on the case a heart specialist of repute, who is a member of your Society. Dr. Price reports he was informed by this physician that he had been advised by you that he would not be permitted to enter into such a consultation. Dr. Price reports him as saying in effect that you

had ruled no member of the Medical Society of the District of Columbia could consult with a physician on the staff of G. H. A.; that he could not visit a member of ours or render any service in the presence of a Group Health physician, regardless of the critical nature of the case; that any contact or 'consultation' between this physician and a staff physician of Group Health would have to be confined to formal notes or conversation on the telephone.

"Dr. Price concurred with me that every concession should be made in order to obtain the services of this heart specialist for this patient and such arrangements were immediately concluded. Dr. Price informs me that the physician was both sympathetic and willing to give his services in any form consistent with the rules of the Medical Society of the District of Columbia. We appreciate his attitude and are happy to have obtained his services in view of the critical nature of the patient's illness.

"I feel sure that a gross misunderstanding has taken place as it is inconceivable that you, as President of the District Society, would take such an autocratic stand in committing the medical profession to an inhumane policy. If true, your leadership of the Medical Society has not only barred GHA physicians from their right to administer to human needs in the hospitals of Washington but from their right and their duty to avail themselves of the benefits of consultation with other leaders of the Medical profession in administering to their patients.

"It is vitally important that we have a clear understanding of your position in the matter immediately. I, therefore, await word from you.

"Your very truly,

"W. C. Kirkpatrick,

"President."

U. S. EXHIBIT 459

Mr. Lewin:—I will now read Government Exhibit 459, which is Dr. Neill's response to Mr. Kirkpatrick's letter, which is dated March 22, 1938, written on the letterhead of The Medical Society of the District of Columbia:

"My dear Mr. Kirkpatrick:

"I acknowledge your letter of March 21st in which you refer to the occasion when Dr. Richard H. Price, a member of the medical staff of the Group Health Association is said to have endeavored to enlist the services of a member of the Medical Society of the District of Columbia as a consultant in connection with the treatment of a member of your Association.

"In view of the statements contained in your letter, and the wide publicity given to it in the public press, it is obvious that the primary purpose of your communication is to create in the public mind an erroneous impression as to the attitude of the Medical Society of the District of Columbia and the members thereof in rendering medical aid to the community in general.

"In order to have a proper appreciation of the questions involved it is first necessary to have a correct understanding of the facts. In the case referred to by you, it is my understanding that the services of the consultant in question were solicited by a member of the family of the patient because of the fact that on a prior occasion he had treated a member of the family of the patient for a like ailment. When it developed that the patient was being treated by Dr. Richard H. Price, a member of the staff of the Group Health Association, the consultant sought my advice as to whether it was permissible under the Constitution of the Society for him to enter into consultation with a member of your medical staff. Having in mind the Constitution of the Medical Society, which provides that:

'No member of the Society shall engage in any professional capacity whatsoever with any organization, group or individual, by whatever name called or however organized, engaged in the practice of medicine within the District of Columbia or within ten miles thereof, which has not been approved by the Society.'

and considering the fact that the Group Health Association has not been approved by the Medical Society, I advised the consultant that under the provisions of the Constitution of the Society, he was not authorized to enter into consultation with Dr. Price.

"I am advised that the consultant informed Doctor Price that while he could not see the patient in consultation, nevertheless, he would gladly see the patient independently and render whatever medical service might be needed. Agreeable to the wishes of the patient, the consultant called upon him, made a diagnosis and gave advice as to treatment, all of which was communicated to Doctor Price.

"A frank and fair disclosure of the facts clearly indicates that the best interests of the patient were in every respect safeguarded, and in no wise did he suffer any detriment.

"The Group Health Association is engaged in the practice of medicine in the District of Columbia in violation of the provisions of the Act of Congress known as the 'Healing Arts Practice Act,' in force in this District, which is a comprehensive act for the government, regulation and control of the practice of medicine. Because of the fact that the Group Health Association is illegally engaged in the practice of medicine, it has not, and cannot, be approved by the Medical Society as a proper organization to engage in the practice of medicine in this District.

"Notwithstanding the fact that the United States District Attorney has ruled that the Group Health Association is engaged in the practice of medicine in violation of law, nevertheless, it has persisted in the continuance of this illegal practice. The Constitution of the Medical Society is binding upon its members, and as President of the Society, I am obligated, when called upon, to advise the members of the Society that the provisions of its Constitution are mandatory and must be adhered to.

"I have no discretion to suspend the provisions of the Constitution of the Society, and so long as the Group Health Association persists in the practice of medicine in violation of law, it is my bounden duty to advise the members of the Society that under its Constitution they are not authorized to enter into consultation with the hired agents of the Group Health Association.

"In conclusion, I desire to emphasize that this does not mean that the members of the Group Health Association, or any other members of the community, will be deprived of proper medical attention. On the contrary, the members of the Medical Society stand ready at all times to render necessary and proper medical attention to all persons in the community, including the members of the Group Health Association.

"Very truly yours,
"Thomas E. Neill
"Thomas E. Neill, M.D., President,
"The Medical Society of the District of Columbia."

U. S. EXHIBIT 322

Mr. Kelleher:

"Report of Hospital Committee Submitted Nov. 11, 1937:
"In view of the resolution adopted by The Medical Society of the District of Columbia on the evening of Nov. 3, 1937, the Hospital Committee held a meeting, at my office, on the evening of Nov. 9, 1937 and recommends that the Medical Society of The District of Columbia send the following resolution to the medical boards of the various local hospitals for interpretation to the Boards of Directors of those hospitals:

"That the hospitals accept patients from Group Health Association, Inc., provided that Group Health Association, Inc., is responsible for their financial obligations; that these patients only be treated by the attending, associate, assistant and courtesy staff physicians of the respective local hospitals.

"J. Ogle Warfield Jr.
"Chairman, Hospital Committee."

Mr. Kelleher:—At the bottom is a handwritten note which reads as follows:

"The Med. Soc. of D. C. voted on Nov. 11, 1937 to recommit their report to the Hospital Committee for further consideration."

U. S. EXHIBIT 323

Mr. Kelleher:—Exhibit 323 is written on the letterhead of Dr. J. Ogle Warfield Jr. This is headed "Report of the Hospital Committee, Dec. 1, 1937":

"The Hospital Committee submits the following resolution:
"Resolved, That as a matter of educational policy the Medical Society of D. C. strongly recommends that all hospitals engaged in the teaching and training of residents, interns, and nurses, where possible, follow the recommendation of The American Medical Association regarding the constitution of their entire Medical Staffs, namely, that each appointee be a member of the Medical Society of D. C. or a local Medical Society in this immediate neighborhood and a member of American Medical Association.

"Mr. President, I move that this resolution be adopted and a copy of it be sent to each of the local hospitals.

"J. Ogle Warfield Jr.
"Chairman, Hospital Committee."

U. S. EXHIBIT 83

Mr. Kelleher:—Exhibit 83 is an original letter from the defendant C. B. Conklin, Secretary, The Medical Society of the District of Columbia to Dr. J. Ogle Warfield Jr., Chairman, Committee on Hospitals, The Medical Society of the District of Columbia, Washington, D. C., dated Feb. 25, 1938:

"Dear Doctor Warfield:

"Pursuant to action of the Executive Committee, in session on the evening of Feb. 21, 1938, the enclosed resolution, which was presented to the Society at the Business Meeting in February, was ordered referred to the Hospital Committee for consideration and report.

"Very truly yours,
"C. B. Conklin, M.D.,
"Secretary."

Mr. Kelleher:—And the enclosed resolution is as follows:

"Resolution presented at the Business Meeting of the Medical Society of the District of Columbia, in session on Feb. 2, 1938, by Dr. Thomas P. Mattingly; ordered referred to the Executive Committee for consideration and report.

"That the proper agency of the Medical Society be instructed to present at our next stated meeting the facts relating to the present status of Group Health physicians at the various Washington hospitals preliminary to appropriate disciplinary action, in event any hospital has ignored the Medical Society's wishes in the premises."

U. S. EXHIBIT 313

Mr. Kelleher:—Exhibit 313 is an original letter from the defendant Dr. Warfield:

"Feb. 3, 1938.

"Dr. W. Warren Sager,
1835 Eye Street N.W.,
Washington, D. C.

"Dear Dr. Sager:

"I would appreciate your inquiring of your hospital which you represent on the Hospital Committee whether any action has been taken on the names or applications of physicians or surgeons connected with Group Health Association, Inc., also has your hospital recently revised its lists of courtesy and staff physicians and surgeons?

"Sincerely,
"J. Ogle Warfield Jr.
"Chairman, Hospital Committee."

U. S. EXHIBIT 312

Mr. Kelleher:—Exhibit 312 is headed "Committee on Hospitals"—the testimony is that a letter similar to Exhibit 313 went to all of the members of the hospital committee, listed on Exhibit 312, and their names are as follows:

"Committee on Hospitals
"1937-38
"(Garfield) Chairman: J. Ogle Warfield Jr.
"Childrens—1726 Eye Street N.W., Washington, D. C.
"Georgetown—Leon A. Martel, 1801 Eye Street, N.W. Na. 7200.
"Episcopal—William H. Jenkins, The Connecticut Apts. Di. 3200.
"Homeopathic—Gregg C. Birdsall, 1832 Kalorama Rd. N.W., Co. 3350.
"Casualty—J. Rogers Young, 1400 M Street, N.W., Met. 2419.
"Emergency—William B. Marbury, 2238 Q Street, N.W. No. 8600.
"Columbia—Jerome F. Crowley, The Connecticut Apts., Di. 3200.
"Providence—J. P. Shearer, Farragut Medical Bldg., Di. 5870.
"G. Washington—W. Warren Sager, 1835 Eye Street, N.W., Na. 7200.
"John H. Trinder, 1746 K Street, N.W., Di. 4620.
"Sibley—Jessie T. Mann, 1024 Mass. Ave., N.E., Li. 6440.
"Counsel for Medical Society of D. C.—
"Frederick A. Fenning, 940 Shoreham Building, Washington, D. C.
Phone: National 1194.
"President of Medical Society of D. C.—
"Dr. Thomas E. Neill, 1824 Mass. Ave., N.W. Phone: Decatur 1707 or
"2810 35th Street, N.W. Phone: Cleveland 0026."

Mr. Kelleher:—Exhibits 314 through 321 are replies which the defendant Dr. Warfield received in response to letters sent to members of the committee.

U. S. EXHIBIT 321

Mr. Kelleher:—Exhibit 321 is written on the letterhead of Earle G. Breeding. It is dated Feb. 8, 1938, and addressed to Dr. John H. Trinder, The Parkwood, 1746 K Street N.W., Washington, D. C.:

"Dear Doctor:

"Referring to the enclosed inquiry of Dr. Warfield, I wish to advise there have been no applications of physicians or surgeons connected with the Group Health Association, Inc., for the courtesy of the Episcopal Hospital to date.

"The Hospital has recently revised its courtesy list and this list may be obtained by applying to the Superintendent of the Hospital if your committee requests it.

"If any further information is required, I will be glad to give it to you or you may obtain same from the acting Superintendent.

"Very sincerely,
"Earle G. Breeding, M.D."

U. S. EXHIBIT 320

Mr. Kelleher:—Exhibit 320 is a letter dated Feb. 4, 1938, under the letterhead of Columbia Hospital for Women, signed by P. M. Ashburn, Superintendent, addressed to Dr. J. Ogle Warfield Jr., 1726 Eye Street N.W., Washington, D. C.

It reads:

"My dear Doctor Warfield:

"Dr. Jerome F. Crowley has asked me if I would give you the information which you request in your letter to him dated February 3, and I take pleasure in doing so.

"This hospital has not as yet taken any action on the application of any physician or surgeon connected with the Group Health Association.

"This hospital has not recently revised its list of courtesy and staff physicians and surgeons.

"Very truly yours,
"P. M. Ashburn,
"Superintendent."

U. S. EXHIBIT 319

Mr. Kelleher:—Exhibit 319 is an original letter under the letterhead of the National Homeopathic Hospital, Washington, D. C., from Frances Whitlock Hall, Superintendent of that hospital, to Dr. J. Ogle Warfield Jr., Chairman, Hospital Committee, 1726 Eye Street N.W., Washington, D. C.

"My dear Dr. Warfield:

"In compliance with your request to Dr. Birdsall, I am enclosing copies of the two letters, one of which is being sent to every member of our Courtesy Staff of 1937.

"I am also enclosing copy of a letter sent to Mr. Penniman under date of Nov. 9, 1937.

"I believe the letters are self-explanatory in showing that the hospital has recently revised its list of courtesy and staff physicians and surgeons, excluding those who are not members of an organized Medical Society.

"Sincerely,
"Frances Whitlock Hall,
"Superintendent."

U. S. EXHIBIT 318

Mr. Kelleher:—It is Exhibit 318, dated March 18, 1938. It is under the letterhead of National Homeopathic Hospital, Washington, D. C. It reads as follows:

"The Trustees of the National Homeopathic Hospital are revising the Courtesy Staff for 1938. We wish to add your name to the Staff but find that the Medical Society of the District of Columbia does not list your name among its members.

"The rules of the Hospital governing staff members requires membership in a local medical society of the District of Columbia, nearby Maryland, or Virginia.

"Will you kindly advise me if you belong to any of the medical societies, at your earliest convenience.

"Yours very truly,"

U. S. EXHIBIT 317

Mr. Kelleher:—Exhibit 317 is a letter under the letterhead of National Homeopathic Hospital, from Fred McKee, to the defendant Dr. J. O. Warfield, Chairman of American Medical Association Committee, 1726 Eye Street N.W., Washington, D. C.:

"Dear Dr. Warfield:

"I am enclosing you herewith for your files, copy of letter written to each member of our Courtesy Staff, and also a copy of letter that has been written to those who we found were on the list, but were not members of any medical association.

"Your very truly,

"Fred McKee

"President,

"Board of Trustees."

U. S. EXHIBIT 316

Mr. Kelleher:—Exhibit 316 is a handwritten letter from G. C. Birdsall, M.D., 1832 Kalorama Road, Washington, D. C., dated Feb. 10, 1938:

"Dear Doctor:

"The National Homeo. Hospital met all requirements when appointing staff and courtesy staff. I asked the superintendent to mail you copies of the letters which were mailed out. All members were required to be affiliated with organized medical society either in the District or surrounding adjacent counties. A few of the younger men were given to May to affiliate themselves with their medical society before their applications could be accepted.

"Very truly,

"G. C. Birdsall."

U. S. EXHIBIT 315

Mr. Kelleher:—Exhibit 315 is a letter from Dr. William B. Marbury to the defendant Dr. J. Ogle Warfield Jr., 1726 Eye Street N.W., Washington, D. C., dated Feb. 9, 1938.

"Dear Dr. Warfield:

"I have your letter of February 3rd. I have inquired at Emergency Hospital whether or not there has been any change in the situation in regard to the Group Health Association, and also whether there has been any revision of the courtesy list and staff appointments. Apparently the hospital has not taken any new action in regard to physicians of the Group Health Association, Inc. They cannot treat patients at Emergency Hospital because they do not belong to the D. C. Medical Society.

"The notices in regard to the courtesy list and staff physicians go out in April. There have been no recent changes in any of these appointments. I hope this gives you the information desired.

"Very sincerely yours,

"William B. Marbury."

U. S. EXHIBIT 314

Mr. Kelleher:—Exhibit 314 is an original letter from the defendant J. Rogers Young to the defendant J. Ogle Warfield Jr., dated Feb. 9, 1938:

"Dear Dr. Warfield:

"In response to your inquiry of February 3, I wish to inform you that the Eastern Dispensary and Casualty Hospital is at this time revising its lists of courtesy and staff physicians and surgeons. To date we have had no application from any physician or surgeon connected with the Group Health Association.

"If there is any further information I can give you regarding this matter, I shall be glad to cooperate with you in any way.

"Very truly yours,

"J. Rogers Young."

U. S. EXHIBIT 296

Mr. Kelleher:—Exhibit 296 is a questionnaire which was addressed to all the hospitals in Washington. 296, which was filled out and returned by the National Homeopathic Hospital.

"1. What communication has your hospital had from Group Health Association, Inc.?"

Answer (in pen handwriting): "Received circular letter dated November 8."

"2. What reply has your hospital made to Group Health Association, Inc.?"

"No action would be taken until Group Health Assoc. was approved by D. C. Med. Soc.

"3. Which, if any of the following Doctors are now members of your Medical Staff in any capacity or have privileges to practice in your hospital?"

"Dr. Henry Rolf Brown. No.

"Dr. Allan E. Lee. Yes.

"Dr. Mario Scandiffo. Yes.

"Dr. R. Stephen Hulburt. No.

"Dr. Raymond E. Selders. No.

"Dr. Edmond B. Wells. No."

In handwriting is the following note:

"Courtesy staff: Lee, obstetrics; Scandiffo, pediatrics; both have had patients in hospital formerly. Further action regarding them awaits the action taken by D. C. Med. Society."

Next question:

"4. Is your hospital in sympathy with the policies of The Medical Society of D. C.?"

"Yes—one hundred per cent.

"5. Is the entire Medical Staff of your hospital reappointed annually?"

"Yes.

"6. Are appointments to the Medical Staff of your hospital approved by the Medical Staff?"

"Yes.

"7. What governing body of your hospital finally makes appointments to the Medical Staff?"

"Board of Trustees.

"8. Does your hospital require membership in the Medical Society of D. C. as a qualification for appointments to its Medical Staff?"

"Yes—Required since Jan. 1, 1937.

"9. What percentage of the entire medical staff of your hospital are members of the Medical Society of D. C.?"

"One hundred per cent—not all of courtesy staff.

"10. Does your hospital require membership in the A. M. A. as a qualification for appointment to its Medical Staff?"

"Only through membership in D. C. Med. Soc.

"11. What percentage of the entire Medical Staff of your hospital are members of the A. M. A.?"

"One hundred per cent.

"12. Is your hospital a beneficiary of Community Chest funds?"

"Yes.

"13. Will you kindly make any other inquiry that you think might be pertinent at this time?"

"The Hospital wants to co-operate with D. C. Med. Soc.—Would like advice about course to pursue regarding applications from patients holding Group Health Assoc. Also regarding consultations in such cases.

"Frances Whitlock Hall,

"Superintendent."

"G. C. Birdsall—

"For Hospital Committee"

U. S. EXHIBIT 311

Mr. Kelleher:—Exhibit 311 is a handwritten memorandum, which has been identified as being in the handwriting of the defendant Warfield. At the top of one column is the word "Doctors"; at the top of the other is "Require membership in D. C. Medical Society," and listed on the left-hand column are the names of the Washington, D. C., hospitals.

"Georgetown—Doctor. None.

"Require membership in D. C. Medical Society. Yes.

"Episcopal—Doctor. None.

There is no answer to the question in the second column.

"Homeopathic." The name Scandiffo is stricken out and also the zero is stricken, in pen.

"Require membership in D. C. Medical Society. Yes.

The next is:

"Casualty—Doctor. None.

"Require membership in D. C. Medical Society.

"Qualified for membership in local Society."

"Emergency—Doctor. None.

"Require membership in D. C. Medical Society. Yes.

"Columbia—Doctor. None.

"Require membership in D. C. Medical Society. No.

"Providence—Doctor. None.

"Require membership in D. C. Medical Society. Yes.

"George Washington—Doctor. None.

"Require membership in D. C. Medical Society. No.

"Sibley—Doctor. Scandiffo.

"Require membership in D. C. Medical Society. No.

"Garfield—Doctor. None.

"Require membership in D. C. Medical Society. Yes.

"Childrens—Doctor. None.

"Require membership in D. C. Medical Society. Yes."

Exhibit 324 is offered only as against the defendant Warfield.

U. S. EXHIBIT 324

"Report of the Hospital Committee submitted to the Executive Committee of the Medical Society of the District of Columbia on March 28, 1938, and to Medical Society April 6, 1938.

"The Hospital Committee has purposely avoided the submission of a list of local hospitals for approval of the Medical Society. The eleven local hospitals therefore remain approved by the Medical Society as of Nov. 4, 1936. To have attempted to re-approve these hospitals last fall or this winter would have detrimentally created conflicts between the Medical Society and some of the local hospitals because of attempted enforcement of the provisions of Chapter IX, Article IV, Section five of the Constitution of the Medical Society."

Mr. Kelleher:—The first sentence of the second paragraph, or a portion thereof, is stricken, and inserted in handwriting of defendant Warfield are certain words. I will first read the sentence as it was originally and then the sentence as changed by Dr. Warfield.

"In an effort to hinder the operation of Group Health Association, Inc. in the local private hospitals, the Medical Society adopted a resolution on Nov. 3, 1937."

The sentence as changed reads as follows:

"In an effort to maintain the high standards of practice in the local private hospitals, the Medical Society adopted a resolution on Nov. 3, 1937 directing the Hospital Committee to recommend the best way of bringing the questions involved to the attention of the Medical boards and boards of directors of the various local hospitals to insure the maximum amount of accomplishment with the minimum amount of friction and conflict. On Dec. 1, 1937 the Hospital Committee submitted a resolution, which was adopted, that the Medical Society recommend to the hospitals that they follow the recommendation of the American Medical Association, namely that each hospital appointee be a member of his or her local medical society and a member of the American Medical Association.

"On Feb. 2, 1938 the Medical Society adopted a resolution requesting, at the next stated meeting, the facts relating to the present status of Group Health physicians at the various Washington hospitals."

And the rest of the sentence is stricken. It reads as follows:

"preliminary to appropriate disciplinary action in event any hospital had ignored the Medical Society's wishes in the premises."

Mr. Kelleher:—The report then continues:

"This resolution was referred to the Executive Committee and in turn to the Hospital Committee.

"The Hospital Committee reports that, at this time, the majority of local private hospitals contain in their by-laws a provision that a physician in order to practice in the hospital must be a member or qualified for membership in his or her local Medical Society.

"Only three of the local hospitals, (Columbia, Sibley and George Washington) have not followed this recommendation of the American Medical Association.

"All of the local private hospitals are co-operating fully with the Medical Society in respect to Group Health Association, Inc. At the present time only one of the local hospitals has on its staff list the name of a physician connected with Group Health Association, Inc. This hospital does not revise its staff list annually, as do the other hospitals, but it has assured the Chairman of the Hospital Committee that steps have been taken to deny this physician hospital privileges.

"The Hospital Committee urges that the Medical Society continue their full cooperation and avoid conflict with any of the local private hospitals.

"J. Ogle Warfield Jr.
Chairman, Hospital Committee."

Mr. Kelleher:—I ask permission to pass to the jury for their inspection Exhibit 296, which is the questionnaire; 311, which is the handwritten memorandum of Dr. Warfield, and 324, which is a draft of full report.

Mr. Leahy:—I think the jury ought to be instructed by your Honor that this is simply a memorandum of Dr. Warfield's in his own handwriting; that it is only offered against him, and that there is no evidence in the world that any other defendant in this case had any knowledge of it whatsoever.

Mr. Lewin:—I am permitted to read an excerpt from Exhibit 325, which has been identified as the transcript of the record of the proceedings of the first session of the case before the Executive Committee of the Medical Society of the District of Columbia, which is entitled, "Compensation, Contract and Industrial Medicine Committee of the District of Columbia, Complainant, vs. Allan E. Lee and Mario Scandiffo, Defendants."

This session was held on Monday, Dec. 6, 1937, in the Hearing Room of the Medical Society of the District of Columbia.

"The above entitled matter came on for hearing before the Executive Committee of the Medical Society of the District of Columbia, pursuant to notice, at 8 o'clock p. m.

"Present: E. Hiram Reede (Chairman), John A. Reed, Henry R. Schreiber, Raymond T. Holden Jr., William T. Gill Jr., Thomas E. Neill, C. N. Chipman, William M. Sprigg, F. X. McGovern, H. C. Macatee, Sterling Ruffin, C. B. Conklin, and R. Arthur Hooe."

U. S. EXHIBIT 326

Mr. Lewin:—And from Exhibit 326, which is a transcript of the record of the second session, held on Dec. 10, 1937, in the Hearing Room of the Medical Society of the District of Columbia, Friday, Dec. 10, 1937:

"The hearing in the above-entitled matter before the Executive Committee of the Medical Society of the District of Columbia was resumed, pursuant to the adjournment, at 8 p. m.

"Present: E. Hiram Reede (chairman), Raymond T. Holden Jr., F. X. McGovern, Daniel L. Borden, Henry R. Schreiber, William M. Sprigg, Henry C. Macatee, R. Arthur Hooe, C. N. Chipman, John A. Reed, R. Lomax Wells, Earle G. Breeding and C. B. Conklin."

U. S. EXHIBIT 327

Mr. Lewin:—And from Exhibit 327, the transcript of the record of the third session, of that case, held in the Hearing Room of the Medical Society of the District of Columbia, on Thursday, Dec. 16, 1937:

"The hearing in the above-entitled matter before the Executive Committee of the Medical Society of the District of Columbia was resumed, pursuant to the adjournment, at 8 o'clock p. m.

"Present: E. Hiram Reede (chairman), Daniel L. Borden, C. N. Chipman, C. B. Conklin, H. A. Fowler, R. T. Holden Jr., R. Arthur Hooe, H. C. Macatee, F. X. McGovern, Thomas E. Neill, John A. Reed and Sterling Ruffin."

U. S. EXHIBIT 328

Mr. Lewin:—And from Exhibit 328, which is a transcript of the record of the fourth session of the Lee and Scandiffo trial held in the Hearing Room of the Medical Society of the District of Columbia on Monday, Dec. 20, 1937:

The above entitled matter came on for further hearing before the Executive Committee of the Medical Society of the District of Columbia, pursuant to adjournment, at 8 o'clock p. m.

"Present: E. Hiram Reede (chairman), Daniel L. Borden, C. N. Chipman, C. B. Conklin, H. A. Fowler, R. T. Holden Jr., R. Arthur Hooe, F. X. McGovern, Thomas E. Neill, John A. Reed, Sterling Ruffin and W. M. Sprigg."

Mr. Lewin:—Now, I wish to resume the reading of the minutes of the meetings of the District Medical Society of the District of Columbia. I had read up through the month of February, 1938. I will begin with March 2, 1938.

"Minutes of the stated meeting of the Medical Society of the District of Columbia, held Wednesday, March 2, 1938, at 8 p. m.

"Dr. Daniel B. Moffett, First Vice President, presiding.

"Present: Drs. Edgar M. McPeak, James A. Cannon, A. L. Staveland, Luther H. Reichelderfer, William J. Mallory, Don Johnston, Thomas C. Thompson, R. Arthur Hooe, Jerome F. Crowley, Henry A. Montat, Harry A. Spiegel, Victor B. Rensch, J. Lawn Thompson, A. Frances Foye, William Gerry Morgan, H. C. Macatee, Arch L. Riddick, John H. Trinder, Oscar B. Hunter, Thomas E. Mattingly, W. C. Gwynn, and other members to the number of about 150.

"The Minutes of the preceding meeting, held February 23, were read and approved."

We now turn to page 3:

"Dr. Sprigg read from the agenda the notice sent to all members as follows:

"Notice to all members:

"You are hereby notified that pursuant to Chapter X, Article 11, of the Constitution of the Society, the report, finding and recommendation of the Executive Committee upon the charges made in writing under date of Nov. 22, 1937, by the Compensation, Contract and Industrial Medicine Committee against Mario Scandiffo, M.D., member of the Society, specifically charging him with having violated Chapter IX, Article III, Sections 1 and 2, and Chapter IX, Article IV, Section 5, of the Constitution of the Society, will be submitted at a meeting of the Society to be held Wednesday, March 2, 1938, at 8 P. M., in the Medical Society Building, for appropriate action by the Society pursuant to its Constitution.

"Dr. Sprigg, in continuing, read the following report, finding and recommendation of the Executive Committee:

"Washington, D. C.
Feb. 21, 1938.

"The Medical Society of the District of Columbia.

"In the matter of Mario Scandiffo, M.D.

"Whereas, the Compensation, Contract and Industrial Medicine Committee, by its Chairman, R. Arthur Hooe, M.D., under date of Nov. 22, 1937, did submit in writing to the Executive Committee charges against Mario Scandiffo, M.D., a member of the Medical Society of the District of Columbia, specifically charging him with having violated Chapter IX, Article III, Sections 1 and 2, and Chapter IX, Article IV, Section 5, of the Constitution of the Society.

"And Whereas, after due notice to the said Mario Scandiffo, M.D., the Executive Committee did hold hearings at which the said Mario Scandiffo, M.D., with his counsel, did appear, did testify in his own behalf, did produce witnesses in his defense, and was accorded full and fair hearing in response to said charges; the said charges were fully and impartially investigated, and at the conclusion of the said hearings, arguments, both oral and written, were submitted by counsel for said Mario Scandiffo, M.D.

"Whereafter, all of the evidence adduced at the said hearings was duly considered by the Executive Committee, and upon consideration thereof, the said Executive Committee, by more than a two thirds vote, finds the said Mario Scandiffo, M.D., guilty of violating Chapter IX, Article III, Sections 1 and 2, and Chapter IX, Article IV, Section 5, of the Constitution of the Medical Society of the District of Columbia, as charged by the Compensation, Contract and Industrial Medicine Committee, and recommends that he be expelled from said Society.

"And it is further ordered, that the report, findings and recommendation of the Executive Committee be submitted in writing to the Medical Society of the District of Columbia at its next regular business meeting for such action as may be deemed proper pursuant to its Constitution.

"William Mercer Sprigg,
Chairman, Executive Committee.

"Dr. Sprigg made a motion to the effect that the report of the Executive Committee be received and the matter of the recommendation be brought up for action by the Society at the meeting to be held on March 16, 1938. Seconded, and finally unanimously adopted."

"Dr. R. Arthur Hooe was recognized. He stated that from time to time he and members of the Compensation, Contract and Industrial Medicine Committee, have been approached by members of the Society, stating that Dr. So-and-So is doing refraction work, performing surgical operations, or doing eye, ear and throat work for Group Health Clinic. The question is invariably asked of the committee as to what it intends to do

about it. Dr. Hooe said he, upon further inquiry of the member of the Society, is told that his information is all hearsay. Dr. Hooe urged the members to get facts and not hearsay evidence, as hearsay evidence was of no value."

The minutes are signed C. B. Conklin, Secretary.

Now I turn to:

"Minutes of the meeting of the Medical Society of the District of Columbia, held March 16, 1938, 8 P. M.

Dr. Thomas E. Neill, President, presiding.

"Present: Drs. William J. Mallory, John D. Thomas, John B. Nichols, Henry B. Gwynn, John H. Trinder, Prentiss Willson, E. Hiram Reede, H. H. Schoenfeld, E. J. Cuning, H. S. Bernton, F. X. McGovern, Thomas E. Mattingly, Grant S. Barnhart, George R. Tribble, Worth B. Daniels, Alma Jane Speer, Edmund M. Ellerson, Marvin M. McLean, Frank L. William, J. A. Murphy, and other members to the number of about 175.

"The Minutes of the preceding meetings held March 2 and March 9 were read and approved. One correction was suggested by Dr. J. H. Trinder, who stated that he did not make the motion concerning Dr. Hall's application. The minutes were approved with correction.

"The Chairman of the Executive Committee was called on for report.

"Dr. W. M. Sprigg pointed out that the recommendations of the Executive Committee were presented to the Society on March 2, 1938, are in the hands of the Secretary and they now belong to the Society.

"The Chair stated that the business to be taken up tonight had no legal aspects whatsoever. It is a question of the Society following the Constitution and By-Laws. Further, that all the newspaper notoriety did not mean a thing and had nothing to do with what the Society decides to do.

"The Chair declared the question before the house was the dismissal of Dr. Mario Scandiffo as a member of the Society.

"In the discussion, Dr. Sprigg pointed out that the report, findings and recommendation of the Executive Committee were read by the Secretary in the minutes of March 2. He thought someone might want to have then re-read.

"Motion was made that the recommendation of the Executive Committee be accepted. Seconded.

"A member of the Society would inquire who Dr. Scandiffo is and whether or not he should be here tonight to be given a proper hearing. It would seem to him to be most improper to act on this matter without the gentleman being present.

"Dr. Sprigg would call the attention of those present to the provisions of the Constitution of the Society. He would suggest that the member familiarize himself with the Constitution. He pointed out that Dr. Scandiffo had had a hearing before the Executive Committee, represented by his counsel, which hearings lasted over a period of 4 or 5 weeks. Dr. Sprigg felt the member opposing action tonight was out of order.

"Dr. F. J. Gunning thought the gentleman was perfectly proper in questioning the procedure, and agreed that Dr. Scandiffo should be present tonight. He referred to his own case, some years ago, when he was exposed to some controversy over the provisions in the Constitution. He was of the opinion that the Constitution of the Society gives the member no rights.

"Dr. J. Lawn Thompson rose to a point of order, stating that the doctor was not speaking to the question before the house.

"Motion was made that discussions be limited to two minutes each, except by vote of the Society. Seconded and adopted.

"Dr. H. H. Schoenfeld was of the opinion that the original question was not completely answered. He stated that the fact was that Dr. Scandiffo had knowledge of this meeting tonight, had received notice of the business to be considered, had the right and privilege of appearing and appealing directly to the Society if he so desired. In view of the fact that he has not taken advantage of that opportunity it was his opinion that the Society could proceed with the consideration of the subject.

"Dr. Thomas E. Mattingly was recognized. He said it might seem as though he was contradicting himself because only a few nights ago he had presented certain resolutions for consideration of the Society concerning patients of Group Health Association, Inc., being admitted to hospitals, but he would make a recommendation that Dr. Scandiffo be suspended from membership. Dr. Mattingly called attention to a radio broadcast today which told what was going to happen in the event the Society expelled the Doctor in question; also there appeared in the Star, News and Times newspaper writeups concerning the case, in other words, before the Society had taken a vote the case was tried in the newspapers.

"The Chair stated that the question before the house was the dismissal of Dr. Mario Scandiffo for violation of Chapter IX, Article III, Sections 1 and 2, and Chapter IX, Article IV, Section 5, of the Constitution of the Society. Vote was taken, and the motion was adopted by a vote of 148 to 5.

"The Chair, therefore, declared that Dr. Mario Scandiffo was no longer a member of the Society."

Mr. Kelleher:—Exhibit 147 is a carbon copy of a letter from Dr. Olin West to Dr. George Edward Follansbee, 629 Euclid Avenue, Cleveland, Ohio, dated April 21, 1938, reading as follows:

"Dear Doctor Follansbee:

"I am enclosing a telegram received this morning from Dr. A. T. Talley, Chairman of the Board of Censors, Harris County Medical Society, Houston, Texas. Doctor Talley has been informed that this telegram has been referred to you as Chairman of the Judicial Council.

"As I understand the matter, Dr. Raymond E. Selders, a member of the Harris County Medical Society, accepted a position with the Group Health Association, Inc. in Washington, D. C., a corporation

now engaged in the practice of medicine in the District of Columbia. You may recall that this corporation was financed by the Home Loan Bank Board through the Home Owners Loan Corporation and that this action was rather severely criticized by an official committee of Congress.

"We were definitely informed that the United States District Attorney for the District of Columbia has ruled that the Home Loan Bank Board had no legal authority for providing funds for the support of the Group Health Association, Inc., that official rulings have been issued by duly constituted authorities in Washington to the effect that corporations cannot legally engage in the practice of medicine, and that the Group Health Association, Inc., is operating in violation of the insurance laws of the District of Columbia.

"The Medical Society of the District of Columbia has, as I understand it, expelled one member who accepted employment with the Group Health Association, Inc., and this action has created a great storm in Washington, which has been widely and persistently heralded in the local press. As stated in Doctor Talley's telegram, charges have been preferred against Doctor Selders, a member of the Harris County Medical Society, and apparently the board of censors of that society is undecided as to what should be done. It seems to me that the first thing the board of censors should do is to take the matter up with the council of the State Medical Association of Texas, but apparently the members of the board of censors feel that, as Doctor Selders is acting as an agent of the Group Health Association, Inc., outside of Texas, the matter is one for determination by the Judicial Council of the American Medical Association.

"Very sincerely yours,

"Dr. West.

Mr. Lewin:—

"Minutes of the regular meeting of the Executive Committee of the Medical Society of the District of Columbia, held Monday, March 28, 1938, 8 p. m.

"Dr. William Mercer Sprigg, Chairman, presiding.

"Present: Drs. S. A. Alexander, C. N. Chipman, William T. Gill Jr., A. C. Gray, Raymond T. Holden, R. Arthur Hooe, F. X. McGovern, John P. H. Murphy, Thomas E. Neill, John A. Reed, E. Hiram Reede, Joseph E. Wall, C. B. Conklin.

"The minutes of the preceding meeting, held March 21, 1938, were read.

"Dr. J. Ogle Warfield Jr., Chairman of the Hospital Committee, made a report relative to the first resolution that had been proposed by Dr. Thomas E. Mattingly, namely:

Mr. Lewin:—I am a little bit in a quandary as to what to do about this. This is offered as to all the defendants against whom there is a prima facie case. It is identical with the exhibit already shown to the jury, with the exception of the changes in ink. Do you think I had better read it? I want to be fair.

Mr. Richardson:—It has just been read five minutes ago.

Mr. Leahy:—It is all right to read it.

Mr. Kelleher:—Mr. Leahy wants it read.

THE COURT:—There is no point in taking the time unless it will serve some purpose.

Mr. Kelleher:—Mr. Leahy wants it read.

Mr. Lewin:—I will read it.

"Dr. J. Ogle Warfield Jr., Chairman of the Hospital Committee, made a report relative to the first resolution that had been proposed by Dr. Thomas E. Mattingly, namely:

"That the proper agency of the Medical Society be instructed to present at our next stated meeting the facts relating to the present status of Group Health physicians at the various Washington Hospitals preliminary to appropriate disciplinary action, in event any hospital has ignored the Medical Society's wishes in the premises.

"With slight changes which pertained to paragraph 2 and paragraph 3, the report was accepted, as follows:

"The Hospital Committee has purposely avoided the submission of a list of local hospitals for approval of the Medical Society. The eleven local hospitals therefore remain approved by the Medical Society as of Nov. 4, 1936. To have attempted to reapprove these hospitals last fall or this winter would have detrimentally created conflicts between the Medical Society and some of the local hospitals because of attempted enforcement of the provisions of Chapter IX, Article IV, Section 5 of the Constitution of the Medical Society.

"In an effort to maintain high standards of practice in the local private hospitals, the Medical Society adopted a resolution on Nov. 5, 1937, directing the Hospital Committee to recommend the best way of bringing the questions involved to the attention of the medical boards and boards of directors of the various local hospitals to insure the maximum amount of accomplishment with the minimum amount of friction and conflict. On Dec. 1, 1937, the Hospital Committee submitted a resolution, which was adopted, that the Medical Society recommend to the hospitals that they follow the recommendation of the American Medical Association, namely, that each hospital appointee be a member of his or her local medical society and a member of the American Medical Association.

"On February 2, 1938, the Medical Society adopted a resolution requesting, at the next stated meeting, the facts relating to the present status of Group Health physicians at the various Washington hospitals.

"The Hospital Committee reports that, at this time, the majority of local private hospitals contain in their by-laws a provision that a physician in order to practice in the hospital must be a member or qualified for membership in his or her local Medical Society.

"Only three of the local hospitals (Columbia, Sibley and George Washington University) have not followed this recommendation of the American Medical Association.

"All of the local private hospitals are cooperating fully with the Medical Society in respect to Group Health Association, Inc. At the present time only one of the local hospitals has on its staff list the name of a physician connected with Group Health Association, Inc. This hospital does not revise its staff list annually, as do the other hospitals, but it has assured the Chairman of the Hospital Committee that steps have been taken to deny this physician hospital privileges.

"The Hospital Committee urges that the Medical Society continue their full cooperation and avoid conflict with any of the local private hospitals.

"J. Ogle Warfield Jr.
"Chairman, Hospital Committee."

"Relative to Resolution No. 2 offered by Dr. Thomas E. Mattingly, as follows:

"That the proper agency of the Society take immediate measures to ascertain if any member or members of the Society are party to secret understandings and unethical arrangements with Group Health Association, Inc., whereby Group Health patients are admitted to Washington hospitals and treated under the service or supervision of Medical Society members possessing hospital privileges."

"Dr. Hooe, reporting for the Compensation, Contract and Industrial Medicine Committee, to which the resolution had been referred, stated that he considered the resolution to be ambiguous and further that he did not believe it was in the province of his committee to make investigations or report except upon authentic information received from members.

"A motion was made, which was seconded, to lay this whole matter on the table. Adopted.

"Dr. Hooe, in continuing, stated that a member came to him and stated that he had received a check for \$16 from the Group Health Association. He asked Dr. Hooe whether he should accept it. This was but one of many similar cases. Dr. Hooe, after deliberating, informed the member that it was all right for him to take the \$16 check and have it cashed in view of there being nothing to indicate that the doctor had been in consultation with Group Health Association employees and that the patient was to all intents and purposes a private case, although paid for by the Group Health Association.

"A member present stated that the Group Health Association had claimed to have paid over \$3,000 in checks in this way."

Those minutes are signed by C. B. Conklin, Secretary.

TESTIMONY OF DR. J. LAWN THOMPSON

DIRECT EXAMINATION

Mr. Kelleher:—

J. Lawn Thompson identified Exhibit 439, a letter from him to Dr. R. Arthur Hooe dated Aug. 16, 1937.

Mr. Lewin:—I will read from the minutes of the Special Meeting of the Executive Committee of the Medical Society of the District of Columbia, held March 29, 1938, at 8 p. m.:

"Dr. William Mercer Sprigg, Chairman, presiding.

"Present: Drs. A. B. Bennett, Daniel L. Borden, C. N. Chipman, Harry A. Fowler, William T. Gill Jr., Raymond T. Holden, R. Arthur Hooe, H. C. Macatee, F. X. McGovern, J. P. H. Mercier, Thomas E. Neill, John A. Reed, H. R. Schreiber, Joseph S. Wall, R. Lomax Wells, C. B. Conklin. In addition there were present Drs. J. Russell Verbruycke Jr., Mr. Charles S. Baker and Mr. F. A. Fenning, by invitation.

"The Chair stated that should anyone like to hear a re-reading of the minutes of the meeting held March 21, 1938, the minutes would be re-read. No one seemed to wish this done. The minutes were not re-read.

"Mr. Fenning was recognized. He stated that the Group Health Association, among other things, had a drug store where, he was informed, prices were about one third that of Peoples Drug Stores.

"It was thought by many present that if Peoples Drug Stores authorities, Mr. Gibbs in particular, were notified some action might be taken.

"Dr. H. A. Fowler stated that he was sure that he could make contact with Mr. Gibbs and that he could have some influence with him."

The minutes are signed "C. B. Conklin, Secretary."

I will now read from the minutes of the business meeting of the Medical Society of the District of Columbia held April 6, 1938, at 8 p. m.:

"Dr. Thomas E. Neill, President, presiding.

"Present: Drs. A. L. Staveley, James M. Moser, Charles W. Hyde, James A. Gannon, C. N. Chipman, Thomas E. Mattingly, J. Ogle Warfield Jr., J. Lawn Thompson, Frank D. Costenbader, Charles S. White, Jerome F. Crowley, Marvin M. McLean, Charles P. Cake, J. Russell Verbruycke Jr., Lyle M. Mason, Earl R. Templeton, V. R. Alfaro, Sterling Ruffin, William P. Herbst Jr., John H. Trinder, John A. Reed, and other members to the number of about 85.

"The Chair appointed Dr. E. Hiram Reede to act as Secretary in the absence of Dr. C. B. Conklin, who was attending a convention in New York City.

"The minutes of the preceding meetings of the Society, held March 23 and March 30, were read and approved."

"Dr. John H. Trinder made a motion that the Society go into executive session and that Dr. W. C. Woodward and the Public Relations Counsel, Mr. Fulton Lewis Jr., be allowed to remain. Seconded and adopted.

"The Chair appointed Dr. Benjamin F. Dean to act as Sergeant-at-Arms.

"Dr. J. Ogle Warfield Jr., Chairman of the Hospital Committee, read the following report:—

I will not read that again, your Honor. That is the same report, this time being made to the Medical Society. I read the one made to the Executive Committee:

"Upon motion, duly seconded, the report of the Hospital Committee was adopted."

The minutes are signed by C. B. Conklin, Secretary, and D. E. Everett, underneath.

Mr. Leahy:—Will you read from the bottom of page 6 and at the top of page 7? It is only about 7 or 8 lines, right after "Upon motion, duly seconded, the report of the Hospital Committee was adopted."

Mr. Lewin:

"Dr. Marvin M. McLean would inquire if there was not a provision in the Constitution which requires the Hospital Committee to annually approve the various hospitals.

"The President stated that there was no such thing in the Constitution.

"Dr. Sprigg expressed the opinion that it should be clear that the hospitals have a perfect right to decide who should practice in their institutions. The courtesy staff has to be revised every year. One of the hospitals has had members of the profession on its staff for years even though they have not been members of the Society."

Mr. Lewin:—The minutes are signed by C. B. Conklin.

TESTIMONY OF MARY G. THORNHILL

DIRECT EXAMINATION

By Mr. Kelleher:

Mary G. Thornhill said she is employed by Dr. Warren Sager as technician. She identified exhibits bearing Dr. Sager's signature.

Mr. Kelleher:—We now desire to offer in evidence Exhibit 439, which is a letter of Dr. J. Lawn Thompson to the defendant Hooe, the handwritten notation on the bottom of Exhibit 313 which has now been identified as bearing the signature of Dr. Sager, and the questionnaire from George Washington Hospital which has been identified as bearing the signature of the defendant Sager. I offer in evidence Exhibit 440 which appears to be an original letter from Sister M. Rodriguez to Dr. C. B. Conklin, dated Dec. 7, 1937.

(Here followed discussion over identification of documents.)

Mr. Kelleher:—May I also offer in evidence Exhibit 441 for identification, which appears to be a letter from Dr. J. Russell Verbruycke to Dr. William C. Woodward, dated May 29, 1937. The document which I am offering has been produced by the American Medical Association in response to a subpoena served upon them. I respectfully ask the court to compare that signature of Dr. Verbruycke with Exhibit 11 which has been identified as bearing his signature.

I also offer in evidence at this time Exhibit 442 for identification, which purports to be a letter from Dr. Conklin to the Chief of Staff of the Episcopal Eye, Ear and Throat Hospital, enclosing resolutions of Dec. 1, 1937, of the District Medical Society. Exhibit 442 and the enclosure were produced by the Episcopal Eye, Ear and Throat Hospital.

(Here followed extended discussion over admissibility of certain documents.)

Mr. Kelleher:—I would like to read this reply, the handwritten notation on the bottom of Exhibit 313, which is as follows:

"The surgeon for H. O. L. C. has been rejected. No other application has been received."

That is signed by Dr. Sager.

Mr. Kelleher:—Exhibits 305 and 306 comprise the questionnaire from George Washington University Hospital, signed by W. Warren Sager.

Mr. Kelleher:—Exhibit 305 is as follows:

QUESTIONNAIRE

1. What communication or inquiry has your hospital had from Group Health Association, Inc.?
 - Request for hospital privileges for Dr. Selders.
 2. What reply has your hospital made to Group Health Association, Inc.?
- Application has been referred to the Staff and the Committee on Hospital Privileges for action.

3. Which, if any of the following Doctors are now members of your Medical Staff in any capacity or have privileges to practice in your hospital?

Dr. Henry Rolf Brown
Dr. Allan E. Lee
Dr. Mario Scandiffo
Dr. R. Stephen Hulburt
Dr. Raymond E. Selders
Dr. Edmond D. Wells

None.

4. Is your hospital in sympathy with the policies of The Medical Society of D. C.?

Yes.

5. Is the entire medical staff of your hospital reappointed annually?

Yes.

6. Are appointments to the medical staff of your hospital approved by the Medical Staff?

Yes.

7. What governing body of your hospital finally makes appointments to the medical staff?

Medical Staff.

8. Does your hospital require membership in The Medical Soc. of D. C.?

No.

9. Does your hospital require membership in The Medical Soc. of D. C. as a qualification for appointment to its medical staff?

No.

10. What percentage of the entire medical staff of your hospital are members of The Medical Society of D. C.?

289 members of D. C. Med. Society 33 not members.

11. Does your hospital require membership in the A. M. A. as a qualification for appointment to its medical staff?

No.

12. What percentage of the entire medical staff of your hospital are members of the A. M. A.?

Yes.

13. Is your hospital a beneficiary of Community Chest funds?

Yes.

14. Will you kindly make any other inquiry that you think might be pertinent at this time?

W. Warren Sager."

TESTIMONY OF DR. FREDERICK C. FISHBACK DIRECT EXAMINATION

By Mr. Kelleher:

Frederick Coleman Fishback was secretary of the Washington Academy of Surgery from April 1936 to April 1937. It may have been 1937 to 1938. He identified the roster of the members of the Academy in 1934, 1935, 1936, 1937, 1938 and 1940. Many of the names were read.

He said he wrote up the minutes of the Academy and identified them.

By Mr. Kelleher:

Q.—I show you Exhibit 445 for identification and ask you if that is a carbon copy of a letter which you wrote to the Superintendent of George Washington University Hospital on Dec. 8, 1937?

A.—I think it is. It looks like my typing.

Q.—I show you Exhibit 446 for identification and ask you whether that is a carbon copy of a letter written by you, dated Dec. 9, 1937, and addressed "Dear John."

A.—I think it is.

Q.—Who was "John"?

A.—Dr. John Lyons.

Q.—Was he on the Committee on Hospital Privileges?

A.—Yes.

He also identified letters to Col. P. M. Ashburn, Columbia Hospital, to Providence Hospital and to Dr. Hooe, dated Jan. 31, 1938; also to Garfield Memorial Hospital.

CROSS EXAMINATION

By Mr. Leahy:

Q.—What is the Washington Academy of Surgery?

A.—It is—

Mr. Kelleher:—I think we might just as well stop this now, if your Honor please. While we do not object to the witness telling us, we know that it is going to lead to something else. I asked this witness only for the identification of documents and letters which he wrote, and the membership of the Academy. I think counsel for the defense should be confined in their cross examination to those matters.

Mr. Leahy:—I do not think I can be confined so narrowly as that. This man is placed before the jury as Secretary of the Washington Academy of Surgery. We have a right to let the jury know who he is and what the organization is of which he is secretary.

THE COURT:—I think in a general way that you can, but I would not let it go too far.

Mr. Leahy:—I am not going far into it, but I think we have a right to know about the organization of which he is secretary and why they put him on the stand.

THE COURT:—You may inquire.

By Mr. Leahy:

Q.—What is the Washington Academy of Surgery, Doctor?

A.—It is a scientific society made up of men here in Washington doing general surgery. It meets four times a year.

Q.—The annual meeting, I think you said, was some time in April of each year?

A.—Yes.

Q.—And your duties as secretary were what?

A.—The duties of the secretary are to record the minutes of meetings, get out notices of the meetings, and take care of—three of the meetings are dinner meetings held in a hotel or club, and the fourth meeting, which is also a scientific meeting, is held at the Society's building.

Q.—Did you personally jot down the minutes?

A.—I personally did.

Q.—Are you a stenographer?

A.—No; I am not.

Q.—When you took the minutes you jotted down the substance of what you thought had occurred?

A.—Yes.

Q.—And then were those minutes submitted for approval at any time?

A.—They were submitted at the next meeting, although they were frequently not read.

Q.—As I understand it, then, Doctor, when you would attend one of these meetings— By the way: how many would be present on an average? Or can you average that?

A.—I would say the average would run—it is hard to say the average, but somewhere between 45 and 50.

Q.—How big was the membership back in 1937 and 1938, April to April?

A.—About 42 or 44, all of whom would never come. There were usually 15 or 20 guests. Perhaps 25 or 30 members were present and probably 20 guests.

Q.—Is it not safe to say that the Washington Academy of Surgery was composed of the prominent general practitioners of the profession, but especially in surgery, in the District of Columbia?

A.—Every one who pretended to confine their practice to surgery belonged, provided they had been out of medical school a certain number of years.

Q.—And you did the best you could to jot down what you thought was the substance of what everybody said at the business meetings?

A.—Yes.

Q.—And you would take down in substance the subject matter of the papers of a scientific character which were read and discussed?

A.—Yes.

Q.—That is the reason, or one of the reasons, you got together to discuss these various scientific papers which were read by members?

A.—That was the prime purpose.

Q.—That was the prime purpose and object of the society, was it?

A.—Yes.

Q.—And then several letters or carbon copies of letters were submitted to you which you stated you sent out to various hospitals?

A.—Being the secretary, I would have applications sent to me from the various hospitals, applications of men wishing privileges in surgery, some in gynecology and some in major and minor surgery. Those which had to do with general surgery, in contrast with gynecology or orthopedic surgery, were sent to the Credentials Committee, an advisory committee. As a matter of simplification they were sent to me, and I think Dr. Lyons was secretary of the Credentials Committee, and I would forward the whole bunch with a letter of transmittal to him. Eventually they would come back and I would write a letter of transmittal to the superintendent of the hospital.

Q.—You were not on this Credentials Committee?

A.—No.

Q.—Let me see if I understand you. If some one made an application to a Washington hospital for the privilege of practice—

Mr. Levin:—We object to this, if your Honor please. There is no need to go over this again. It is beyond the scope of the direct examination, and Mr. Leahy is now going to testify to the jury.

Mr. Leahy:—No, I am not.

THE COURT:—Have those letters been offered in evidence?

Mr. Lewin:—No, they have not.

Mr. Leahy:—They are going to be offered after the Doctor is off the stand and I can't talk to him.

Mr. Lewin:—You know that that is improper. You can call him back any time you want to in your own case.

Mr. Leahy:—I do not need to call him back in my case when he is here in your case.

Mr. Lewin:—I know what you want to do: you want to cross examine this man—

Mr. Leahy:—If your Honor please, I am trying to cross examine him on—

THE COURT:—If any further testimony is needed in explanation of these letters, as a matter of expediting the case, would it not be well to get that now?

Mr. Lewin:—He is talking about applications made to hospitals and how they came to him, and all that sort of thing.

Mr. Leahy:—That is what those letters are about.

Mr. Lewin:—These are the only ones he has testified about, and they have not been put in evidence.

Mr. Kelleher:—All we have had him do was to identify them as having been written by him.

THE COURT:—I do not assume that you had them authenticated for nothing.

Mr. Lewin:—We want to offer them. There is no question about that.

Mr. Kelleher:—If they want to put him on the stand and get the subject matter of these letters they are entitled to do that in their case. It is precisely the situation that arose the other day when we discussed the matter of authenticating signatures of letters.

Mr. Leahy:—When a signature is authenticated it is authenticated not for the signature but for the contents above the signature; and when they offered to this gentleman letters which your Honor now has in your hand, referring to applications for practice in hospitals, they are to be identified by him not for the purpose of saying, "Yes, I remember writing such a letter or sending the original of that copy"; they are to be identified for the contents, and then they want to read the contents.

Mr. Lewin:—The question I objected to was not directed to any application.

THE COURT:—I think the question went too far. I will sustain the objection.

Mr. Leahy:—It is so far back now that I have forgotten the question.

THE COURT:—Ask another question, then.

Mr. Leahy:—All right, your Honor.

By Mr. Leahy:

Q:—Now, Doctor, to be specific I am just going to hand you the same documents that you identified earlier. These are the minutes of the regular meeting which was held at the Cosmos Club on Friday, Dec. 10, 1937, and you took those down personally, did you not?

A:—Yes, sir.

Q:—Did you write out pencil notes of them?

Mr. Lewin:—That has already been testified to. We object to that. He has given the same answer before.

THE COURT:—It may be repetition.

Mr. Lewin:—I object to that.

THE COURT:—It has been answered, and I suggest that counsel do not repeat.

Mr. Leahy:—That is what counsel says, but it was not. Nobody has yet said that he took pencil notes and later on transcribed them.

THE COURT:—Put your next question.

By Mr. Leahy:

Q:—After you had taken the pencil notes of the minutes of the meeting at the time the meeting occurred, how long after that did you transcribe them?

A:—Probably the next day, but I am not sure.

Q:—Did you personally transcribe them, or did you dictate them to your stenographer?

Mr. Lewin:—I object to that. It has already been testified to.

THE COURT:—I do not think so. He may answer.

A:—I actually typed those myself.

Mr. Lewin:—He so testified.

Mr. Richardson:—Now you are testifying.

THE COURT:—Let us get along, gentlemen. This is just delaying matters. I have ruled upon it. After I rule, it is better for counsel not to make comments. Whether my rulings are right or wrong I do insist that they be accepted and respected.

By Mr. Leahy:

Q:—I am showing you a series of carbon copies, 447, 448, 449 and 450 marked for identification. These went through your hands, did they?

A:—Yes, sir.

Q:—Did the subject matter contained on a single one of the originals of which these are copies come to your personal consideration for decision?

Mr. Lewin:—We object to that, if your Honor please. It has already been testified to. He told us exactly how he got them up.

THE COURT:—I do not remember.

Mr. Leahy:—I do not, either, your Honor.

THE COURT:—I am sorry, but I do not remember. Let him answer.

The Witness:—Will you read the question?

(The pending question was read by the reporter as above recorded.)

A:—No.

By Mr. Leahy:

Q:—When you wrote the originals of each one of these carbons did you write those originals as the secretary at the direction of some other committee of your society?

Mr. Lewin:—I object. That has already been testified to. He said he got this information from the Lyons committee, and he made up these letters as the result of that and sent them out. He gave that to us fully.

THE COURT:—Maybe he did. I do not recall it. I might not have been listening carefully enough.

Mr. Leahy:—I think counsel must be confusing what he has gotten from another source.

THE COURT:—It is not clear to me, and I would like to get it clear.

A:—I was simply a transmitting officer; that is all.

By Mr. Leahy:

Q:—Let me ask you this. Behind these letters, the originals of which you typed and of which these are the carbons that I now hold in my hand, from 447 to 450, are there other records of this Society showing the information upon which is based the information contained in these letters?

A:—Not in the possession of the Society.

Q:—Where is it?

A:—In the possession of the hospitals. These applications were sent to me and were in turn by me forwarded to the Credentials Committee who passed on them or not as they saw fit. They were returned to me with this letter of transmission. They are in most instances application blanks and were sent back to the hospital. At least I never had permanent possession of them.

Q:—Was the Committee on Hospital Privileges a committee of your organization?

A:—Yes.

Q:—Did that committee in your organization retain records of its action?

A:—I can't answer that question. I have never been on it.

Q:—As secretary of the association you have never seen any records?

A:—No; I have never seen those records.

Q:—Before you wrote the originals of these letters, copies of which I have in my hand, you received some kind of authorization, you stated, from the Committee on Hospital Privileges?

A:—Yes.

Q:—Was that in writing or oral?

A:—It was in writing, and it is probably in the file.

Q:—In the files of your society?

A:—Of the Society; yes. It is perfectly obvious that I can not remember a letter like that (indicating). I simply dictate the letter as I get it from Dr. Lyons.

Q:—Did he head up the committee?

A:—Yes, sir.

Q:—So that back of these records there are other letters in the files?

Mr. Lewin:—He says he thinks so.

A:—The authorization was in writing.

Mr. Lewin:—You have already testified to that.

The Witness:—So far as I know, it is in the files of the Society. These letters were sent on to the hospital superintendents.

Q:—And that would be the only authorization you would have to write those letters you have just mentioned?

A:—Yes.

Mr. Lewin:—We have had this at least four times, and I object to it.

THE COURT:—Yes. I think it is perfectly clear. Is that all, Mr. Leahy?

Mr. Leahy:—Thank you, your Honor; yes, sir.

(The witness left the stand.)

Mr. Kelleher:—If your Honor please, we now offer in evidence Exhibits 447, 448, 449, 450, 445, 446 and 444. Those are all of the documents which Dr. Fishback identified.

Mr. Leahy:—There is no special objection to 444, 447, 448, 449 and 450. I cannot see any materiality in 445 and 446.

THE COURT:—Pass them up.

FEBRUARY 26—AFTERNOON

TESTIMONY OF JOSEPH F. RANDALL

DIRECT EXAMINATION

By Mr. Lewin:

A.—Joseph F. Randall stated he was with the National Homeopathic Hospital as a member of the board and was president from 1936 to 1938. The hospital is about 55 years old. It is located at Second and N streets, Northwest, and they do a general hospital business. It takes care of about seventy patients.

J. B. Gregg Custis, chief of the medical staff, also a member of the board of trustees, identified a roster of the physicians who were on the staff of the National Homeopathic Hospital in 1937 and 1938.

(Mr. Leahy objected.)

THE COURT:—The objection is sustained until it is properly identified. The mere fact that a document is procured under a subpoena does not make it admissible.

By Mr. Lewin:

Q.—Would you take this roster and testify to the jury the names of the doctors whom you can recall as being attached to the staffs of the National Homeopathic Hospital during those years; read off the ones who are really the most active.

A.—I would say the most active were Dr. Custis, Dr. Davidson, Dr. Sappington, Dr. Shearer, Dr. Cajigas, Dr. Warner, Dr. Swormstedt, Dr. Birdsall, Dr. Leadbetter, Dr. Cox, Dr. Roger O'Donnell—that is about all I know.

Q.—While you were president was it customary for you each year to have the accounts of the National Homeopathic Hospital audited by an independent firm of certified public accountants?

A.—Yes, Mr. Ball took care of that.

Q.—The firm of Ball, Blum & Company?

A.—Yes.

Q.—And did that firm, in response to your request, furnish this report for the year ending Dec. 31, 1937, which I now hand you?

A.—This looks like their report.

There was considerable discussion over the admission of the audit.

Mr. Lewin.—Will your Honor reserve your ruling on that?

THE COURT.—Yes.

By Mr. Lewin:

Q.—Colonel Randall, did you have occasion to attend a large meeting held Oct. 30, 1937, at which Group Health Association project was the subject matter?

A.—Yes, I did.

Q.—Where was that held?

A.—The Mayflower Hotel.

Q.—And how did you happen to go to that?

A.—I received an invitation from the president of Group Health Association, Mr. Penniman.

Q.—Is that Mr. William F. Penniman?

A.—Yes. Mr. Penniman and I talked about it, and I talked to several other of the hospital presidents; asked them if they had been invited. They said, "Yes."

Q.—As a result of the invitation, you went?

A.—Yes.

Q.—Was it a banquet?

A.—Yes.

Q.—Do you know who spoke at the banquet?

Mr. Leahy.—I object to it; it is entirely immaterial who spoke at the banquet.

Mr. Lewin.—I want to identify the meeting.

Mr. Leahy.—It has been identified as having occurred at the Mayflower Hotel on Oct. 30, 1937.

THE COURT.—Yes, I don't think that is material. Will you step up here.

(Thereupon counsel approached the bench and conferred with the Court out of hearing of the jury.)

By Mr. Lewin:

Q.—Now, after the banquet was over, did you have occasion to talk with Mr. Penniman, the president of Group Health Association?

A.—Yes.

Q.—What was the subject matter of the conversation, without telling what the conversation was?

Mr. Leahy.—Objected to; hearsay.

THE COURT.—There is nothing apparent yet that would indicate its materiality. Will you come up to the bench, please.

(Counsel thereupon approached the bench and conferred with the Court out of hearing of the jury.)

By Mr. Lewin:

Q.—Now, at the time you had this conversation with Mr. Penniman, were you desirous of getting Group Health business for your hospital, the National Homeopathic?

A.—Yes. After I attended this meeting and saw what was going on I thought it was a pretty good thing, and asked Mr. Penniman—

Mr. Leahy.—Objected to.

By Mr. Lewin:

Q.—Did you so express yourself to Mr. Penniman?

Mr. Leahy.—The same objection.

THE COURT.—He cannot go into the details, but he may show by him whether or not he did express this desire, without going into any details of the conversation.

By Mr. Lewin:

Q.—Don't tell me Mr. Penniman's reply. Tell me whether you expressed that desire on your part to have Group Health patients for your hospital to Mr. Penniman.

A.—Well, it was this way. He—

Mr. Leahy.—You can answer that yes or no, please.

THE COURT.—Merely yes or no.

The Witness.—Yes.

By Mr. Lewin:

Q.—Now, give us as near as you can recall what was said by you.

Mr. Leahy.—I still object to this testimony. It is hearsay.

Mr. Lewin.—I am not asking what Penniman said.

THE COURT.—Confine yourself to what you said.

A.—I told Mr. Penniman we would like to have some of his business at the National Homeopathic, as I thought they were going to have some patients that would need hospitalization, and when the concern could pay cash we would be glad to have them at our regular prices.

By Mr. Lewin:

Q.—Did you a few days later have occasion to go to the Group Health Clinic?

A.—I visited their clinic on I Street, yes.

Q.—Tell us the circumstances of how you went there. Were you invited?

A.—At the meeting that night they invited us to come down to the clinic on I Street. I couldn't do it that day. I went a few days later. I met some of the doctors there. I think Dr. Brown.

Q.—Is that Dr. Henry Ralph Brown, the Medical Director?

A.—Yes, the head of the clinic. He showed me through. It looked like a wonderful place.

Q.—You were favorably impressed with it?

Mr. Leahy.—Objected to as immaterial.

THE COURT.—Sustained.

By Mr. Lewin:

Q.—How did its facilities and equipment compare with the facilities and equipment of other hospitals in the vicinity?

Mr. Leahy.—Objected to. Immaterial.

THE COURT.—Sustained.

By Mr. Lewin:

Q.—Did you after that, to wit, on Nov. 4, 1937, have occasion to attend a meeting of the board of trustees of National Homeopathic Hospital?

A.—Yes, I presided at that meeting.

Q.—Was the defendant J. B. Gregg Custis there?

A.—Yes.

Q.—Did you have any conversation with the board of trustees there with reference to Group Health Association?

A.—When the matter was brought up I talked about it, yes.

Q.—What did you tell the board?

A.—Well, the matter was brought up regarding the change in our requirement for members of our staffs.

Q.—Up to that time what had been the requirements of National Homeopathic for members of your staffs?

A.—Well, they had to be a graduate of a recognized medical school and a member of a medical society, and they had to have a couple of years' practice.

Q.—Did you require membership in the District Medical Society or American Medical Association as a prerequisite for granting medical staff privileges?

A.—No specific organization. It might have been any medical society, either home town or in any place.

Q.—Then what transpired with reference to Group Health in this meeting of November 4?

Mr. Leahy.—This is only against Dr. Custis?

Mr. Lewin.—Yes.

By Mr. Lewin:

Q.—What was the conversation that took place at that meeting of November 4 by the board of trustees with respect to Group Health Association?

A.—Well, I suppose, without mentioning Group Health Association specifically, what was brought up at that time was the change in our requirements for admission to the staffs.

Q.—Who brought it up?

A.—Dr. Custis.

Q.—What did he say?

A.—He said that the Society was going—or I am not sure whether they were going to or had made changes in their regulations, and required all their doctors—the doctors of the local society—to be members of the boards of hospitals; to have on their staffs only members of the local association.

Q.—Did he say what, if anything, would happen if you didn't comply with that request for a change in the requirements?

A.—I believe he offered a resolution for a change in our requirements at that time; stated it was necessary it be passed; otherwise most of the staffs would have to quit.

Q.—Did you, that fall, adopt that rule for the first time?

A.—Yes, we made the change.

Q.—What was the reason for making the change?

A.—The majority of the board voted for it, for the amendment offered by Dr. Custis.

Q.—Did the statement of Dr. Custis that unless the change was made the staff would have to quit affect the decision of the board?

Mr. Leahy.—Objected to as leading; highly argumentative.

THE COURT.—Sustained.

By Mr. Lewin:

Q.—What was it that induced the action of the board to change your rules?

A.—I don't know. I voted against the resolution. I don't know what effect it had on the board, but they voted against it.

Q.—You mean in favor of it?

A.—They put it through; they voted against me; there were two of us voted against it.

Q.—Who was the secretary of the board of trustees?

A.—Mrs. Thompson.

Q.—Do you know her handwriting and signature?

A.—Yes.

Q.—I show you what purports to be the minutes of that meeting, and ask you whether those are signed by Doris W. Thompson, Secretary.

A.—Yes, that is her signature.

Mr. Lewin.—I offer the minutes—that portion of these minutes which deals with Group Health—in evidence.

THE COURT.—You mean at that particular meeting?

Mr. Lewin.—Yes. Do you object to it?

Mr. Leahy.—Yes, your Honor.

THE COURT.—Will you gentlemen step up here?

(Thereupon counsel approached the bench and conferred with the Court out of hearing of the jury.)

Here came extended discussion over the admission of the minutes.

By Mr. Lewin:

Q.—Colonel Randall, do you recognize this book which I showed you a minute ago as the official minute book of the board of trustees of the National Homeopathic Hospital for the year 1937?

A.—That is the book.

Q.—That is the book. Now, did the board of trustees have a secretary?

A.—Yes; Mrs. Thompson.

Q.—That is Mrs. Doris W. Thompson?

A.—Yes.

Q.—What were her duties in connection with the meetings of the board of trustees?

A.—She kept a record; she sent out the notices to the different members of the board; kept a record of the meeting.

Q.—And was that in the usual course of the business of the board of trustees for her to take down these minutes?

A.—Yes.

Q.—I have shown you what purports to be minutes of this meeting, and I think you have already testified those are the minutes of that meeting.

A.—I didn't read it. I looked at Mrs. Thompson's signature and it looks like her signature.

Q.—Will you look it over and tell us whether those are the minutes which Mrs. Thompson took of that meeting?

A.—It is hard for me to read this writing.

Q.—That is all right. Take your time. I am not asking you about the substance of what is recorded there. I simply want to know whether those are the minutes taken of that meeting, by Mrs. Thompson.

A.—Well, that is several years ago, but it sounds very much like it.

Q.—You would be willing to testify that Mrs. Thompson took those minutes in the ordinary course of business; that is her handwriting, and that is her signature?

A.—That is the only way she could get them, as secretary of the board. I don't know whether she writes shorthand. That is the only way she could get it.

Mr. Lewin.—Now, your Honor, have I complied with the statute? I offer it in evidence.

THE COURT.—Any objection?

Mr. Leahy.—No special objection.

(Minute Book of Board of Trustees, National Homeopathic Hospital, showing minutes of meeting of Nov. 4, 1937, was marked U. S. 453 and received in evidence.)

Mr. Lewin.—“Nov. 4, 1937.

“A meeting of the Board of Trustees of the National Homeopathic Hospital was held at the hospital at 12 noon, Nov. 4, 1937.

“Present: Colonel Randall, Presiding; Mrs. Dodge; Mrs. Zoller; Mr. Lauris McLachlen; Mr. Brown; Dr. Custis; Mr. Doing; Mr. and Mrs. Ross Thompson.”

Now I am going to omit a portion of what is written here.

“Colonel Randall told of having attended a meeting to discuss a proposed clinic for the H. O. L. C. Sponsors of this clinic wanted to know if it would be possible to send patients to our hospital and have their doctors attend the patients. The board held open discussion on the subject and decided that as long as this clinic is not accepted by the District Medical Society that we cannot recognize it. They pay the doctors salaries, charge monthly fees, do no charity work, and the men on their medical staff are not recognized by the District Medical Society. They want the hospitals to accept patients at the prevailing rates. If at a later date the District Medical Society accepts and approves this clinic, the board of trustees will consider the plan.

“Doris W. Thompson, Secretary.”

By Mr. Lewin:

Q.—Now, Colonel Randall, I wonder if you will tell the jury who it was in that open discussion referred to that moved that as long as the clinic is not accepted by the District Medical Society “we cannot recognize it.”

A.—That was Dr. Custis.

Q.—Who was it that made this statement in that discussion: “They (referring to Group Health) pay the doctors salaries, charge monthly fees, do no charity work, and the men on their medical staff are not recognized by the District Medical Society”?

A.—I am not sure about that. That might be Mrs. Thompson's idea of what transpired at the meeting.

Q.—Now, I show you what purports to be the minutes of a meeting of the board of trustees of the National Homeopathic Hospital, held Dec. 30, 1937; also this notation:

“Original minutes taken out of minute book” in the front of it, and ask you whether that is Mrs. Thompson's signature, as secretary, at the end of those minutes.

A.—Yes.

The witness identified further minutes.

U. S. EXHIBIT 454

“Dec. 30, 1937.

“A meeting of the Board of Trustees of the National Homeopathic Hospital was held at 12 noon, Dec. 30, 1937 at the Hospital. Present: Col. Randall, presiding; Mrs. Dodge; Dr. Custis; Mr. McRae; Mr. Brown; Mr. Delos Smith; Mr. McKee; Mr. McLachlen; Mr. Doing and Mrs. Thompson.

“The minutes of the previous meeting were read and accepted and the Treasurer's report was read.”

“A recommendation from the Executive Staff meeting that the Courtesy Staff again be accepted, with the exception of the Doctors who are not recognized by an organized Medical Society in Washington, D. C. and vicinity. These Doctors are to be given three months grace in which to join such a Medical Society. Dr. Custis moved that this recommendation from the Executive Staff be acted upon. It was duly seconded and carried. Mr. McLachlen suggested that the Hospital write letters to the accepted Doctors on the Courtesy Staff informing them of their acceptance and asking for their cooperation with the Hospital.”

Mr. Lewin.—And it is signed by “Doris W. Thompson, Secretary.”

And then I might offer this:

“A unanimous vote of thanks was expressed to Col. Joseph Randall for his splendid work while President of the Board of Trustees.

Signed “Doris W. Thompson.”

By Mr. Lewin:

Q.—Now there is a reference in the minutes to the executive staff. What was the executive staff?

A.—It was composed of the doctors on the staff.

By Mr. Lewin:

Nov. 9, 1937.

"Dr. C. B. Conklin, Secretary,
Medical Society of the District of Columbia,
1718 M Street, N.W.,
Washington, D. C.

"Dear Dr. Conklin:

"As the attitude of the National Homeopathic Hospital toward the Group Health Association is apparently not clear to various members of the District Medical Society, I am enclosing a copy of a letter sent today to their president, Mr. Penniman, by Dr. J. B. Gregg Custis, executive officer of our board of trustees.

"Yours very truly,
"Frances Whitlock Hall,
"Superintendent."

The letter referred to therein is already in evidence.

By Mr. Lewin:

Q.—Now, who succeeded Miss Hall as superintendent of the National Homeopathic Hospital?

A.—Mrs. Treasure.

Here came discussion over minutes kept by Mrs. Treasure.

By Mr. Lewin:

Q.—I hand you Exhibit 452, Colonel Randall, and ask you to tell the jury—you might refresh your recollection—what are the principal items of expense which your hospital had during the year 1937?

Mr. Leahy:—I object to it as immaterial. Secondly, he cannot refresh his recollection on something he did not write.

Mr. Lewin:—That is not the rule at all. He may refresh his recollection from anything.

THE COURT:—I think the objection should be sustained.

Mr. Lewin:—You mean on the ground of refreshment?

THE COURT:—On the ground I don't see the materiality of it.

Mr. Lewin:—Your ruling on the demurrer—you made that very point on that—that there was not sufficient allegation of the business of the hospital. There is proof that they are in business and we want to show by this document the business. We want to show the business for which it was organized.

THE COURT:—Well then, produce the corporate charter. That will show the business. This report of an auditor will not.

Mr. Lewin:—I have already withdrawn that in response to your Honor's ruling. I have asked him what the main items of expense are.

Mr. Kelleher:—We are not asking for figures; merely the general items.

THE COURT:—I don't understand it is material whether this concern was making or losing money.

Mr. Lewin:—I have not asked for that. I want to show what type of business that hospital carried on.

THE COURT:—Can that be done by this witness?

Mr. Lewin:—It can be done by the testimony as to the fact of the main items of expense.

THE COURT:—I don't think that gives us a good idea of the business.

Mr. Lewin:—It may not give us a very good idea of it, but it is the best I can do. I have to take the best I have and proceed step by step.

Mr. Leahy:—Do you want to prove by this witness what the expenses of the hospital were?

Mr. Lewin:—I would like to have you admit that the items of expense shown in this report are in fact the items of expense incurred by the hospital.

Mr. Leahy:—How can I admit anything on that?

THE COURT:—Mr. Lewin, you mean the items of expense there indicated would show the details of the business they were transacting?

Mr. Lewin:—I don't think there is any doubt about it.

THE COURT:—Does he know that? Ask him.

By Mr. Lewin:

Q.—Can you remember what the main items of expense were for the National Homeopathic Hospital during 1937?

A.—They would be general operating expenses, such as salaries, food for patients, coal, electric light bills. I know we spent some fourteen thousand dollars that year for a new set of boilers, heating system; had to buy medicines, had to buy supplies, buy sheets once in a while; paint the place.

Q.—How did you get the laundry done?

A.—We did our own.

Q.—Did you maintain a kitchen?

A.—Yes.

Q.—What was the main source of the hospital's revenue?

A.—The patient who came in and occupied the room.

Q.—In other words, you rented these rooms at a regular charge?

A.—Yes.

Q.—And you had expenses for housekeeping, in connection with those rooms?

A.—Yes, we would have office expenses, too. The officers received no pay.

Q.—Did you have expenses for medical and surgical care?

A.—Yes.

Q.—Nursing care?

A.—Yes.

Q.—Anesthesia?

A.—Yes.

Q.—Laboratory?

A.—Yes.

Q.—Operating room?

A.—Yes.

Q.—Pharmacy?

A.—Yes.

Q.—Did you operate a pharmacy?

A.—Well, we had a drug section.

Q.—Did you have to buy drugs?

A.—We furnished drugs.

Q.—How about x-rays?

A.—Yes, we had x-rays.

Q.—Administrative expenses?

A.—Yes, we had to run the office.

Q.—And you have already testified about heat and light and power?

A.—Yes.

Q.—How about maintenance of the building?

A.—Yes, that was an expense; and we reduced the mortgage.

Q.—And dietary?

A.—That went with the food.

Q.—Maintenance of personnel: what would that be?

A.—That would be under the general salaries of all employees; the office force.

Q.—Would you have a library and expense in connection with the maintenance of that library?

A.—No.

Q.—How about medical records and library; would that refresh your memory?

A.—Well, they usually kept the records and they may have had them bound occasionally. I am sure it cost money to keep any records.

Q.—Did you maintain a training school for nurses?

A.—We did until 1936.

Q.—Did you have any charge for ambulances?

A.—We had no ambulance.

Q.—Would you have to rent one when you required an ambulance?

A.—The patient would order an ambulance; we would order it for him.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Mrs. Dodge, who is she?

A.—She is also president of the ladies' board of the hospital; she is the wife of the real estate man.

Q.—Where is his office?

A.—In the Washington Building.

Q.—And Dr. Custis. Is he Dr. Custis of whom we have spoken here?

A.—Yes.

Q.—And Mr. McRae, who is he?

A.—A retired business man; he formerly represented the L. C. Smith Typewriter people.

Q.—Who is Mr. T. J. Brown?

A.—He is an insurance man.

Q.—Who is Mr. Delos Smith?

A.—An architect.

Q.—And Mr. McKee?

A.—He is vice president of the Security Savings Bank.

Q.—At Ninth and G?

A.—Yes, and they have a branch.

Q.—And Mr. McLachlen?

A.—He is Mr. Lanier P. McLachlen; he is president of the McLachlen Banking Corporation.

Q.—And who is Mr. Doing?

A.—He is treasurer and vice president of the Washington Loan & Trust.

Q.—And Mrs. Thompson is the secretary?

A.—Yes.

Q.—Were these trustees included in that minute the trustees throughout the period during which you acted as president of the board?

A.—Not the entire time.

Q.—I am now showing you Government's Exhibit 453. I notice in there a Mrs. Zoller. Who is she?

A.—She was a visitor; she wasn't a member of the board; she was a member of the ladies' board; she came with Mrs. Dodge.

Q.—And now there is a Mr. and Mrs. Thompson. Who is he?

A.—He is a member of the board, and he is the husband of Mrs. Doris Thompson, the secretary.

Q.—Now you also identified those members on the medical staff who you stated were the most active. Did you mean by that doctors who had the most patients normally in the hospital?

A.—Yes, they were the ones I came in contact with most; I wasn't there all the time. I would see them when I went there and I knew they were the doctors who brought in most of the business. I remembered their names.

Q.—The courtesy staff and the regular staff consisted of many doctors, did it not?

A.—Yes, and then there was an executive staff, which was composed of six or seven.

Q.—But those doctors were the ones who had most of the patients in the hospital during the time you were there as president?

A.—Yes.

Q.—And when you said they were the most active, that is what you referred to?

A.—Yes, they were around the hospital; would know what was going on.

Q.—Now you stated, when your attention was brought to it, that at the meeting of Nov. 4, 1937, there occurred a discussion before the board as to a change in the requirements of the hospital for applicants for staff privileges?

A.—Yes.

Q.—Now before that time, you had always had some requirement for a doctor who desired membership on your staff, did you not?

A.—Yes.

Q.—In other words, any doctor just couldn't come to your hospital with a patient and treat the patient in your hospital?

A.—No.

Q.—Before he went into your hospital to treat a patient, he was required to make application to the Board for the privilege of so doing; is that not it?

A.—Yes. He would come to us.

Q.—What board was it to which he would make such application?

A.—He would write a letter to the hospital. It would be referred to the board of doctors and they would pass on it, and whatever action they would take they would report to the Board of Trustees, and we generally upheld them, whatever they said.

Q.—How many years have you been connected with Homeopathic in any capacity?

A.—About five years; four or five years.

Q.—And during those five years you have been connected with Homeopathic it was the custom and practice, when a doctor would make application to the board of doctors, the doctors would cause an investigation to be made of him, as a result of which they would make their report to your Board of Trustees and your Board of Trustees would then vote on it; is that the way it usually worked?

A.—We did that every year.

Q.—In your hospital staffs were passed on each year?

A.—By the Board?

Q.—Yes?

A.—Yes.

Q.—For instance, if a doctor was admitted to practice in your hospital, that gave him the right to practice for a year after his application was favorably reported on; is that correct?

A.—I don't think we limited him to a year, for the reason that they didn't make application each year after they were first approved.

Q.—Then you didn't have the rule that each year members of the medical staff would have to renew their application for privileges?

A.—It was supposed to be like that, but we didn't stick to it. I think we are doing it now.

Q.—Now, going back to the qualifications. Was there not always a rule in your hospital as to the fundamental qualifications of any applicant for admission to the staff?

A.—Yes.

Q.—Those were set forth in the shape of a by-law; isn't that true?

A.—It was in a little book we had there. We did require a man to be a graduate of a recognized medical school; to have served the necessary internship; to have had experience in the line of work that he intended to do in the hospital, and that he belong to some medical society.

Q.—And do you recall also that rule which you have just told us about which in substance stated that if the doctor was a member of your Homeopathic Society that he was qualified for admission to practice, provided that he had the other requirements; was a graduate of a school you recognized; had served his internship and so forth?

A.—Oh, yes; if he belonged to a Homeopathic Society. I don't know whether there was one in Washington or not. Homeopaths are recognized just the same as allopaths. We didn't confine our hospital to homeopaths. There were many allopaths.

Q.—But if a doctor applied for privileges who was a member of the Homeopathic Society, that qualified him for admission, provided he had the other qualifications which we have just discussed?

A.—Yes.

Q.—And that rule had been in force also during the entire period you were in the hospital?

A.—As long as I was in the hospital it was, yes.

Q.—And during the period while you were there as president of the board, did you have any trouble with the District Medical Society or the American Medical Association about any member of your staff being a member of the Homeopathic Society?

A.—No, we were in good graces with them.

Q.—Never had any difficulty with them?

A.—Never heard of it; never came to my attention.

Q.—And you attended the meetings of the boards pretty regularly?

A.—Yes; when I was able.

Q.—Do you recall whether it was at the meeting of November 4, that the question in reference to the qualifications of applicants for privileges on either staff came up?

A.—I am not quite sure it was, because I attended another meeting; I think on the 11th, and I was so surprised—

Mr. Lewin:—Meeting of what?

The Witness:—I attended the general meeting of the Medical Society in the District of Columbia.

By Mr. Leahy:

Q.—I am referring to the board; your own Board of Trustees.

Mr. Lewin:—He has told you why this came up.

Mr. Leahy:—Let me reframe the question. Let's look over Exhibit 453, let's look that over together, and see if we can refresh your recollection; that is, about the paragraph that refers apparently to what Miss Thompson thought about the matter.

Q.—Will you read that over and see if you can refresh your recollection?

A.—Do you mind if I read it all?

Q.—No, go ahead.

Mr. Lewin:—You will admit he can refresh his recollection from something he didn't sign?

Mr. Leahy:—I am following you.

Mr. Lewin:—Well, it is good law, anyway.

The Witness:—What do you want to ask me?

By Mr. Leahy:

Q.—Do you recall now whether it was the question of changing the requirements for applicants for admission to either staff in your hospital that came up on the evening of Nov. 4, 1937?

Mr. Lewin:—It was noon.

Mr. Leahy:—I mean that day.

A.—Yes, I am quite sure it was brought up at that meeting. This may be Miss Thompson's idea of the whole thing, but I am quite sure it was brought up at that meeting, because I was surprised later to learn that the Medical Society had not taken that action and was still discussing the matter at their meeting of November 11, which I attended.

By Mr. Leahy:

Q.—In any event, Miss Thompson didn't record any action as having been taken of that kind so far as this meeting is concerned?

A.—That is right.

Q.—But at all events, to the best of your recollection, the Board on November 4 heard open discussion on the subject and decided that this clinic "isn't accepted by the District Medical Society; we can't recognize it"?

A.—Well, it was discussed in general by a couple of the members. I talked about it. I talked in favor of taking business from Group Health. I believe Mr. McLachlen was favorable to that, but Dr. Custis—I don't think anyone else talked up against it except Dr. Custis, and maybe Miss Thompson. Our people were not very quick to take sides.

Q.—In other words, you freely discussed the matter back and forth?

Mr. Kelleher.—He said he did.

By Mr. Leahy:

Q.—You listened. It was discussed?

A.—Yes.

Q.—I think you said you weren't very quick on making changes but that the matter was discussed.

A.—Yes; and I was in favor of accepting the business, because I knew it would be there. It was just a difference of opinion among the members.

Q.—Now, do you remember Dr. Custis' discussing one side of it?

A.—Yes.

Q.—Do you remember anything that Dr. Custis said with reference to Group Health Association?

A.—I don't remember his exact words, but it was that this was an organization in business and that they were not acceptable to the Medical Society, and then the Medical Society could not have a proficient staff if we accepted doctors from Group Health; and if we did accept them, the doctors who belonged to the Medical Association would have to resign.

Mr. Lewin.—Resign from what?

The Witness.—From our board.

By Mr. Leahy:

Q.—Let me see if I can refresh your recollection, Colonel. Do you remember when this matter came up for discussion that Dr. Custis was called upon by the Board to give his views with reference to the advisability of recognizing the clinic in the hospital at that time?

A.—Yes; that was discussed.

Q.—Do you remember that Dr. Custis then advised the Board that it had been reported, in his judgment, that G. H. A. was very probably illegal?

A.—I think that was discussed.

Q.—Did he also say that G. H. A. very probably was not financially sound?

A.—I don't think he stated that, because he thought that they had plenty of money. He stated they had plenty of money that was furnished by the Home Owners Loan, or something like that. I saw myself that they had a well equipped place; and I don't think he mentioned the fact that they were not financially responsible.

Q.—Did Dr. Custis say at that meeting that the way the clinic had been financed was by moneys advanced by the Home Owners Loan Corporation and that the fees in the shape of dues which they were charging would not be sufficient to carry them on once the money which they got from the H. O. L. C. was exhausted?

A.—I think that was Dr. Custis's opinion.

Q.—That opinion was considered by the full board, was it not?

A.—In discussing the whole matter?

Q.—Yes.

A.—I suppose it was. They must have had some reason.

Q.—You were there, were you not?

A.—Yes. I disagreed with the doctor, because I thought—
THE COURT.—You have told us that. Just answer the question.

The Witness.—What was the question?

By Mr. Leahy:

Q.—The opinions which you voiced and the opinions which Dr. Custis voiced—the whole angle was talked about on one side or the other and was considered by the full board?

A.—Yes; it must have been.

Q.—And of the nine members present, seven agreed with the views expressed by Dr. Custis?

A.—Yes.

Q.—And you, who had been on the other side of the question, stuck to your opinion and voted against him?

A.—Yes. But after it was all over we were for the whole.

Q.—Then it was the action of the Board after seven had voted for the measure; is not that right?

A.—It was not discussed any more. We would go right along with them.

Q.—You stated something about this having been said, that it would be necessary for the members of the Medical Society who were on your staff to resign in the event you recognized the clinic?

A.—Recognized the doctors and allowed them to practice in our hospital.

Mr. Lewin.—I object to that. Colonel Randall did not say that; he said Dr. Custis said that. That is in the evidence.

Mr. Leahy.—All right. I do not care who said it. I want to get the fact. Somebody said it.

By Mr. Leahy:

Q.—Was it Dr. Custis?

A.—I understood you to ask me what I understood Dr. Custis to say.

Q.—It was Dr. Custis who said that in connection with the matter?

A.—Yes.

Q.—Is not this what he said to you in connection with that clinic, which he said was very probably illegally conducting business, and he said something which brought up the discussion with reference to the finances of the clinic, that if the hospital at this time permitted the doctors to practice in your hospital, and later on the District Medical Society did not approve the clinic, that then, under the constitution of the District of Columbia Medical Society, the doctors would be prevented from practicing in your hospital? Is not that what he said, in substance? I cannot quote his words.

A.—It might be something like that.

Q.—Do you remember also that there was a discussion in the meeting about the doctors being paid salaries at Group Health and that they were charged monthly fees and that they did no charity work? Do you remember a discussion about Group Health doing no charity work?

A.—Yes.

Q.—Do you remember Dr. Custis saying that the clinic was not set up to help the poor, and that the poor would still be thrown back upon the regular doctors who now attended them?

A.—He may have mentioned that; but I told him I thought it was a good thing.

Q.—You still stuck by your opinion?

A.—For, if you can buy medical care for \$3 a month that is good—

Q.—Did Dr. Custis take issue and say that you cannot provide care for \$3 a month, and that is why it was financially unsound?

A.—I don't think he used those words, but I think those were his ideas; yes.

Q.—I do not talk medical language?

A.—Yes; I think that was his idea.

Q.—Finally the conclusion of the action as to that hospital was that if at a later date the District Medical Society accepted and approved the clinic, your board would then consider the plan of G. H. A.; is that right?

A.—Yes. Up to that time we had no applications from them.

Q.—I want to ask you if you will not kindly look over Government Exhibit 454 again, Colonel, please. If you want to read that front page, just read that over, will you? Do you recall whether in the meeting of December 30 there was any discussion of the recommendation from the executive staff with reference to the qualifications of doctors on the staff of your hospital?

A.—We approved the staff as submitted by the doctors. Dr. Custis brought a list and we approved that.

Q.—That list came from where?

A.—It was made up of the men who had been accepted by the group of doctors, and also approved by the Board the year before. I do not think there were any new ones admitted during that year except resident doctors and interns. I don't know of any new ones that came in there.

Q.—You mentioned the fact that Dr. Custis would bring it in from a group of doctors. Was that group known as the Executive Staff of the hospital?

A.—Yes, sir.

Q.—How many doctors were on that staff?

A.—On his immediate group I believe there were about five.

Q.—Could you name them?

A.—Dr. Custis, Dr. Birdsall, Dr. Davidson, Dr. Sappington and Dr. Shearer. I think they were the principal ones.

Q.—And that was the Executive Staff from which a recommendation came that the courtesy staff be again accepted "with the exception of the doctors who are not recognized by an organized medical society in Washington and vicinity." Do you remember that?

A.—I am not sure of the wording of it, but I know they brought in a recommendation and we approved it.

Q.—When it speaks of giving three months grace in which to join such a medical society, that means, does it not, that the doctors whom the Executive Staff recommended for acceptance by your board of trustees, if they did not belong to the District Society, the Homeopathic Society or the Virginia Society, they had three months in which to join?

A.—They had three months. I understand that to be three months in which to join a medical society; those men out of town who occasionally practice at Homeopathic and were still on the staff.

Q.—Did they mean the Medical Society of Washington, D. C., or in Maryland or in Virginia?

A.—After that meeting it would mean the D. C. Medical Society.

Q.—Only the D. C. Medical Society?

A.—Yes.

By Mr. Leahy:

Q.—Now, Colonel, you do not know anything about this letter personally, do you—Exhibit 339?

A.—That must be what Mr. Penniman called me up about. He called me out in the country—

Mr. Lewin.—What is that?

A. (Continuing)—and I had to apologize to him. He got a letter from the hospital.

THE COURT.—Let us have the examination in an orderly way, please.

Mr. Lewin.—I could not understand what he said.

THE COURT.—The witness goes on voluntarily to speak of things that are not asked. Let us confine the examination. I was speaking more to the witness than I was to you.

By Mr. Leahy:

Q.—You were asked several questions in reference to items of expense that went into the conduct of the hospital. Homeopathic Hospital was running a regular hospital?

A.—Yes.

Q.—And any of the expenses which you incurred in the conduct, maintenance and operation of the hospital were made necessary in the conduct, maintenance and operation of a hospital for the sick?

A.—Oh, yes.

Q.—You were asked about a drug store. You were not conducting a drug store for public patronage, were you?

A.—No, sir.

Q.—The drug store was made necessary because drugs had to be taken from it in order to care for the sick?

A.—We merely had a department where we kept some drugs.

Q.—And when you were talking about a dietary, you did not mean that you were running a lunch room for public use?

A.—Not at all.

Q.—And you were not buying and selling coal as a business?

A.—No.

Q.—There was not anything which you did in connection with the hospital except to incur the necessary expenses required to take care of a proper place for the sick?

A.—That is correct.

RE-DIRECT EXAMINATION

By Mr. Lewin:

Q.—You testified, I believe, that Dr. Custis told the board of trustees at the November meeting that unless the staff were limited in a certain way, the members of the Homeopathic Medical Staff who were members of the District Medical Society would have to leave your hospital; is that right?

A.—Yes, sir.

Q.—What was the limitation that he said the hospital would have to put into effect in order to avoid that?

Mr. Leahy.—I do not like to interrupt, but that has been gone over by both of us.

Mr. Lewin.—You tried to shake it, and I did not want it left confused.

Mr. Leahy.—It is not confused. The record shows what we both said.

Mr. Lewin.—I am entitled to have his testimony.

THE COURT.—If you think there is any doubt about it you may ask him. I want counsel on both sides to avoid mere repetition.

Mr. Lewin.—I am trying to.

THE COURT.—If counsel have any doubt about it of course I want it cleared up. You may ask the question.

Mr. Lewin.—Will you read the question, Mr. Reporter?

(The last two questions and answers were read by the reporter as above recorded.)

Mr. Leahy.—That is pure repetition, if your Honor please.

Mr. Lewin.—We have been all over that.

Mr. Leahy.—I know you have.

Mr. Lewin.—No; I mean, your objection.

THE COURT.—Give the witness a chance to think, and let him answer, and then we will get along with the next question. Have you got the question, Colonel?

The Witness.—I have it.

THE COURT.—All right. You may answer.

The Witness.—My impression was, from Dr. Custis's statement, that the Medical Society had changed their requirements, or it may have been their by-laws or something, that local medical society doctors could be on the staff of local hospitals only where all doctors or surgeons in the hospital were members of the local society.

By Mr. Lewin:

Q.—That is, the District of Columbia Medical Society?

A.—Yes. That was my understanding.

THE COURT.—That answers your question, does it not, Mr. Lewin?

Mr. Lewin.—Yes, sir.

By Mr. Lewin:

Q.—I want to know whether that was one of the things the board considered when they voted as they did on November 4, that they could not make any contract or do any business with Group Health.

A.—Yes.

Q.—That is the thing they were considering?

A.—Yes.

THE COURT.—Do not ask it twice.

Mr. Richardson.—The trouble is that when he asked it the second time he changed it.

THE COURT.—I just do not want counsel to repeat.

By Mr. Lewin:

Q.—You said you went to some meeting on November 11. How do you know it was November 11?

A.—Because it happened to be Armistice night.

Q.—Where did you go to this meeting?

A.—I attended the meeting of the Medical Society at their headquarters on M Street.

Q.—How did you happen to attend? Were you a member?

A.—No. I was invited.

Q.—Who invited you?

A.—Several of the doctors.

Q.—When you went there you heard a discussion about the limitation of hospital staffs, did you?

A.—Yes. They discussed Group Health quite a lot. They were discussing this amendment that I believe was already adopted, as far as our hospital was concerned.

Q.—They were discussing this amendment that your hospital adopted?

A.—Yes, sir.

TESTIMONY OF GEORGE W. DINGLE

DIRECT EXAMINATION

By Mr. Timberlake:

George W. Dingle said he is a special agent of the Federal Bureau of Investigation, where he has been employed approximately five and a half years. He is assigned to the examination of questioned documents, which includes a comparison of known handwriting, hand printing, typewriting and mechanical impressions and other forms of document work.

He attended Indiana University, where he was granted the Bachelor of Arts, Master of Arts, and Doctor of Philosophy degrees. He has done special work in the field of document examination.

Q.—I hand you photostats, the first of which is a letter from J. Ogle Warfield to Warren Sager, the second of which is a document bearing names of various hospitals, next a list of doctors, and next those that require membership in the District Medical Society. The third is a questionnaire bearing the handwritten notation "Children's" at the top, and the next is one bearing the handwritten notation "Garfield" at the top. I ask

you if you have examined those photostats and made a comparison between the handwriting on the first one which I handed you, that is, the signature—

Mr. Richardson:—Suppose you use exhibit numbers.

Mr. Lewin:—He is entitled to proceed in any way he wants to.

Mr. Richardson:—We will see about that.

THE COURT:—As the witness is being asked concerning certain papers they should, for the purpose of the record, be identified by the numbers. I think that would help.

By Mr. Timberlake:

Q.—I hand you Government Exhibit 313, which is in evidence, and ask you if the first photostat which I handed to you is a faithful copy of that original?

A.—I think it is.

Q.—I hand you Government Exhibit 313, which is in evidence, and ask you if the second photostat which I have handed you is a faithful copy of the original?

A.—It is.

(The witness then identified a number of exhibits by the handwriting.)

Mr. Timberlake:—Now, reading from Government Exhibits 302 and 303, the questionnaire which bears the handwriting notation at the top "Garfield":

"QUESTIONNAIRE

Garfield

1. What communication or inquiry has your hospital had from Group Health Association, Inc.?

Asking to admit Pt. & physician.

2. What reply has your hospital made to Group Health Association, Inc.?

Will admit Pt. Drs. must apply for priv.

Dr. Selders has applied and will go thru routine.

3. Which, if any of the following Doctors are now members of your Medical Staff in any capacity or have privileges to practice in your hospital.

Dr. Henry Rolf Brown.

Dr. R. Stephen Hulburt.

Dr. Allan E. Lee. Yes.

Dr. Raymond E. Selders.

Dr. Mario Scandiffo.

Dr. Edmund D. Wells.

4. Is your hospital in sympathy with the policies of The Medical Society of D. C.?

Yes.

5. Is the entire Medical Staff of your hospital reappointed annually?

Yes.

6. Are appointments to the Medical Staff of your hospital approved by The Medical Staff?

Recommended by Med. Staff.

7. What governing body of your hospital finally makes appointments to the Medical Staff?

Bd. of Directors.

8. Does your hospital require membership in the Medical Society of D. C. as a qualification for appointments to its Medical Staff?

Yes or have applied.

9. What percentage of the entire medical staff of your hospital are members of the Medical Society of D. C.?

Over 75%—All recent appointments.

10. Does your hospital require membership in the A. M. A. as a qualification for appointment to its Medical Staff?

No but for appts. to staff and privileges they use form recommended by A. M. A.

11. What percentage of the entire Medical Staff of your hospital are members of the A. M. A.?

All active staff.

12. Is your hospital a beneficiary of Community Chest funds?

Yes.

13. Will you kindly make any other inquiry that you think might be pertinent at this time?"

Mr. Richardson:—They were all signed by Warfield?

Mr. Kelleher:—Warfield represented Garfield for the committee.

Mr. Timberlake:—I will read Government Exhibit 308:

"QUESTIONNAIRE

Children's

1. What communication or inquiry has your hospital had from Group Health Ass., Inc.?

Requesting admission of pts. and privileges for Dr. Selders.

2. What reply has your hospital made to Group Health Association, Inc.?

Will admit pts. & Drs. must make regular application.

3. Which, if any of the following Drs. are now members of your Medical Staff in any capacity or have privileges to practice in your hospital? None."

After the name of Dr. Mario Scandiffo there is the handwriting notation:

"Resignation accepted."

"4. Is your hospital in sympathy with the policies of The Medical Society of D. C.?

Yes.

5. Is the entire Medical Staff of your hospital reappointed annually?

Yes.

6. Are appointments to the Medical Staff of your hospital approved by The Medical Staff?

Yes—recommended.

7. What governing body of your hospital finally makes appointments to the Medical Staff?

Bd. of Directors.

8. Does your hospital require membership in the Med. Soc. of D. C. as a qualification for appointments to its Medical Staff?

Yes.

9. What percentage of the entire medical staff of your hospital are members of the Medical Society of D. C.?

100%.

10. Does your hospital require membership in the A. M. A. as a qualification for appointment to its Medical Staff?

No.

11. What percentage of the entire Medical Staff of your hospital are members of the A. M. A.?

Probably majority.

12. Is your hospital a beneficiary of Community Chest funds?

Yes.

13. Will you kindly make any other inquiry that you think might be pertinent at this time?"

TESTIMONY OF EDNA H. TREASURE

DIRECT EXAMINATION

By Mr. Lewin:

Mrs. Edna H. Treasure has been Superintendent, National Homeopathic Hospital, for three years.

(She identified roster of the hospital and minutes of the staff meetings.)

"May 17, 1938.

"The regular meeting of the Executive Staff was held at 12:30 p. m. in the Superintendent's office, Dr. Sappington presiding.

"Applications for courtesy staff memberships were considered and approved for:

"Dr. Hyder—Normal OB-medicine, anesthesia.

"Dr. Verlin E. Miles—Normal OB medicine.

"Recommendation was made that applications be approved, with the understanding that continuous service on the courtesy staff be contingent upon affiliation with only those associations approved and recognized by the Dis. Medical Society.

"A motion was made by Dr. Custis that notice of the above action be sent to all hospitals and the D. M. S." It is signed "E. Treasure."

CROSS EXAMINATION

By Mr. Leahy:

Q.—I am now handing you Exhibit 451 and will ask you to look at the first page of it. Would you say those were the doctors that constituted the Executive Staff?

A.—At that time Dr. Elward was not.

Q.—Do you know who was there in his place?

A.—Dr. Claude Moore.

Q.—So the Executive Staff at that time consisted of Dr. W. P. Baker, Dr. J. H. Branson, Dr. Tomas Cajigas, Dr. J. B. G. Custis, Dr. J. F. Davidson, Dr. Claude Moore, Dr. Bernard Notes, Dr. E. F. Sappington, Dr. J. P. Shearer, Dr. W. C. Sterling and Dr. C. F. Warner. Is that right?

A.—That is right.

Mr. Timberlake:—Before the next witness comes in I would like to offer in evidence Exhibit 470, which was produced from the files of the Georgetown University Hospital, being a letter dated Dec. 2, 1937, from Dr. Conklin to the Chief of Staff. The signature of Dr. Conklin can be compared with a number of exhibits which are in evidence.

(Letter dated Dec. 2, 1937, from Conklin to Chief of Staff, Georgetown University Hospital, was marked U. S. Exhibit No. 470 and received in evidence.)

TESTIMONY OF JUNE M. GRUBB

DIRECT EXAMINATION

By Mr. Timberlake:

June M. Grubb has been secretary to Dr. Dardinski for five months. She identified his signature.

TESTIMONY OF BENJAMIN B. SANDIDGE

DIRECT EXAMINATION

By Mr. Allen:

Benjamin B. Sandidge has been during the period from Jan. 1, 1937, to Dec. 30, 1938, Superintendent of Emergency Hospital.

As part of his duties he attended Executive Staff meetings. He identified minutes of the meetings; also correspondence with Drs. Allen Lee, Gist, Blair, Aspinwall and Conklin, and the annual report of Emergency Hospital.

(Counsel for both sides approached the bench and conferred with the court.)

(To be continued)

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Bills Introduced.—H. R. 3738, introduced by Representative Haines, Pennsylvania, proposes to establish a Chiropody Corps in the Medical Corps of the United States Army. Appointments in this corps will be made in the grade of first lieutenant, it is proposed, and officers of the corps will be promoted to the grade of captain after three years' service, to the grade of major after twelve years' service, to the grade of lieutenant colonel after twenty years' service and to the grade of colonel after twenty-six years' service. H. R. 3790, introduced by Representative May, Kentucky, proposes to authorize the appointment of female dietitians and female physical therapy aids in the Medical Department of the Army.

DISTRICT OF COLUMBIA

Bill Introduced.—H. R. 3871, introduced by Representative Burdick, North Dakota, proposes to make it a misdemeanor for any person to experiment or operate in any manner whatsoever on any living dog in the District of Columbia, for any purpose other than the healing or curing of the dog.

STATE MEDICAL LEGISLATION

Arizona

Bill Introduced.—H. 178 proposes to enact a separate osteopathic practice act and to create an independent board of osteopathic examiners to examine and license applicants for licenses to practice osteopathy. The bill defines "osteopathy" as "that system of treatment and healing of abnormalities of the human mind and body by manipulation, medicine and surgery, as taught and practiced in the standard colleges of osteopathy." The bill proposes that osteopaths shall "have equal rights and privileges with physicians and surgeons of other schools of medicine relative to the treatment of cases and the holding of public office or position."

Arkansas

Bills Introduced.—S. 249 proposes to authorize the compulsory sexual sterilization of inmates of state institutions who would be likely if released without sterilization to procreate offspring with a tendency to serious physical, mental or nervous disease or deficiency. H. 587, to supplement the medical practice act, proposes to require all licentiates of the State Medical Board of the Arkansas Medical Society to register annually on or before July 1 with the board and at that time to pay such registration fees as may be fixed by the board.

Georgia

Bill Introduced.—S. 152 proposes in effect to authorize courts to enjoin the unlicensed practice of medicine and other professions and vocations.

Indiana

Bills Introduced.—H. 315 proposes to authorize the establishment and operation by the state of a hospital for the care and treatment of crippled children, including children afflicted with infantile paralysis. H. 443 proposes to enact a separate naturopathic practice act and to create an independent board of examiners in naturopathy to examine and license applicants for licenses to practice naturopathy. H. 459 proposes to authorize the organization of corporations not for profit to operate nonprofit hospital service plans whereby hospital care is provided by any hospital or group of hospitals with which such corporations have contracts to members of the public who become subscribers to such hospital service plans.

Kansas

Bill Introduced.—H. 286, to amend the osteopathic practice act, proposes, under the purported guise of aiding the national defense, to permit licensed osteopaths to practice operative surgery and obstetrics and to administer antiseptics, anesthetics, narcotics and biologicals.

Minnesota

Bill Introduced.—H. 756 proposes to authorize the chief administrative officer of any public or private hospital, with the consent of its board of directors, to cause to be transferred and recorded on photographic film any or all of the original files and records of the hospital dealing with case history, physical examination and daily hospital records, including any miscellaneous documents, papers and correspondence in connection therewith. Such photographic films shall have the same force and effect when offered in evidence as the original records from which they were made.

Nevada

Bill Introduced.—A. 117 proposes that every physician attending a pregnant woman during gestation for conditions relating to pregnancy shall make such examination, including a standard serologic test, as may be necessary for the discovery of syphilis. The physician is to take or cause to be taken a sample of her blood at the time of the first examination and is to submit that sample to a qualified laboratory for a standard serologic test for syphilis.

New Mexico

Bill Introduced.—H. 211 proposes, in effect, to permit any practitioner of the healing art to attend and treat patients in any governmental hospital or any privately owned hospital receiving any portion of its funds, provided only that the patient requests the attendance of such practitioner and that the practitioner is licensed to practice the healing arts which he is called on to administer.

Oklahoma

Bill Passed.—Senate Committee Substitute for S. 52 passed the Senate February 27 proposing to prohibit the retail sale and distribution of veronal, barbital, nembutal, sodium amytal, chloralhydrate, bromidia, sulfanilamide, sulfapyridine, sulfathiazole, thyroid gland, benzedrine or amphetamine preparations, or compounds or derivatives of any of the foregoing drugs except on the original written prescription of a licensed practitioner of medicine, dentistry or veterinary medicine.

Texas

Bills Introduced.—H. J. Res. 15 proposes an amendment to the state constitution under which the counties, on a vote as a majority of the resident property tax paying voters, could authorize a tax not to exceed 25 cents on the one hundred dollar valuation to construct and maintain public free hospitals. H. 459 proposes to enact a separate chiropractic practice act and to create an independent board of chiropractic examiners to examine and license applicants for licenses to practice chiropractic. The bill proposes to define chiropractic to be "the Science of Palpating and adjusting the articulations of the human spinal column." Licensed chiropractors are to be entitled to practice chiropractic as defined and are to be subject to all rights, disabilities, limitations and restrictions of other licensed health practitioners.

Utah

Bill Introduced.—H. 143 proposes to grant to a hospital treating an injured person a lien on the cause of action, suit, claim or demand accruing to the injured person by reason of his injuries.

Vermont

Bills Introduced.—S. 71 proposes to require a practitioner of medicine and surgery attending a pregnant woman to take a sample of her blood prior to the third month of gestation and to submit the sample to a laboratory approved by the state board of health for a standard serologic test for syphilis. H. 204 proposes that a child over 6 years of age shall not be received into a public or private school unless vaccinated for smallpox.

Washington

Bill Introduced.—S. 317 proposes to enact a separate sanipractic practice act and to require the governor to appoint a committee to be known as the "Sanipractic Physicians' Examina-

ing Board of Washington" to examine and license applicants for licenses to practice sanipractic. The bill states that "Sanipractic is the science and art of applied prophylactic and therapeutic sanitation, which enables the physician to direct, advise, prescribe or apply food, water, roots, herbs, light, heat, exercises active and passive, manipulation, adjusting tissue, vital organs

and anatomical structure by manual, mechanical or electrical instruments or appliances; or other natural agency, to assist nature restore a psychological and physiological interfunction for the purpose of maintaining a normal state of health in mind and body. Above definition copyrighted 1919 for the purpose of protecting a separate and coordinate principle of healing."

OFFICIAL NOTES

RADIO BROADCASTS

"Doctors at Work" is the title of the sixth annual series of dramatized radio programs being presented by the American Medical Association and the National Broadcasting Company.

The program is scheduled for 10:30 p. m. eastern standard time (9:30 central, 8:30 mountain, 7:30 Pacific time) over the Blue network, other N. B. C. stations and Canadian stations.

Descriptive posters for local distribution may be had gratis from the Bureau of Health Education, American Medical Association, 535 North Dearborn Street, Chicago. Program titles

will be announced weekly in *THE JOURNAL* and monthly in *Hygeia*, the Health Magazine.

Tickets are available for each broadcast. Address the Bureau of Health Education, American Medical Association, 535 North Dearborn Street, Chicago. Tickets are free, but a stamped self-addressed envelop should accompany requests.

The next three programs to be broadcast, together with their dates and titles, are as follows:

March 19. First Line of Defense.
March 26. Health for the Workman.
April 2. Invisible Invaders.

WOMAN'S AUXILIARY

WINNERS IN THE HYGEIA CONTEST

The American Medical Association offered \$400 in cash prizes to the state and county auxiliaries which obtained the largest number of subscription credits to *Hygeia*. The contest covered the period from Sept. 1, 1940, to Jan. 31, 1941.

Cash prizes were awarded as follows:

Group 1. Auxiliaries with a membership of from one to thirteen:

First prize, \$40, to Cass County, Mo., Mrs. David S. Long, secretary-treasurer, Harrisonville, Mo.

Second prize, \$25, to Childress-Collingsworth-Hall counties, Texas, Mrs. E. W. Moss, Hygeia chairman, Wellington, Texas.

For the third prize, \$15, no county qualified by sending twenty-five subscriptions.

Group 2. Auxiliaries with a membership of from fourteen to twenty-three:

First prize, \$40, to Chelan County, Wash., Mrs. N. M. Bellas, Hygeia chairman, Wenatchee, Wash.

Second prize, \$25, to Baldwin County, Ga., Mrs. C. H. Richardson, president, Milledgeville, Ga.

Third prize, \$15, to Kern County, Calif., Mrs. Eric Colby, Hygeia chairman, Bakersfield, Calif.

Group 3. Auxiliaries with a membership of from twenty-four to forty-two:

First prize, \$40, to Vermilion County, Ill., Mrs. Holland Williamson, Hygeia chairman, Danville, Ill.

Second prize, \$25, to Bowie-Miller County, Ark., Mrs. Ralph Cross, Hygeia chairman, Texarkana, Ark.

Third prize, \$15, to Walla Walla Valley, Wash., Mrs. J. W. Ingram, Hygeia chairman, Walla Walla, Wash.

Group 4. Auxiliaries with a membership of from forty-three to five hundred and ninety-five.

First prize, \$40, to Buchanan County, Mo., Mrs. Charles H. Werner, Hygeia chairman, St. Joseph, Mo.

Second prize, \$25, to Cook County, Ill., Mrs. Clyde Landis, Hygeia chairman, Chicago.

Third prize, \$15, to Westmoreland County, Pa., Mrs. I. J. Ober, Hygeia chairman, Greensburg, Pa.

State winners:

First prize, \$40, to state of Illinois, Mrs. E. M. Egan, Hygeia chairman, Chicago.

Second prize, \$25, to state of Washington, Mrs. Martin Norgore, Hygeia chairman, Seattle.

Third prize, \$15, to state of Missouri, Mrs. Charles H. Werner, Hygeia chairman, St. Joseph.

Honorable Mention was given to the following counties:

Weld County, Colo., Mrs. Theodore E. Heinz, chairman, Greeley.

Duval County, Fla., Mrs. Raymond H. King, chairman, Jacksonville.

Sangamon County, Ill., Mrs. J. E. Reisch, chairman, Springfield.

Will-Grundy County, Ill., Mrs. Bernard Klein, chairman, Joliet.

Dubuque County, Iowa, Mrs. Walter Cary, chairman, Dubuque.

Sedgwick County, Kan., Mrs. Frank Emery, chairman, Wichita.

Park Region Auxiliary, Minnesota, Mrs. W. O. B. Nelson, chairman, Fergus Falls.

Berks County, Pa., Mrs. Clarence E. Goode, chairman, Reading.

Crawford County, Pa., Mrs. J. R. Gingold, chairman, Meadville.

Jefferson County, Texas, Mrs. G. B. Stephenson, chairman, Beaumont.

Kerr-Kendall-Gillespie-Bandera counties, Texas, Mrs. Sam E. Thompson, chairman, Kerrville.

Yakima County, Wash., Mrs. Delmar Bice, chairman, Yakima.

Other counties that have made or exceeded their quota were:

Washington County, Ark.; Riverside County, Calif.; Logan County, Ill.; Shawnee County, Kan.; Greene County, Mo.; Jackson County, Mo.; LaFayette County, Mo.; Cayuga County, N. Y.; Polk Marion County, Ore.; Bucks County, Pa.; Lebanon County, Pa.; Salt Lake County, Utah; Clark County, Wash.; Cowlitz County, Wash.; King County, Wash.; Kitsap County, Wash.; Pierce County, Wash.; Kenosha County, Wis.; Portage County, Wis.; Racine County, Wis.; Rock County, Wis.; Washington County, Wis.

The final result in this year's contest was eight thousand four hundred and eighty subscriptions.

To the Hygeia chairmen, officers and members of the various county and state woman's auxiliaries who have assisted in making this contest a success, Mrs. W. J. Wanninger, national Hygeia chairman, and the circulation manager of *Hygeia* express appreciation.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ALABAMA

The Nutrition Clinic at Birmingham.—In 1937 the department of internal medicine of the University of Cincinnati, the director of which is Dr. Marion A. Blankenhorn, started a clinic in nutrition in Birmingham at the invitation of the staff of the Hillman Hospital, and the clinic has operated since then each summer during the season when pellagra is prevalent. During the last season, which ended in November, 1,729 persons with deficiency disease were studied and treated. Last summer departments of seven additional separate colleges sent investigators or teams of workers mainly to do biochemical, bacteriologic, neurologic and psychiatric studies. These were the Ohio State University Department of Bacteriology, Iowa State University Department of Pathology and Neurology, University of Texas Department of Chemistry, University of Wisconsin Department of Biochemistry, Washington University Department of Medicine, University of California Department of Experimental Biology, University of Cincinnati Departments of Ophthalmology and Psychiatry, and Carleton College Department of Chemistry. The clinic is housed in a new clinic and laboratory building built by Jefferson County with federal aid, and the laboratories were equipped by the Jefferson County commissioners. The budget of the clinic last year was about \$56,000, not counting the outlay made by the various collaborators, and for the coming season the clinic will be aided by a grant of \$37,500 from the National Foundation for Infantile Paralysis, Inc., to study the relation of nutrition to infectious diseases. The first season at the clinic was financed by the University of Cincinnati and Western Reserve University, Cleveland. Subsequent seasons have been financed with aid from the Rockefeller board, the Macy Fund and the Markle Foundation, and by various private corporations interested in nutrition.

CALIFORNIA

Annual Report of Blood Bank.—During the first year of operation of the blood bank at San Francisco Hospital, San Francisco, blood was taken from 1,747 persons and transfusions were given to 1,670. According to a report 48, or 2.7 per cent, of the total 1,747 blood samples taken showed a positive Wassermann reaction; 12, or 0.6 per cent, showed a history of malaria; less than 0.5 per cent of the specimens drawn were not used because of the unsatisfactory condition of the blood, and only 165, or 10 per cent, of recipients showed any reactions; no deaths resulted from transfusions. After one year of operation of the blood bank it is possible to give about one hundred and seventy blood transfusions a month, whereas previously it was possible to give an average of about forty transfusions. Prior to the establishment of the bank, the department of public health paid for most of the transfusions at a cost of \$25 a donor. With the inauguration of the service only about \$100 a month was paid by the department during the calendar year 1940 for professional blood donors. These donors were used in the few cases in which the blood types required were not available at the time in the storehouse of the blood bank.

CONNECTICUT

Dr. Francis Blake Appointed Dean at Yale.—Dr. Francis G. Blake, Sterling professor of medicine, Yale University School of Medicine, New Haven, and acting dean since the retirement of Dr. Stanhope Bayne-Jones on July 1, 1940, has been made dean, effective July 1. Dr. Blake joined Yale's faculty as John Slade Ely professor of medicine in 1921 and served with that title until 1927, when he became Sterling professor.

Hospital Districts for Mental Patients.—Connecticut has been divided into three districts to take care of mental patients throughout the state. Classified by the state board on hospital districts, established under the 1939 supplements to the general statutes, cities and towns throughout the state have been grouped in districts so that mental commitments may be directed to three state hospitals: Connecticut, Norwich and Fairfield. A provision has been made for changes in the districts twice yearly if necessary and will be made whenever the

experience of the preceding six months indicates there have been unequal admission rates to the hospitals. The state board on hospital districts is also prepared to consider at its regular meetings requests for adjustments of the district, according to the state medical journal.

GEORGIA

Surgical Meeting of Railway Groups.—The Surgical Association of the Atlanta and West Point Railroad Company, the Western Railway of Alabama and the Georgia Railroad will be held at the Atlanta Biltmore, Atlanta, March 20. The following program will be presented:

- Dr. William W. Young, Atlanta, Importance of the Personality Aspect of Railroad Employees.
- Dr. Floyd W. McRae, Atlanta, Significance of Abdominal Pains.
- Dr. Gordon B. Myers, Detroit, Clinical Experience with Sulfathiazole.

Following a round table discussion and luncheon, Dr. Hugh M. Lokey, Atlanta, president of the association, will present his official address on "Eye Symptoms Associated with General Diseases."

IDAHO

Personal.—Dr. Anton C. Sibilsky, formerly of Laurium, Mich., has been appointed in charge of the North Central Idaho health unit, succeeding Dr. Hugh F. Stanton.

Society News.—Dr. Raphael C. McDonough, Spokane, Wash., discussed "Treatment of Skin Diseases" before the North Idaho District Medical Society in Lewiston, January 15. —The South Side Medical Society was addressed at Twin Falls, January 21, by Drs. Thomas M. Joyce, Portland, on appendicitis and Laurence Selling, Portland, rupture of the intervertebral disk. They discussed similar subjects before the Southwestern District Medical Society in Boise on January 20.

MASSACHUSETTS

Dr. Gordon Named Liaison Officer with British Ministry of Health.—Dr. John E. Gordon, professor of preventive medicine and epidemiology, Harvard Medical School, Boston, and now in charge of the Red Cross-Harvard University Hospital recently established in England, has been appointed United States liaison officer with the British Ministry of Health, according to *Science*. The appointment was made on the invitation of Malcolm Macdonald, then minister of health.

Dr. Salter Goes to Yale.—Dr. William T. Salter, assistant professor of medicine at Harvard Medical School, Boston, has been appointed professor of pharmacology at Yale University School of Medicine, New Haven, effective July 1. A native of Boston, Dr. Salter graduated in medicine at Harvard in 1925. Completing his medical residency at Massachusetts General Hospital, he was Moseley Traveling Fellow and research fellow in medicine for Harvard from 1928 to 1929, when he became tutor in the biochemical sciences. He has been assistant professor since 1935 and research fellow in biochemistry of the Harvard Cancer Commission since 1929. Dr. Salter has written numerous scientific papers along the lines of his research.

MINNESOTA

The Jackson Lecture.—Carl R. Moore, Ph.D., professor and chairman of the department of zoology, University of Chicago, will present the annual Clarence Martin Jackson Lecture in Minneapolis, March 19, on "The Significance of Hormones in Embryonic Sex Differentiation." The Jackson lectureship was established in 1933 by Phi Beta Pi fraternity in honor of Dr. Clarence M. Jackson, professor and head of the department of anatomy at the University of Minnesota Medical School, Minneapolis, since 1913.

NEW JERSEY

Society News.—Drs. Thomas H. Cherry, New York, addressed the Hudson County Medical Society, Jersey City, February 4, on office gynecology. —Dr. Herbert T. Kelly, Philadelphia, addressed the Cumberland County Medical Society, Bridgeton, February 11, on "Newer Concepts in the Treatment of Diabetes." —Dr. Walter I. Lillie, Philadelphia, addressed a stated meeting of the Academy of Medicine of Northern New Jersey, Newark, February 20, on "Fundamental Changes Associated with Arterial Hypertension." Drs. Edward D. Churchill, Boston, and Charles F. Bove, New York, discussed "War Wounds and Injuries of the Chest" at a meeting of the acad-

emy's section on medicine and pediatrics in conjunction with the lung committee of the Essex County Medical Society, February 11.—Dr. George R. Minot, Boston, addressed the Essex County Medical Society, Newark, February 13, on "Etiology, Diagnosis and Treatment of the Anemias."—Speakers at a meeting of the Camden County Medical Society, Camden, February 4, were Drs. Hyman I. Goldstein, Camden, on "Interesting Cases of Ulcer of the Stomach"; Paul M. McCray Jr., Camden, "Multiple Polyposis of the Colon," and Norman M. Scott, Trenton, "Medical Service Administration Plan."—Dr. Harold E. B. Pardee, New York, addressed the Passaic County Medical Society, Paterson, February 13, on "Management of Patients with Rheumatic Fever, Particularly in Regard to Cardiac Complications," and Dr. Norman M. Scott, Trenton, "Medical Service Administration."

NEW YORK

Courses for County Societies.—The council committee on public health and education of the Medical Society of the State of New York has arranged several courses for county societies to continue through the spring at intervals of one or two weeks. A course on traumatic surgery is being presented for the Fulton County Medical Society at Gloversville and Johnstown alternately on Fridays from February 21 to April 4. Dr. William S. Ladd arranged a course on general medicine for the Tompkins County society that is being given in Ithaca between March 3 and May 5. A course in general medicine was arranged by Dr. Albert F. R. Andresen, Brooklyn, with speakers from Long Island College of Medicine on alternate Thursdays from March 27 to May 22 for the Columbia County society at Hudson. Dr. Andresen arranged a similar course for the Otsego County society at Oneonta on the second Tuesday of each month from March to June. The Wayne County society is having a course on general medicine in Newark and Lyons alternately on alternate Tuesdays, February 4 to April 15, partly in cooperation with the state department of health. A course in general medicine is also being presented for the Genesee County society on six Tuesdays from February 18 to May 6. Dr. Clayton W. Greene, Buffalo, arranged a course on "Treatment of Common Diseases" for the Schenectady County Medical Society in Schenectady from March 5 to April 9. A group of three lectures on traumatic surgery arranged by Dr. Henry H. Ritter, New York, was presented in Oneida on Wednesdays beginning January 29, and four miscellaneous lectures in later successive weeks were planned in cooperation with the state department of health. A sanitation symposium was presented before the Oswego County Medical Society, Oswego, January 29, with addresses on milk and water supplies by members of the staff of the division of sanitation of the state health department, stressing emergency procedures in case of catastrophe.

New York City

Centennial Celebration.—The sixth annual alumni day of the New York University College of Medicine will be held, March 22, as part of the centennial celebration of the college. A dinner will be held Friday evening, March 21, at the Hotel Roosevelt with the following speakers: Harry Woodburn Chase, Ph.D., chancellor of the university; W. Somerset Maugham, author, and James Rowland Angell, Ph.D., former president of Yale University and now educational director of the National Broadcasting Company. The scientific program at the college will include the following speakers, all members of the faculty:

- Dr. John H. Mulholland, Is There a Surgical Solution for Hypersensitivity of the Carotid Sinus?
- Dr. Emery A. Rovenstine, An Approach to the Problem of Management Presented by the Patient in Coma.
- Dr. Karl M. Bowman, What Is the Present Status of the Shock Treatment in Schizophrenia?
- Dr. William S. Tillett, Role of Specific Antipneumococcus Immunity in Patients with Pneumonia Treated with Sulfonamide Compounds.
- Dr. Howard C. Taylor Jr., What Is the Basis for Rational Endocrine Therapy in Gynecologic Conditions?

There will be a luncheon Saturday at which the speakers will be Drs. Samuel A. Brown, dean emeritus of the college; Currier McEwen, present dean, and Nathan B. Van Etten, President of the American Medical Association. Dr. Luther B. MacKenzie is president of the alumni association and Dr. Marshall S. Brown Jr., secretary. New York University College of Medicine was formed in 1841 as the University of the City of New York Medical Department and retained that title until 1896, when it adopted the title New York University Medical College. The latter name was used until 1898, when the school merged with Bellevue Hospital Medical College.

From that time until 1935 the school was known as University and Bellevue Hospital Medical College.

Building for Health Museum.—The former Masterpieces of Art building in Flushing Meadow Park will be remodeled to meet more fully the demands of its use as the permanent home of the American Museum of Health, it was announced at the recent annual meeting of the museum. A tower of steel and glass will be added, and a façade of glass brick with a large raised mural emblazoned over the entrance will give the building a more attractive appearance, it was said. Offices for the museum staff will be provided. The building will be opened to the public early in the summer. The formation of a scientific advisory board to insure accuracy of exhibits to be displayed, with Dr. Haven Emerson as chairman, was also announced at this meeting.

OKLAHOMA

Cancer Clinic at University Hospital.—A cancer clinic was recently organized at the University Hospital, Oklahoma City, with eleven members of the hospital staff in charge. The physicians will meet the first and third Thursdays in each month to study difficult cases. They also plan to conduct special investigations. The staff includes Drs. William E. Eastland, Cyril E. Clymer, Herbert Dale Collins, Rufus Q. Goodwin, Elmer R. Musick, John H. Lamb, Everett S. Lain, Hugh G. Jeter, Paul C. Colonna, Joseph W. Kelso and Alfred J. Ackermann.

Society News.—The council of the Oklahoma State Medical Association has approved the formation of a new section on neurology, psychiatry and endocrinology, which will present its first program at the next annual meeting of the association. Dr. David W. Griffin, Norman, is chairman of the new section; Dr. Harry Wilkins, Oklahoma City, vice chairman, and Dr. Coyne H. Campbell, Oklahoma City, secretary.—Dr. Alonzo C. McFarling, Shawnee, addressed the Pottawatomie County Medical Society, Shawnee, February 15, on "Interstitial Keratitis."—Dr. Basil A. Hayes, Oklahoma City, addressed the February meeting of the Garfield County Medical Society, Enid, on "Relationship of Urologic Lesions to Nephritis and Hypertension."

OREGON

Postgraduate Session and Sommer Lectures.—The annual Alumni Postgraduate Session and the Ernst A. Sommer Memorial Lectures of the University of Oregon Medical School, Portland, will be given, March 17-21, in the auditorium and library of the school. The memorial lectures will be presented by Drs. William S. Middleton, Madison, Wis., and Donald Guthrie, Sayre, Pa. Two of the lectures will be presented at morning meetings of the postgraduate session and two at evening meetings. Dr. Guthrie will speak on "Diagnosis of Cancer of the Breast and Its Surgical Management" and "Diagnosis of Diseases of the Thyroid Gland," Dr. Middleton on "Further Rationalized Therapeutic Experiences" and "Infectious Arteritis." In addition, Dr. Guthrie and Dr. Middleton will speak at luncheon round tables on "The Acute Surgical Abdomen" and "Cardiac Emergencies" respectively. The morning sessions will be devoted to lectures in the fields of surgery and gynecology, medicine and pediatrics, and eye, ear, nose and throat. Afternoons are arranged so that physicians may gather in small groups for instruction in clinics, hospitals and laboratories. Class reunion dinners will be held the first evening and the annual banquet Thursday evening, March 20, at the Multnomah Hotel.

PENNSYLVANIA

Special Society Organized.—Physicians specializing in eye, ear, nose and throat diseases from the counties surrounding Harrisburg recently formed the Central Pennsylvania Eye, Ear, Nose and Throat Society, with Drs. George F. Gracey, Harrisburg, as president and Forney P. George, Harrisburg, as secretary. The society will hold meetings the second Thursday of February, April, June, October and December.

Philadelphia

Annual Postgraduate Institute.—The Philadelphia County Medical Society will present its sixth annual Postgraduate Institute at the Bellevue-Stratford Hotel, March 31 to April 4. The institute will consist of more than seventy-five lectures on modern therapy given by physicians associated with the medical schools and hospitals of Philadelphia. Dr. Rufus S. Reeves is director of the committee in charge of arrangements for the institute.

Society News.—Speakers before the Philadelphia Pediatric Society, January 14, were Drs. John H. Stokes, on "Some of the Applications of Fundamental Principles to the Eczema Complex in Infants and Children"; Carroll S. Wright, "Nevi in Children and Their Treatment," and Clarence S. Livingood, "Fungal Infections in Childhood."—The New York and Philadelphia chapters of the National Gastroenterological Association held a meeting in Philadelphia, January 16, with the following speakers: Drs. Anthony Bassler, New York, on "Recent Advances in Gastroenterology"; Samuel Weiss, New York, "Recent Advances of Hepatic Function Tests," and Edward L. Bortz, Philadelphia, "Therapeutic Use of Cholesterol Ester Sol in Infectious and Toxic Diseases."—Drs. Clare C. Hodge and Kenneth E. Fry addressed the Philadelphia Academy of Surgery, February 3, on "Ambulatory Treatment of Fractures of the Leg and Foot by Means of the Skate Type of Walking Iron."

RHODE ISLAND

Society News.—Dr. Gordon J. McCurdy addressed the Providence Medical Association, March 3, on "Endaural Mastoid," and Comdr. Charles L. Oliphant, Naval Torpedo Station, Newport, on "Industrial Medicine." A symposium on chemotherapy was presented at a meeting of the association, February 3, by Drs. Howard K. Turner, Providence, speaking on infections of the genitourinary tract; Morgan Cutts, Providence, pulmonary infections; Kalei K. Gregory, Providence, meningococcal infections, and Champ Lyons, Boston, osteomyelitis and compound fractures.

TENNESSEE

Meharry Seeks Endowment Fund.—Meharry Medical College, Nashville, is making a campaign to raise more than two million dollars for an endowment fund. The General Education Board, which has been contributing toward the annual operating budget of the college, has announced that it will not continue this subsidy after this year, it is reported. The board has offered conditionally, however, to make endowment grants totaling \$3,700,000 if the college will obtain \$1,700,000 from other sources. Of this amount \$1,500,000 must be raised by July 1. The college has a current endowment of about \$800,000. A large committee of prominent persons representing medical, educational and journalistic activities is sponsoring the campaign, and Abraham Flexner, Ph.D., Princeton, N. J., is national chairman of the endowment program.

GENERAL

Agency Wants Man Charged with Murder.—Jesse C. Byrum, alias "Big Red," believed to be seeking private treatment for tuberculosis, is wanted by Pinkerton's National Detective Agency. He formerly received treatment in the federal hospitals as a war veteran but became aware that the hospitals were asked to be on the lookout for him. Byrum's description is given as follows: Age, 40 (1937); height, 6 feet 2½; weight, 170 pounds; eyes, blue; hair, auburn; speaks with Southern accent. He is reported to frequent gambling and bookmaking resorts and to be an opium smoker. Physicians who may be approached by Byrum for treatment are asked to notify their local police authorities at the expense of Pinkerton's National Detective Agency, Inc.

WPA Health Program to Be Expanded.—An expansion and redirection of all community service programs of the Works Projects Administration toward activities related to home defense will include widening of the public health program, according to an announcement. Training of as many as fifty thousand persons in the next twelve months as ward attendants, orderlies and hospital aides capable of giving simple bedside care will be one feature of the program. At present the public health program is devoted to assisting public hospitals, clinics and sanatoriums. The school lunch program, which now provides hot lunches for approximately two million school children, as well as the gardening and food preservation projects, will also be strengthened, it was said.

New Journal on Cancer.—The first issue of *Cancer Research*, a monthly journal of articles and abstracts on cancer research, made its appearance in February. The publication plans to make information available to laboratory workers, clinicians and all persons concerned with the attack on malignant disease. It is sponsored by the American Association for Cancer Research, the Anna Fuller Fund, the International Cancer Research Foundation and the Jane Coffin Childs Memorial Fund for Medical Research. The journal will be managed by an advisory board composed of representatives of

each of these groups. The subscription price to members of the association for cancer research will be \$5, and for those who are not members and for institutions and libraries the rate will be \$7. Dr. Alexander Vaughn Winchell is the business manager, with offices at 1620 Lincoln-Liberty Building, Philadelphia. Dr. Stanhope Bayne-Jones is secretary of the editorial committee, 333 Cedar Street, New Haven, Conn. The first issue contains thirteen original articles and two hundred and forty-one abstracts of papers published in the latter half of 1940.

Pan-American League Against Cancer.—Announcement was made, February 28, of the formation of the Pan-American League Against Cancer, incorporated under the laws of New York. Dr. Francis Carter Wood, emeritus director of the Institute of Cancer Research, Columbia University College of Physicians and Surgeons, New York, was head of the organizing committee and Dr. Angel H. Roffo, director of the Institute of Experimental Medicine, Buenos Aires, will be president of the new league. The organizing committee included, among others:

Dr. Antonio C. Fontes, director of the Instituto Oswaldo Cruz, Rio de Janeiro, Brazil.
Dr. Fernando Ocaranza, president of the Mexican League Against Cancer, Mexico, D. F.
Dr. Emilio Martinez, president of the Cuban League Against Cancer, Havana.
Dr. José V. Huertas, director of the National Institute of Radium, Bogotá, Colombia.
Dr. Juan Jose Mostajo, director of the Institute of Cancer, Lima, Peru.
Dr. Mario Lujan, secretary of health, San Jose, Costa Rica.
Dr. Leon Rulk, director-general, National Service of Hygiene and Public Welfare, Port-au-Prince, Haiti.
Dr. Carlos Butler, director of the Institute of Cancer, Montevideo, Uruguay.

Among the incorporators of the league are:

Mr. Winthrop W. Aldrich, chairman, board of directors of the Chase National Bank, New York.
Major Gen. James G. Harbord, chairman, board of directors, Radio Corporation of America, New York.
Frank B. Jewett, Ph.D., president, National Academy of Sciences, New York.
Dr. George E. Pfahler, professor of radiology, University of Pennsylvania Graduate School of Medicine, Philadelphia.
Dr. Albert Soiland, Los Angeles.
Mrs. Robert G. Mead, member of the board, New York City Committee of the American Society for the Control of Cancer.

The organization will carry on in the Western Hemisphere the scientific and social work of the International Union Against Cancer, which formerly had headquarters in Paris. The aims outlined in the articles of incorporation are to promote the fight against cancer, to coordinate study and research in the countries of the American continent and to disseminate information thereon, and to promote establishment of national organizations throughout the Western Hemisphere.

Deaths in Other Countries

Dr. Charles Thurstan Holland, Liverpool, president of the first International Congress of Radiology, held in London in 1925, died January 16.—Dr. Francis Temple Grey, an authority on legal medicine, died in London January 24, aged 54.—Sir Pendrill Varrier-Jones, founder and medical director of Papworth Village, a settlement for the care and rehabilitation of tuberculosis patients, died at Papworth, Cambridgeshire, England, January 30, aged 57.—Dr. William Bulloch, emeritus professor of bacteriology, University of London, and an original member of the Medical Research Council, under the National Insurance Act, died in London Hospital, February 11, aged 72.

Government Services

The Government Needs Physicians

The U. S. Civil Service Commission announces that applications are still being received for three grades of medical officer positions, ranging in salary from \$3,200 to \$4,600 a year for the following agencies: Public Health Service, Food and Drug Administration, Civil Aeronautics Administration, Veterans Administration and the Indian Service. An announcement was first published in *THE JOURNAL*, Sept. 21, 1940, p. 1032. The recent announcement amends the original one to add to the list of optional branches "diagnosis and treatment of cancer." Applications will be rated as received until further notice and certification made as the needs of the service require, except that if sufficient eligibles are obtained the receipt of applications may be closed, in which case due notice will be given.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Jan. 18, 1941.

Hospital Coordination

There are two hospital systems in this country. The older one consists of the voluntary hospitals, so called because they are provided and supported by the voluntary subscriptions of the benevolent for the benefit of the poor. To them are attached the medical schools and therefore the vast majority of the leaders of British medicine. The other system consists of the municipal hospitals, which have developed out of the infirmaries established by the municipal authorities for the aged and infirm poor. They are thus part of our public health organization. In the past they had no status comparable to that of the voluntary hospitals but in recent years they have been much improved, with the result that we have two efficient hospital systems independent of each other. This means waste of effort and has given rise to the problem of coordination of our hospitals on a regional basis. The complete calmness and confidence with which the country faces the greatest threat to democratic civilization is shown, among many ways, by the fact that the war has not interrupted the attack on the hospital problem.

In December 1939 the automobile magnate Lord Nuffield, who is famous for his benefactions, endowed a trust with the object of promoting coordination of hospital services. The trust has set up a central regionalization and medical advisory council under the chairmanship of Sir Farquhar Buzzard. Plans for the regionalization of hospital services have been discussed in important provincial centers with representatives of the public health services and the voluntary hospitals. The minister of health, Mr. Malcolm Macdonald, has expressed approval of the work of the trust. Whatever may be the proper ultimate hospital service, he holds that we should build up from existing organizations. Both have played a great part in our hospital system in the past.

Government Decides to Fortify White Bread

The war has caused the rationing of certain imported foods because the cargo space is required for munitions and has made nutrition a national problem, in which the question of bread has come to the front. Now that the government not only controls the price of bread but also subsidizes it so as to keep the price down, it has been urged to insure that the public be supplied with wholemeal bread. In the House of Lords the minister of food, Lord Woolton, stated that he had been impressed by the unanimity of scientific opinion on the nutritive value of wholemeal bread and the obvious desire of people who were not scientists to compel everybody to eat it. Its virtues had been widely known for some time, and certain trade interests had spent large sums in advertising them. The government found that the average deliveries of all kinds of wholemeal flour did not exceed 5 per cent of the total delivery of all flour. Reckoning that 60 per cent was used for bread making, it followed that only 8 per cent of the bread used in the country was made from wholemeal. A scientific committee appointed to advise the government carefully sifted the facts. The committee stated that brown bread did not keep as well as white bread and was a less attractive food when stale. Further—and this was very important in wartime, when we must maintain reserve stocks of flour—wholemeal flour did not keep as well as white flour and would have to be turned over twice as often as white flour if it was not to go out of condition. In these circumstances he was loath to insist on the public having no choice but to eat wholemeal bread. The proper course was to secure an adequate

supply of this bread at the same price as white bread and draw attention to its advantages, while recognizing that there were people to whom, for physiologic reasons, it was not suitable.

The government had decided to fortify the white loaf. The milling industry had spent much money on research as to the best means of remedying the deficiency of white flour in vitamin B₁. Guided by its scientific advisers, the government had made arrangements for the synthetic production of vitamin B₁ but this would not be available in quantity until May 1941. It would be introduced into white bread with calcium salts, which are also deficient. In the debate which followed, it was stated by Lord Balfour, chairman of the Medical Research Council, that calcium deficiency had long been a defect in the nutrition of our people, as was shown by the defective formation of the teeth. While thinking that everybody should eat wholemeal bread, the council recognized the practical difficulties, and the government could not be a dictator.

The decision to fortify the white loaf in this way has aroused criticism. The question is asked Why remove from flour many of its valuable ingredients and then resort to a difficult process to restore only some of them? A research by Dr. Harriette Chick, published in the *Lancet*, is something of a bombshell for the government's plan. She points out that vitamin B₁ is not the only deficiency in white flour; it is also deficient in the vitamin B complex (which includes riboflavin, nicotinic acid and vitamin B₆).

The Troubles of a Medical Journal with the Lay Press

The *South African Medical Journal*, which is the organ of the South African Medical Association, has in vain tried to prevent the lay press from summarizing or quoting from its articles for purposes of review because in the present state of the law there is nothing to forbid this from being done. The *Journal* admits that some of its matter may be of interest and value to the layman and that it may be its duty to bring this material to the notice of the public, as is done by at least two medical contemporaries in England and by THE JOURNAL in America. In such cases the editor decided what should be given to the public. An example was an article sent to the lay press on the dangers of damage to the retina from looking at the sun in the recent total eclipse visible in South Africa. But in some other cases there are objections to publication in the lay press. These are generally that it is an infringement on the ethical code of the association and that excerpts, when divorced from their context, give rise to mistaken impressions, especially when they are in the nature of criticisms among the profession.

A New Use of the Stethoscope

In gratitude for his work in removing delayed action bombs which fell in the east end of London, Capt. Robert Davies, who is in command of the bomb disposal squad, has been presented with a stethoscope by the resident staff of one of the hospitals. He has frequently borrowed a stethoscope from the hospital in order to listen to the ticking of delayed action bombs before removing them.

Marriages

JOHN PHILIP COGLEY to Miss Patricia Ellen Noonan, both of Council Bluffs, Iowa, in Palm Springs, Calif., Dec. 25, 1940.

W. HUGH MISSILDINE, Des Moines, Iowa, to Miss Alice Miriam Hughes of Ames, Dec. 24, 1940.

IRWIN W. BARRETT to Miss Irma Lee Barnes, both of Clarksdale, Miss., Dec. 24, 1940.

EMIL A. FULLGRABE, Indianola, Iowa, to Miss Lois Hooper of Hartford, Dec. 24, 1940.

ALFRED G. HUENEGARDT to Miss Helen Wood, both of Los Angeles, Dec. 30, 1940.

Deaths

Charles Wallis Edmunds Ⓢ a leading member of the Council on Pharmacy and Chemistry of the American Medical Association since 1921, died, March 1, of coronary embolism at his home in Ann Arbor, Mich., aged 68.

Dr. Edmunds was born in Bridport, Dorset, England, Feb. 22, 1873 and came to the United States in 1883. He graduated from the University of Michigan Department of Medicine and Surgery, which later became the University of Michigan Medical School, Ann Arbor, in 1901. The following year he became a member of the faculty at his alma mater as assistant in pharmacology, in 1904 instructor in materia medica and therapeutics, was lecturer from 1905 to 1907 and had been professor since 1907. From 1911 to 1921 he was secretary and from 1918 to 1921 assistant dean of the faculty. He had been director of the pharmacology laboratory since 1936. In 1935 he was made a member of the executive committee of the medical school and in 1937 a member of the executive board of the graduate school. In 1937 Dr. Edmunds was selected to give the Russell lecture at the university.

At the 1940 convention Dr. Edmunds was chosen president of the United States Pharmacopeia; he had been a member of the committee on revision since 1910, member of the executive committee since 1920, second vice chairman since 1930, chairman of the antianemia products advisory board since 1935 and chairman of the committee on biologic assays since 1920. For more than ten years he had been a member of the committee on drug addiction of the National Research Council.

In 1925 he went to Geneva, Switzerland, as a member of the international committee on drug standardization of the Health Committee of the League of Nations.

In the American Medical Association Dr. Edmunds was chairman of the Section on Pharmacology and Therapeutics, 1929-1930.



CHARLES WALLIS EDMUNDS, M.D.
1873-1941

Many scientific organizations profited by his leadership. He was a past president of the American Society for Pharmacology and Experimental Therapeutics and a member of the American Physiological Society, the Association of American Physicians and the Society for Experimental Biology and Medicine. He was the author of numerous publications in his special field. With Dr. Arthur R. Cushny he wrote the well known "Laboratory Guide in Pharmacology." He revised with Prof. J. A. Gunn of Oxford, England, Cushny's textbook on "Pharmacology and Therapeutics," and he was on the editorial board of the *Journal of Pharmacology and Experimental Therapeutics* from 1907 to 1937.

By his death medicine loses a scientific contributor, an indefatigable worker, a dependable leader.

Charles Value Chapin, Providence, R. I.; Bellevue Hospital Medical College, New York, 1879; superintendent of health of Providence from 1884 to 1932; professor of physiology at Brown University from 1886 to 1896; registrar of the city of Providence from 1888 to 1932; in 1909 lecturer at Harvard Medical School, lecturer at the Massachusetts Institute of Technology School for Health Officers from 1913 to 1922 and the Harvard School of Hygiene and Public Health from 1923 to 1935; in 1913 undertook for the American Medical Association a survey of state sanitation throughout the United States; member and past president of the Rhode Island Medical Society; past president of the Providence Medical Association, and was the first president of the American Epidemiological Association; member of the American Academy of Arts and

Sciences, Royal Society of Medicine of England, and the American Public Health Association, of which he was president in 1927; was elected the first honorary member of the Delta Omega Society in 1927; member of the medical advisory board of the American Red Cross during the World War; was largely responsible for the establishment of the Providence City Hospital, which later changed its name to the Charles V. Chapin Hospital; was awarded the Marcellus Hartley medal by the National Academy of Sciences in 1928, the Sedgwick Medal by the American Public Health Association in 1929 and the Susan Colver Rosenberger Medal by Brown University in 1935; received honorary degrees from Brown University, Rhode Island State College, Kingston, and Yale University, New Haven, Conn.; was the author of numerous works on public health and sanitation and was a frequent contributor to the literature of public health; at one time associate editor of the *American Journal of Hygiene* and the *Journal of Preventive Medicine*; aged 85; died, January 31, of arteriosclerosis and Parkinson's disease.

Achilles Edward Davis Ⓢ New York; University of Louisville (Ky.) Medical Department, 1889; member of the American Academy of Ophthalmology and Otolaryngology, American Ophthalmological Society and the Association for Research in Ophthalmology; fellow of the American College of Surgeons; formerly professor of ophthalmology at the New York Post-Graduate Medical School; consulting ophthalmologic surgeon, New York Post-Graduate Medical School and Hospital, Central Islip (N. Y.) State Hospital, United Hospital, Port Chester and the Ossining (N. Y.) Hospital; served during the World War; author of "The Medical Treatment of Cataract," 1937, and co-author of "Handbook of the Anatomy and the Diseases of the Eye and Ear"; aged 74; died, January 17, at his home in Scarsdale of coronary thrombosis.

Robert Grant Torrey Ⓢ Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1906; professor of principles and practice of medicine and clinical medicine, Woman's Medical College of Pennsylvania; fellow of the American College of Physicians; formerly associate professor of medicine at the University of Pennsylvania Graduate School of Medicine; associate in medicine at his alma mater; medical examiner for the division of tuberculosis of the city health department; on the staff of the Hospital of the Woman's Medical College; visiting physician to the Philadelphia General Hospital; served during the World War; aged 62; died, January 11, of spontaneous subarachnoid hemorrhage.

Colin Luke Begg Ⓢ New York; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1899; formerly assistant professor of urology at the New York Post-Graduate Medical School; one of the founders of the American Urological Association; served in various capacities on the staffs of the New York Hospital, Bellevue Hospital, New York Skin and Cancer Hospital and the Columbus Hospital; served during the World War; aged 67; died, January 15, of coronary thrombosis.

John Joseph McGovern Ⓢ Milwaukee; University of Pennsylvania Department of Medicine, Philadelphia, 1893; member of the House of Delegates of the American Medical Association, 1913-1914; fellow of the American College of Physicians; past president of the State Medical Society of Wisconsin and the Medical Society of Milwaukee County; on the staffs of the Columbia Hospital and the Johnston Emergency Hospital; aged 76; died, January 14, of pernicious anemia.

Homer S. Warren Sr., Chicago; College of Physicians and Surgeons of Chicago, 1889; member of the Illinois State Medical Society; in 1916 was commissioned a first lieutenant in the medical reserve corps of the United States Army; founder of the National Pathological Laboratories; for many years on the staff of the Cook County Hospital; aged 75; died, January 18, in the Veterans Administration Facility, Hines, Ill., of arteriosclerosis and heart disease.

Albert Benjamin McCreary Ⓢ Jacksonville, Fla.; University of Tennessee College of Medicine, Memphis, 1922; state health officer, Florida State Board of Health; director of the bureau of county and district health work, state board of health; was at one time engaged in public health work in Tennessee, North Carolina and Virginia; past president of the Florida Public Health Association; aged 45; died, January 24, of organic heart disease.

Charles Francis Coulter, Great Falls, Mont.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1902; member of the Medical Association of Montana and the American Academy of Ophthalmology and Otolaryngology; formerly member of the state board of medical examiners; served during the World War; aged 65; died, January 2, in

St. Patrick Hospital, Missoula, of cerebral hemorrhage and hypertension.

Lawrence Hugh Gilman * Indianapolis; Indiana University School of Medicine, Indianapolis, 1923; clinical professor of mental and nervous diseases at his alma mater; member of the American Psychiatric Association; served during the World War; medical director of the Dr. W. B. Fletcher's Sanatorium; on the staff of the Methodist Hospital; aged 46; died, January 26.

William Judson Martin, Kokomo, Ind.; St. Louis College of Physicians and Surgeons, 1903; member of the Indiana State Medical Association; past president of the Indiana Tuberculosis Association; formerly health officer of Kokomo and secretary of the city board of health; aged 71; died, Nov. 19, 1940, in Winter Haven, Fla.

John Harland Goodnough * Rock Springs, Wyo.; University of Nebraska College of Medicine, Omaha, 1914; past president of the Wyoming State Medical Society, Sweetwater County Medical Society and the Wyoming association of county health officers; aged 51; died, Dec. 13, 1940, in Hollywood, Calif., of nephritis.

David D. Custer * Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1883; for many years police surgeon; aged 83; on the courtesy staff and a member of the board of managers of the Memorial Hospital, where he died, January 14, of cerebral thrombosis and coronary occlusion.

George Bailey Coon, Greystone Park, N. J.; Dartmouth Medical School, Hanover, N. H., 1895; member of the Massachusetts Medical Society and the New England Society of Psychiatry; resident physician at the New Jersey State Hospital; aged 72; died, January 18, of carcinoma of the stomach.

Edward Mellus, Newton, Mass.; Harvard Medical School, Boston, 1903; member of the Massachusetts Medical Society; treasurer of the Middlesex South District Medical Society; member of the board of health; on the staff of the Newton Hospital; aged 68; died, Dec. 7, 1940, of coronary thrombosis.

Elton Smith Corson, Bridgeton, N. J.; University of Pennsylvania Department of Medicine, Philadelphia, 1895; member of the Medical Society of New Jersey; served during the World War; aged 73; died, January 5, in the United States Naval Hospital, Philadelphia, of carcinoma of the rectum.

Francis Joseph Fitzpatrick, Somerville, Mass.; College of Physicians and Surgeons, Boston, 1928; member of the Massachusetts Medical Society; member of the board of public welfare; aged 59; died, January 2, in the Somerville Hospital of bronchopneumonia and diabetes mellitus.

Leander Cox, Springfield, Mo.; Missouri Medical College, St. Louis, 1891; member of the Missouri State Medical Association; on the staffs of the Springfield Hospital, St. John's Hospital and the Burge Hospital; aged 80; died, January 7, of arteriosclerosis and heart disease.

William Joseph Scott, Derby, Conn.; Fordham University School of Medicine, New York, 1916; member of the Connecticut State Medical Society; served during the World War; aged 51; died, Dec. 3, 1940, in the Veterans Administration Facility, Bedford, Mass., of cerebral hemorrhage.

Alexander Sanders De Witt * Detroit; University of Michigan Homeopathic Medical School, Ann Arbor, 1905; fellow of the American College of Physicians; aged 58; on the staff of the Providence Hospital, where he died, January 2, of cerebral hemorrhage.

Erle Franklin Fisher * Chicago; Bennett Medical College, Chicago, 1912; served during the World War; on the associate staff of the Alexian Brothers' Hospital; aged 57; died, January 5, at his home in Fox River Grove of coronary thrombosis.

Jessie Phandora Simpson, Radford, Va.; Woman's Medical College of Pennsylvania, Philadelphia, 1898; for many years a medical missionary in India; aged 74; died, Dec. 24, 1940, in Flagler Beach, Fla., of hypertensive cardiovascular disease.

William Kerr Skinner, Kingston, Ont., Canada; McGill University Faculty of Medicine, Montreal, Que., 1923; member of the American Psychiatric Association and the New England Society of Psychiatry; aged 42; died, Oct. 13, 1940.

Theodore Boose * Williamsport, Md.; College of Physicians and Surgeons, Baltimore, 1889; on the staff of the Washington County Hospital, Hagerstown; aged 76; died, January 11, of coronary occlusion and arteriosclerosis.

Mae Emery White * Canton, Ohio; Eclectic Medical Institute, Cincinnati, 1899; member of the American Society of Anes-

thetists; aged 63; died, Dec. 30, 1940, in the Mercy Hospital of injuries received in an automobile accident.

Herbert Engel, Massena, N. Y.; Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, Prussia, 1920; member of the Medical Society of the State of New York; aged 46; died, Dec. 5, 1940, of coronary embolism.

John Edson Bolender * Grand Rapids, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1912; aged 55; on the staff of the Blodgett Memorial Hospital, where he died, January 9, of septicemia.

Florence Brandeis, Louisville, Ky.; Woman's Medical College of Pennsylvania, Philadelphia, 1894; member of the Kentucky State Medical Association; aged 80; died, January 8, in the Jewish Hospital of pneumonia.

Albert Leonidas Butt, Danville, Ky.; Vanderbilt University School of Medicine, Nashville, Tenn., 1882; University of Nashville Medical Department in 1883; aged 82; died, January 7, of cerebral hemorrhage.

Adolphus St. Pierre, Pawtucket, R. I.; Victoria University Medical Department, Coburg, Ont., Canada, 1876; aged 89; died, Dec. 3, 1940, of burns received when a spark ignited his clothing while smoking.

Lavander Lafayette Tilley, Lebanon, Tenn.; Vanderbilt University School of Medicine, Nashville, 1894; member of the Tennessee State Medical Association; aged 71; died, Dec. 18, 1940, of heart disease.

Don Bruce Cameron * Grand Rapids, Mich.; Rush Medical College, Chicago, 1922; served during the World War; on the staff of the Butterworth Hospital; aged 44; died, January 17, of carcinoma.

Everett Edwin Lusk, San Bernardino, Calif.; Hahnemann Medical College and Hospital, Chicago, 1901; aged 70; died, Nov. 9, 1940, of acute pentobarbital sodium and gelsmium poisoning.

Joseph Madison Daly * Abilene, Texas; Arkansas Industrial University Medical Department, Little Rock, 1897; aged 68; died, January 6, in the Hendrick Memorial Hospital of influenza.

Barney Barr Smith * Buffalo; Jefferson Medical College of Philadelphia, 1917; member of the Radiological Society of North America; aged 45; died, Dec. 17, 1940, of lobar pneumonia.

Graham B. Bristol, Geneva, Fla.; University of the City of New York Medical Department, New York, 1881; aged 88; died, January 10, of coronary thrombosis and arteriosclerosis.

Alfred Freudenthal * Trinidad, Colo.; Gross Medical College, Denver, 1902; on the staff of the Mount San Rafael Hospital; aged 60; died, Dec. 22, 1940, of angina pectoris.

Stanley Atkins Ferrell, Forrester City, Ark.; Memphis (Tenn.) Hospital Medical College, 1912; aged 59; died, January 13, in Madison of angina pectoris.

Clement H. Bockoven, Verona, Ohio; Illinois Medical College, Chicago, 1903; aged 66; died, January 3, in the McMillen Sanitarium, Columbus, of pneumonia.

Horace Harvey Carothers, Charleroi, Pa.; University of the South Medical Department, Seawance, Tenn., 1899; aged 80; died, January 14, of myocarditis.

George W. Shadwick, Iola, Kan.; Homeopathic Medical College of Missouri, St. Louis, 1900; aged 78; died, Dec. 5, 1940, of cerebral hemorrhage.

William Lee Davidson, Houston, Texas; Medical College of Alabama, Mobile, 1892; aged 71; died, January 2, in Wharton of coronary occlusion.

Richard Frank Trimble, Windsor, Ont., Canada; University of Toronto Faculty of Medicine, 1923; aged 46; died, Nov. 9, 1940, in Tucson, Ariz.

Enos Mitchell, Primghar, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1878; aged 86; died, Dec. 9, 1940, of auricular fibrillation.

William B. Brewton, Panama City, Fla.; Medical College of Alabama, Mobile, 1900; aged 79; died, January 5, of coronary occlusion.

Parker Burnham, Gloucester, Mass.; Harvard Medical School, Boston, 1903; aged 62; died, Dec. 25, 1940, of bronchopneumonia.

Newton Murphy Wade, Portland, Ore.; Chicago Medical College, 1880; aged 80; died, Dec. 7, 1940, of coronary thrombosis.

John L. Varnell, Ooltewah, Tenn. (licensed in Tennessee in 1891); aged 87; died, Dec. 20, 1940, of organic heart disease.

Bureau of Investigation

CEASE AND DESIST ORDERS

Abstracts of Certain Federal Trade Commission Releases

The work of the Federal Trade Commission, in helping to protect the public against misrepresentation or fraud in the medical as well as other fields, has been greatly extended by the provisions of the Wheeler-Lea Amendment to the Federal Trade Commission Act. The Food, Drug and Cosmetic Act of 1938 added to the Food and Drug Administration's control of the advertising claims and statements made on the labels of medicines or on the carton or in the accompanying leaflet, whereas what might be termed collateral advertising, that which appears in newspapers and magazines and over the air, comes more actively under the purview of the Federal Trade Commission, by virtue of the Wheeler-Lea Amendment.

THE JOURNAL has at various times commented on the activities of the Federal Trade Commission in this connection, even before the Wheeler-Lea Amendment gave it its added rights. In some cases the Commission may accept from the person or concern involved a stipulation that the objectionable practices or claims cited will be discontinued. In other cases the Commission issues what is known as a Cease and Desist Order, in which the individual, manufacturer or distributor cited is ordered to cease and desist from practices which have been declared objectionable.

Abstracts of some of the orders issued during 1940 follow:

"Dr." Springer's Nostrums.—These were put out by Basic Foods, Inc., Somerset, Pa., whose president was a self-styled "Dr." Curtis Howe Springer. Springer's activities were dealt with in a lengthy article that appeared in THE JOURNAL, Sept. 14, 1935, page 900. This brought out that he had been "Dean" of a discredited technical school in Chicago, had traveled about the country giving "lectures" on psychology, prosperity, personality and some other things; had issued an alleged magazine called "Symposium Creative Psychology," devoted mainly to advertising the man and his activities, especially the "Doc. Springer Temple of Health"; had attempted to start a "health resort" at Mount Davis, near Salisbury, Pa.; had established Basic Foods, Inc.; had claimed various degrees including that of M.D. (which he could not prove) and was putting out various "patent medicines." Two of these were involved in the release issued on Nov. 9, 1940, in which the Federal Trade Commission reported that it had ordered Basic Foods, Inc., and Curtis Howe Springer to cease and desist from certain misrepresentations in the sale of "Dr. Springer's Antediluvian Tea" and "Dr. Springer's Re-Hib." Among these misrepresentations were the use of the word "doctor" or any abbreviation thereof to designate or identify any person when such person was not a physician or practitioner of medicine duly licensed as such; representing that the majority of human aches and pains are due to congestion of the glands and organs of the body, or to constipation or overacid conditions; that Dr. Springer's Antediluvian Tea and Dr. Springer's Re-Hib, or any products of substantially similar composition, may be beneficially or safely taken by all persons, and that any of the respondents' products are approved by any governmental agency; that the tea or any product of substantially similar composition has any beneficial, curative or remedial value for any malady or diseased condition or possesses any therapeutic value in the treatment of kidney trouble, diseased tonsils, stiff and aching joints, swollen feet, heartburn, insomnia or nervousness, or in the treatment of any other condition except to the extent that the symptoms thereof may be relieved by the administration of a mild laxative; that Dr. Springer's Re-Hib, or any product of substantially similar composition, has any beneficial, curative or remedial value for, or possesses any therapeutic value in the treatment of, any condition or malady, except to the extent that such condition or malady is caused by hyperacidity of the stomach, which may be relieved by the administration of the product as a palliative or acid neutralizer, and except to the extent that the digestion of foods may be aided by the administration of the product as a digestant.

Home Diathermy.—This is a device put out by the Home Diathermy Company, Inc. On Nov. 26, 1940, the Federal Trade Commission ordered this New York concern to cease representing that its "Home Diathermy" device may be easily and safely used in the home; that its use constitutes a cure or remedy for arthritis, neuritis, bursitis, sciatica, neuralgia, lumbago, hay fever, asthma, high or low blood pressure or rheumatism, or that the device has any therapeutic value in treating such diseases and conditions or in treating any other ailment, unless the advertisement is specifically limited to those cases in which there is no acute inflammation, infection, pus formation, arteriosclerosis or any condition tending toward hemorrhage. The order also prohibits advertisements which fail to reveal that the unsupervised use of this device by persons not skilled in the diagnosis, analysis and methods of treatment of disease may result in serious and irreparable injury to health.

Lady Lydia Capsules.—This nostrum is also designated as "Soluble Gelatin Capsules No. 5, Apioi and Ergotin Compound" and is put out by Louis, Sol and Marvyn Cohen, trading as Cohen's Cut Rate Drug Store and Cohen Drug Company, these persons being operators of a chain

of drugstores in West Virginia. On Sept. 23, 1940, the Federal Trade Commission declared that its investigations had shown that the Cohens had falsely advertised through the mails and by other means, representing that their product is a competent and effective treatment for delayed menstruation and that it is safe and harmless. On the contrary, the Commission pointed out that the product contains certain drugs in quantities sufficient to cause serious and irreparable injury to health if used under the conditions prescribed in the advertisements and under such conditions as are customary or usual and that the advertising did not bring out this fact. The Commission ordered the Cohen concern to cease and desist from the misrepresentations named.

Lady Lydia Female Capsules.—The Gotlieb concern, which is run by a Lenard and Sarah Gotlieb of Clarksburg, W. Va., trading as Reed's Cut Rate Store and Fountain Cut-Rate Stores, put out this nostrum. They also designated it as "Prescription Female Capsules." On Oct. 22, 1940, the Federal Trade Commission ordered the Gotlieb concern to discontinue advertisements which represent, directly or through inference, that their preparation is a competent or effective treatment for delayed menstruation and that it is harmless; or advertisements which fail to reveal that use of the preparation may cause gastrointestinal disturbances and excessive congestion and hemorrhage of the pelvic organs, and, in the case of pregnancy, may cause uterine infection and blood poisoning.

Morgan's Pomade.—Rose Heifler and Fred Jackson, doing business as Heifler and Jackson, Brooklyn, advertised this product as "Undoubtedly the finest remedy for grey or faded hair . . . not a dye but a special compound which when massaged into the roots of the hair, nourishes it back to its original color and luster. . . ." On the contrary the Federal Trade Commission charged that the product was a lead-and-sulfur dye which when applied to gray hair would dye the exterior of the hair shaft and that use of the preparation would not supply the hair shaft with the color pigments, a deficiency of which material causes gray hair. Further, the advertisements contained no statements to the effect that application of the product to a tender skin, or to skin on which there are lesions which have broken the continuity of the integument, may be injurious. On April 20, 1940, the Commission ordered the company to cease representing that its product is not a tint or a dye; that its application causes the hair to change its color without dyeing; that its use will restore the original color to gray hair or prevent hair from falling out, or that it penetrates into the roots of the hair and enriches the hair.

Murine.—On July 6, 1940, the Federal Trade Commission ordered the Murine Company, Inc., Chicago, to cease advertising that "Murine" is a cure, remedy or effective treatment for eyestrain, or possesses any therapeutic value with respect to that condition in excess of furnishing relief from irritation and eye discomfort; that it will prevent or ward off eyestrain due to driving, reading, sewing, viewing moving pictures, or other excessive use of the eyes; that it will prevent eye irritation due to exposure to dust, sun or light glare or that it possesses any therapeutic value with respect to irritation of the eyes aside from furnishing relief from such irritation. Some 1940 advertising of Murine states that the ingredients are potassium bicarbonate, potassium borate, hydrogen borate, berberine hydrochloride, hydrastine hydrochloride, glycerin, "merthiolate" (sodium ethylmercuri thiosalicylate, Lilly) 1:100,000 and sterilized water.

Pancreobismuth.—The Frye Company of Watertown, Mass., was reported as the distributor of this product, which was also known as "Pancreo Bismuth" and "Pancreobismuth and Pepsin." In January 1940 the Federal Trade Commission ordered the concern to cease and desist from representing, among other things, that its preparation has therapeutic value in the treatment of upset stomach, in the relief of indigestion due to acid stomach or in the neutralization of excess acid and allaying of irritation, beyond its being a simple antacid and carminative tending to give temporary relief from distress caused by such symptoms. The firm also was ordered to cease using the foregoing names for its product and to avoid any other trade names containing the words "Pancreatin" or "Pepsin."

Phillips' Milk of Magnesia Creams.—Two cosmetics of this brand, "Milk of Magnesia Cleansing Cream" and "Milk of Magnesia Texture Cream," are put out by the Charles H. Phillips Chemical Company, New York. On Dec. 18, 1940, the Federal Trade Commission ordered the concern to "cease disseminating advertisements which represent, directly or through inference, that there is a disease or condition properly described as 'acid skin,' which may be cured by use of the respondent's preparation or which causes skin blemishes, blackheads, enlarged pores, oily shine or dry, scaly roughness; that use of the respondent's preparations will cure or overcome skin blemishes; that use of either or both preparations have value in treating roughness of the skin in excess of temporarily relieving roughness when due solely to dryness; that either or both will remove blackheads or have value in such removal in excess of aid through removing accumulated dirt, foreign matter or skin excretions lodged in the exterior openings or are of value in the treatment thereof in excess of aiding in their reduction when caused solely by accumulated dirt, foreign matter or skin excretions lodged in exterior openings of the pores; and will overcome or are of value in treating oily shine or oiliness of the face, in excess of temporarily removing accumulated oil from the skin surface." The order also directs the respondent to "cease representing that use of either or both preparations neutralizes excess fatty acid or other acid accumulations on the skin in the same way that milk of magnesia neutralizes acid in the stomach, or that the neutralization of a normal fatty acid or other acid accumulation on the skin is necessary to the maintenance of a healthy skin condition; that the preparations or either of them change or affect the texture of the skin, and that the use of the respondent's cleansing cream or of any other product of substantially similar ingredients penetrates the pores of the skin or thoroughly cleans the skin, except as it acts upon dirt or other matter which may be present on the skin surface or in the exterior openings of the pores."

Medical Examinations and Licensure

NATIONAL BOARD OF MEDICAL EXAMINERS EXAMINING BOARDS IN SPECIALTIES

Examinations of the National Board of Medical Examiners and Examining Boards in Specialties were published in *THE JOURNAL*, March 8, page 1023.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: Montgomery, June 17-19. Sec., Dr. J. N. Baker, 519 Dexter Ave., Montgomery.

ARKANSAS: * *Medical*. Little Rock, June 5-6. Sec., Dr. D. L. Owens, Harrison. *Eclectic*. Little Rock, June 5-6. Sec., Dr. Clarence H. Young, 1415 Main St., Little Rock.

CALIFORNIA: *Oral examination* (required when reciprocity application is based on a state certificate or license issued ten or more years before filing application in California), San Francisco, April 16. *Written*. San Francisco, June 30-July 3. Sec., Dr. Charles B. Pinkham, 1020 N. St., Sacramento.

CONNECTICUT: * *Endorsement*. Hartford, March 25. Sec., Dr. Thomas P. Murdock, 147 W. Main St., Meriden.

DELAWARE: July 8-10. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, 229 S. State St., Dover.

DISTRICT OF COLUMBIA: * Washington, May 12-13. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: * Jacksonville, June 23-24. Sec., Dr. William M. Rowlett, Box 786, Tampa.

GEORGIA: Atlanta, June. Sec., State Examining Boards, Mr. R. C. Coleman, 111 State Capitol, Atlanta.

HAWAII: Honolulu, July 14-17. Sec., Dr. James A. Morgan, 48 Young Bldg., Honolulu.

IDAHO: Boise, April 1. Dir., Bureau of Occupational License, Mr. H. B. Whittlesey, 335 State Capitol Bldg., Boise.

ILLINOIS: Chicago, April 1-3. Superintendent of Registration, Department of Registration and Education, Mr. Lucien A. File, Springfield.

INDIANA: Indianapolis, June 17-19. Sec., Board of Medical Registration and Examination, Dr. J. W. Bowers, Citizens Trust Bldg., Fort Wayne.

KANSAS: Kansas City, June 17-18. Sec., Board of Medical Registration and Examination, Dr. J. F. Hassig, 905 N. 7th St., Kansas City.

KENTUCKY: Louisville, June 5-7. Sec., State Board of Health, Dr. A. T. McCormack, 620 S. Third St., Louisville.

MARYLAND: *Medical*. Baltimore, June 17-20. Sec., Dr. John T. O'Mara, 1215 Cathedral St., Baltimore. *Homeopathic*. Baltimore, June 17-18. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MICHIGAN: * Ann Arbor and Detroit, June 11-13. Sec., Board of Registration in Medicine, Dr. J. Earl McIntyre, 202-4 Hollister Bldg., Lansing.

MINNESOTA: * Minneapolis, April 15-17. Sec., Dr. Julian F. Du Bois, 350 St. Peter St., St. Paul.

MISSISSIPPI: Jackson, June. Asst. Sec., State Board of Health, Dr. R. N. Whitfield, Jackson.

MONTANA: *Reciprocity*. Helena, March 31. *Written*. Helena, April 1. Sec., Dr. S. A. Cooney, 216 Power Bldg., Helena.

NEW JERSEY: Trenton, June 17-18. Sec., Dr. Earl S. Hallinger, 28 W. State St., Trenton.

NEW MEXICO: Santa Fe, April 14-15. Sec., Dr. Le Grand Ward, 135 Sena Plaza, Santa Fe.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 23-26. Chief, Bureau of Professional Examinations, 315 Education Bldg., Albany.

NORTH DAKOTA: Grand Forks, July 1-4. Sec., Dr. G. M. Williamson, 4½ S. Third St., Grand Forks.

OHIO: Columbus, April 1. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

OKLAHOMA: * Oklahoma City, June 11-12. Sec., Dr. James D. Osborn Jr., Frederick.

OREGON: Portland, April 3. Exec. Sec., Miss Lorianne M. Conlee, 608 Failing Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July. Act. Sec., Bureau of Professional Licensing, Department of Public Instruction, Mrs. Marguerite G. Steiner, 358 Education Bldg., Harrisburg.

SOUTH DAKOTA: * Pierre, July 15-16. Dir., Medical Licensure, Dr. J. F. D. Cook, State Board of Health, Pierre.

TENNESSEE: Memphis, March 26-27. Sec., Dr. H. W. Qualls, 130 Madison Ave., Memphis.

VIRGINIA: Richmond, June 17-20. Sec., Dr. J. W. Preston, 30½ Franklin Road, Roanoke.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ARIZONA: Tucson, March 18. Sec., Mr. Franklin E. Roach, Science Hall, University of Arizona, Tucson.

DISTRICT OF COLUMBIA: Washington, April 21-22. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: De Land, June 7. *Applications must be on file not later than May 24*. Sec., Prof. J. F. Conn, John B. Stetson University, De Land.

MINNESOTA: Minneapolis, April 1-2. Sec., Dr. J. Charnley McKinley, 126 Millard Hall, University of Minnesota, Minneapolis.

OKLAHOMA: Oklahoma City, May 22. Sec. of State, Hon. C. C. Childress, State Capitol, Oklahoma City.

OREGON: Corvallis, July 12. Sec., State Board of Higher Education, Mr. Charles D. Byrne, University of Oregon, Eugene.

RHODE ISLAND: Providence, April 3-4. Sec., Division of Examiners, Rev. Nicholas H. Serror, Providence College, Providence.

SOUTH DAKOTA: June. Sec., Dr. G. M. Evans, Yankton.

WISCONSIN: Madison, April 5. Sec., Prof. Robert N. Bauer, 3414 W. Wisconsin Avenue, Milwaukee.

District of Columbia November Report

Dr. George C. Ruhland, secretary, Commission on Licensure, reports the written examination for medical licensure held at Washington, Nov. 12-13, 1940. The examination covered 10 subjects and included 60 questions. An average of 75 per cent was required to pass. Eighteen candidates were examined, all of whom passed. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
George Washington University School of Medicine.....	(1935)		77.4,
(1936) 80, (1939) 79, 82.6, 84, 84.8, 85.5, 86.6			
Georgetown University School of Medicine.....	(1938)		80.3,
(1939) 82, 83.1			
Howard University College of Medicine.....	(1937)		78.8,
(1939) 79.1			
Johns Hopkins University School of Medicine.....	(1930)		80.1
University of Minnesota Medical School.....	(1924)		78.3
Columbia University College of Physicians and Surgeons.....	(1928)		79.3,
(1938) 83.8			
University of Oklahoma School of Medicine.....	(1938)		85.8

Sixteen physicians were licensed to practice medicine by reciprocity and 18 physicians so licensed by endorsement from June 12 through December 12. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Stanford University School of Medicine.....	(1938)		California
George Washington University School of Medicine....	(1916)		New York,
(1938, 2) Maryland, (1938) North Carolina			
Howard University College of Medicine.....	(1935)		Virginia,
(1938) Maryland			
Rush Medical College.....	(1937)		N. Carolina
University of Maryland School of Medicine and Col-			
lege of Physicians and Surgeons.....	(1937)		Maryland
University of Michigan "			Michigan
Jefferson Medical College.....			Penna.
University of Pittsburgh School of Medicine.....	(1937)		Penna.
Meharry Medical College.....	(1938)		Tennessee
Medical College of Virginia.....	(1937)		Virginia
University of Virginia Department of Medicine.....	(1929)		Alaska

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
College of Medical Evangelists.....	(1939),	(1940)	N. B. M. Ex.
Yale University School of Medicine.....	(1926)		N. B. M. Ex.
George Washington University School of Medicine.....	(1939, 3)		N. B. M. Ex.
Georgetown University School of Medicine.....	(1937),		
(1938, 3), (1939) N. B. M. Ex.			
Howard University College of Medicine.....	(1936)		N. B. M. Ex.
Johns Hopkins University School of Medicine.....	(1938)		N. B. M. Ex.
Tufts College Medical School.....	(1938)		N. B. M. Ex.
New York University College of Medicine.....	(1938)		N. B. M. Ex.
Duke University School of "			B. M. Ex.
University of Pennsylvania "			B. M. Ex.
University of Vermont Coll "			B. M. Ex.

West Virginia November Report

Dr. Arthur E. McClue, secretary, Public Health Council of West Virginia, reports the oral and written examination for medical licensure held at Morgantown, Nov. 1-2, 1940. The examination covered 11 subjects and included 110 questions. An average of 80 per cent was required to pass. Eight candidates were examined, all of whom passed. Eleven physicians were licensed to practice medicine by reciprocity and 3 physicians so licensed by endorsement. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
Johns Hopkins University School of Medicine.....	(1936)		87.7
University of Maryland School of Medicine and College			
of Physicians and Surgeons.....	(1939)		88.4
University of Michigan Medical School.....	(1939)		88.7
Ohio State University College of "			88.7
University of Pittsburgh School o "			87.4
University of Tennessee College o "			86.6
Medical College of Virginia.....	(1937)		88.8
Laval University Faculty of Medicine.....	(1939)		85.7

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas School of Medicine.....	(1937)		Arkansas
" " " " " "	(1939)		Maryland
" " " " " "	(1937)		New Jersey
College of Physicians and Surgeons "			Maryland
St. Louis University "			Missouri
Columbia University "			
geons.....	(1935)		Minnesota
Ohio State University College of Medicine.....	(1936)		Ohio
Hahnemann Medical College and Hosp. of Philadelphia.....	(1937)		Penna.
Medical College of Virginia.....	(1937), (1938)		Virginia
University of Wisconsin Medical School.....	(1939)		Wisconsin

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Boston University School of Medicine.....	(1939)		N. B. M. Ex.
Harvard Medical School.....	(1928)		N. B. M. Ex.
Duke University School of Medicine.....	(1938)		N. B. M. Ex.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Hospitals: Liability for Injury to Mental Patient Following Ineffectual Surveillance.—The patient in this case was suffering from a mental disorder which was diagnosed as "nervousness and stuporous depression." In February 1937, after consulting a specialist in mental diseases, she was taken to a private hospital, located on the shore of a lake, which was owned and operated by the defendant physician. When the patient was admitted to the hospital, her husband and sister discussed with the defendant the patient's health, background, family life and the like and, as the sister testified, they "discussed that she would have to have special care and she would have to be watched." The patient was assigned to a room the windows of which were furnished with guards and storm windows, but it was adjacent to a living room in which the windows were not guarded and could be easily raised. The door to her room was not locked and was left ajar. Early on the morning of the patient's seventh day in the hospital, about five minutes after having had a conversation with the patient in her room, one of the nurses heard a noise and on investigation discovered that the patient had left her room, gone into the living room, opened the window and stepped out onto the ground, clad only in her nightgown. The temperature at the time was 2 degrees above zero (F.). The defendant, who lived about two blocks from the hospital and had been "immediately" notified, went at once to the lake shore, made an unsuccessful search and returned to the hospital building. There he discovered her footprints, followed them to an outhouse on the premises where he found the patient and returned her to the hospital. She had been exposed to the cold for about one hour and forty minutes. Her legs and arms were swollen, her feet were frozen, she was in a state of shock and she began to have a high temperature. Eventually her mental condition became such as to require commitment to an insane asylum. Subsequently the patient and her husband sued the defendant for damages for physical and mental injuries which they alleged she had sustained because of the defendant's negligence. The plaintiffs obtained a verdict in their favor in the trial court, which was modified by the presiding judge before judgment in their favor was entered, and both the plaintiffs and the defendant thereupon appealed to the Supreme Court of Wisconsin.

The plaintiffs contended that the defendant's conduct was the cause of the patient's aggravated mental condition, whereas the defendant contended that there was no evidence of any negligence on the part of either himself or the employees of the hospital. A private hospital engaged in the treatment of nervous and mental diseases, said the Supreme Court, is bound to use such means as are necessary and reasonably sufficient to restrain and guard its patients. But in the present case the patient was admitted for treatment and was not committed for restraint. There was not the slightest evidence that she was considered a proper subject for special restraint or that her history aroused suspicion or placed the defendant on notice that the patient would attempt to leave the hospital or inflict injury on herself if not restrained. In fact, up until she left the hospital, she conducted herself in a mild and docile manner. The court, therefore, held that that portion of the verdict which found the defendant guilty of negligence in not properly restraining or guarding the patient was erroneous.

The court, however, was of the opinion that the jury should have been more clearly instructed as to whether the defendant and his nurses had discharged their duty of due care after discovering the patient's departure. In the judgment of the court the jury would have been justified from the evidence in concluding that the nurses might have prevented the extended exposure and that the defendant might have found the patient sooner if he had first looked for her footprints and started his search

from the hospital building rather than from the lake shore. The jury might have found that such conduct amounted to negligence. The jury was asked to determine whether or not the defendant and his nurses had failed "to use such means to restrain and guard her [the patient] as would seem reasonably sufficient to an ordinarily prudent man under like circumstances to prevent her from escaping and injuring herself." It could be assumed that this question was broad enough to cover both negligence in permitting her to leave the hospital and negligence in failing to use due care in returning her to the hospital. But such an assumption made the question a double one and rendered it impossible to determine whether an affirmative answer to it was based on only one or both theories of negligence. The court concluded, therefore, that justice required that a new trial be had on this issue, and so it ordered the cause remanded for a new trial.—*Dahlberg v. Jones*, 285 N. W. 841 (Wis., 1939).

Society Proceedings

COMING MEETINGS

- Alabama, Medical Association of the State of, Mobile, Apr. 15-17. Dr. D. L. Cannon, 519 Dexter Ave., Montgomery, Secretary.
- American Association of Anatomists, Chicago, Apr. 9-11. Dr. E. R. Clark, Dept. of Anatomy, University of Pennsylvania School of Medicine, Philadelphia, Secretary.
- American Association of Pathologists and Bacteriologists, New York, Apr. 10-11. Dr. Howard T. Karsner, 2085 Adelbert Road, Cleveland, Secretary.
- American Association of the History of Medicine, Atlantic City, N. J., May 4-6. Dr. Henry E. Sigerist, 1900 East Monument St., Baltimore, Secretary.
- American College of Physicians, Boston, Apr. 21-25. Mr. E. R. Loveland, 4200 Pine St., Philadelphia, Executive Secretary.
- American Dermatological Association, New Orleans, Apr. 7-11. Dr. Harry R. Foerster, 208 East Wisconsin Ave., Milwaukee, Secretary.
- American Gastro-Enterological Association, Atlantic City, N. J., May 5-6. Dr. Thomas T. Mackie, 16 East 90th St., New York, Secretary.
- American Physiological Society, Chicago, Apr. 16-19. Dr. Philip Bard, 710 North Washington St., Baltimore, Secretary.
- American Society for Clinical Investigation, Atlantic City, N. J., May 5. Dr. Eugene M. Landis, University of Virginia Hospital, Charlottesville, Va., Secretary.
- American Society for Experimental Pathology, Chicago, Apr. 15-18. Dr. Harry P. Smith, Dept. of Pathology, University of Iowa, Iowa City, Secretary.
- American Society for Pharmacology and Experimental Therapeutics, Chicago, Apr. 15-19. Dr. G. Philip Grabfield, 319 Longwood Ave., Boston, Secretary.
- American Society of Biological Chemists, Chicago, Apr. 15-19. Dr. C. G. King, Dept. of Chemistry, University of Pittsburgh, Pittsburgh, Secretary.
- American Surgical Association, White Sulphur Springs, W. Va., Apr. 28-30. Dr. Charles G. Mixer, 319 Longwood Ave., Boston, Secretary.
- Arizona State Medical Association, Phoenix, Apr. 16-19. Dr. W. Warner Watkins, 15 East Monroe St., Phoenix, Secretary.
- Arkansas Medical Society, Little Rock, Apr. 14-16. Dr. William R. Brooksher, 602 Garrison Ave., Fort Smith, Secretary.
- Association for the Study of Internal Secretions, Atlantic City, N. J., May 2-3. Dr. E. Kost Shelton, 921 Westwood Blvd., Los Angeles, Secretary.
- Association of American Physicians, Atlantic City, N. J., May 6-7. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.
- California Medical Association, Del Monte, May 5-8. Dr. George H. Kress, 450 Sutter St., San Francisco, Secretary.
- Federation of American Societies for Experimental Biology, Chicago, Apr. 15-19. Dr. D. R. Hooker, 19 West Chase St., Baltimore, Secretary.
- Florida Medical Association, Jacksonville, Apr. 28-30. Dr. Shaler Richardson, P. O. Box 1018, Jacksonville, Secretary.
- Louisiana State Medical Society, Shreveport, Apr. 21-23. Dr. P. T. Talbot, 1430 Tulane Ave., New Orleans, Secretary.
- Maryland, Medical and Chirurgical Faculty of, Baltimore, Apr. 22-23. Dr. Richard T. Shackelford, 1211 Cathedral St., Baltimore, Secretary.
- Missouri State Medical Association, St. Louis, Apr. 28-30. Mr. E. H. Bartelsmeyer, 634 North Grand Blvd., St. Louis, Executive Secretary.
- National Tuberculosis Association, San Antonio, Tex., May 5-8. Dr. Charles J. Hatfield, 1790 Broadway, New York, Secretary.
- Nebraska State Medical Association, Lincoln, May 5-8. Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln, Secretary.
- New York, Medical Society of the State of, Buffalo, Apr. 28-May 1. Dr. Peter Irving, 292 Madison Ave., New York, Secretary.
- Northern Tri-State Medical Association, Tiffin, Ohio, Apr. 8. Dr. E. Benjamin Gillette, 320 Michigan St., Toledo, Ohio, Secretary.
- Post Graduate Institute of the Philadelphia County Medical Society, Philadelphia, Mar. 31-Apr. 4. Dr. Rufus S. Reeves, 301 South 21st St., Philadelphia, Director.
- Society for the Study of Asthma and Allied Conditions, Atlantic City, N. J., May 3. Dr. W. C. Spain, 116 East 53d St., New York, Secretary.
- South Carolina Medical Association, Greenville, Apr. 15-17. Dr. Julian P. Price, 105 West Cheves St., Florence, Secretary.
- Tennessee State Medical Association, Nashville, Apr. 8-10. Dr. H. H. Shoulters, 706 Church St., Nashville, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1931 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

Alabama State Medical Assn. Journal, Montgomery

10:229-256 (Jan.) 1941

- Chronic Endocervicitis. J. M. Weldon, Mobile.—p. 229.
Perennial Hay Fever: Report of Sixty Cases. G. K. Spearman, Anniston.—p. 232.
Symptoms of Anorectal Disease. N. L. Andrews, Birmingham.—p. 234.
Recent Concepts in Renal Surgery. P. P. Salter, Eufaula.—p. 237.
Carcinoma of Breast: Present Day Treatment. R. A. Hamrick, Birmingham.—p. 241.

Illinois Medical Journal, Chicago

79:1-88 (Jan.) 1941

- Treatment of Cutaneous Vascular Nevi (Hemangiomas). F. E. Simpson, J. E. Breed and J. S. Thompson, Chicago.—p. 21.
*Postoperative Thrombosis and Embolism. G. de Takats, Chicago.—p. 25.
Progress Report on Pneumonia Control in Illinois. H. A. Lindberg, Springfield.—p. 32.
Prostatic Electrossection: Views on Procedures and Urinary Infections. E. W. White and C. A. Murray, Chicago.—p. 35.
Specific Treatment of Anemia with Liver and Iron. R. L. Haden, Cleveland.—p. 44.
Injection Treatment of Hemorrhoids: Results with Sodium Psyllate Solution. T. F. Reuther, Chicago, and C. O. Almqvist, Gary, Ind.—p. 50.
Hypopituitary Sterility: Improved by Splitting the Ovary. W. W. Voight, Chicago.—p. 52.
Survey of Congenital Anomalies as Found in 1,131 Necropsies. P. Gruenwald, Chicago.—p. 55.
Recent Advances in Gynecologic Endocrinology. J. P. Greenhill, Chicago.—p. 61.
Pruritus: Review of Its Motivation. W. J. Morginson, Springfield.—p. 66.
Choice and Dosage of Chemotherapeutic Agents for Bacterial Infections. H. L. Barnett, St. Louis.—p. 70.
Diagnosis and Treatment of Common Peripheral Vascular Disease of Lower Extremities. J. D. Farrington, Chicago.—p. 73.
Nitrogen Therapy in Schizophrenia. C. E. Lengyel, Elgin.—p. 77.
Continuous Alternating Scheme of Treatment in Control of Acquired Syphilis. R. A. Vonderlehr, Washington, D. C.—p. 80.

Postoperative Thrombosis and Embolism.—De Takats points out that, while there has been a gradual reduction in the general mortality following major surgical procedures, the incidence of postoperative thrombosis and embolism has not decreased. He discusses the three predisposing factors of postoperative embolism and thrombosis: hemoconcentration, the slowing of venous return and meteorologic influences. As preventive measures are possible against the first two, they constitute the prophylactic field. The objectives of early treatment in thrombosis are the freeing of the limb from postoperative edema and the protection of the patient from propagating thrombosis and embolism. The patients with the early premonitory symptoms which may later be followed by the manifest thrombosis or remain latent abortive types of phlebitides are more endangered by embolism than those in which a large "milk leg" has appeared. In fact, once a milk leg has made its appearance the danger of embolism is slight. A small rise in the evening temperature, a persistently elevated pulse rate without cause after the fourth to fifth postoperative day should cause one to seek for other signs and symptoms of latent thrombosis. These are (1) an elevation of skin temperature of the sole of the foot on the affected side, (2) pain on pressure in the sole of the foot, in the calf muscles, in the popliteal space on dorsiflexion of the foot or in the groin, (3) a slight edema of the groin or suprapubic region, (4) frequent urination or mucous stools and (5) pain in the small of the back. The three last symptoms are suggestive of pelvic thrombosis, while the location of pressure pain often denotes the site of the original thrombus, which, if it remains localized, may not progress to a manifest thrombosis. However, there are post-

operative blood clots in which these premonitory signs and symptoms are missing. The patient may show a smooth post-operative course with no rise in pulse and temperature, no pain or swelling; most fatal pulmonary emboli originate from such thrombi. They are located in the muscle veins of the calf or the large pelvic plexuses. Many small emboli go unnoticed. Proof of this is the frequent finding of emboli in the lungs of patients whose clinical symptoms were not suggestive. A quick sharp pain in the side followed by a mild dry or exudative pleurisy, a short retrosternal attack of pain or a few minutes of dyspnea followed by lassitude should suggest embolism. Nurses' records show that the three leading symptoms are dyspnea, cyanosis and chest pain. Emergency treatment of pulmonary embolism when cyanosis and dyspnea are the predominant symptoms consists of drugs and oxygen by nasal catheter or, preferably, in 100 per cent concentration. However, massive pulmonary embolism is often characterized by pallor, retrosternal pain and fall in blood pressure; its differentiation from a coronary occlusion is quite difficult. It is necessary to avoid the obsession that cyanosis and dyspnea are the cardinal signs of pulmonary embolism. If the diagnosis is incorrect and coronary occlusion, acute pulmonary edema or cerebrovascular accident is present, the treatment does no harm but is definitely beneficial. Morphine, digitalis and epinephrine are not recommended, as they either sensitize the vagus or, in the case of epinephrine, favor pulmonary edema. Instead, atropine and papaverine are used.

Journal of Experimental Medicine, New York

73:1-160 (Jan.) 1941

- Study of Quantitative Changes of Shope Rabbit Papilloma Virus at Site of Inoculation in Skin of Cottontail and Domestic Rabbit. T. Packalen, Baltimore.—p. 1.
*Reduction of Arterial Blood Pressure of Hypertensive Patients and Animals with Extracts of Kidneys. I. H. Page, O. M. Helmer, K. G. Kohlstaedt, P. J. Fouts and G. F. Kempf, Indianapolis.—p. 7.
Experimental Infection with Influenza A Virus in Mice: Increase in Intrapulmonary Virus After Inoculation and Influence of Various Factors Thereon. R. M. Taylor, New York.—p. 43.
Comparison of Cutaneous Sensitization and Antibody Formation in Rabbits Immunized by Intravenous or Intradermal Injections of Indifferent or Hemolytic Streptococci and Pneumococci. D. M. Angevine, New York.—p. 57.
Intermittent Takeup of Fluid from Cutaneous Tissue. P. D. McMaster, New York.—p. 67.
Factors Influencing the Intermittent Passage of Locke's Solution into Living Skin. P. D. McMaster, New York.—p. 85.
Relationship Between Spreading Factor and Hyaluronidase. Gladys L. Hobbs, M. H. Dawson, K. Meyer and Eleanor Chaffee, New York.—p. 109.
Quantitative Experiments with Antibodies to Specific Precipitate: I. H. P. Treffers and M. Heidelberger, New York.—p. 125.
Structural and Functional Transformations in Tubular Epithelium of Dog's Kidney in Chronic Bright's Disease and Their Relation to Mechanisms of Renal Compensation and Failure. J. Oliver, F. Bloom and Muriel MacDowell, Brooklyn.—p. 141.

Hypertension Reduced with Renal Extracts.—According to Page and his associates, evidence from a study of dogs, rats and patients with hypertension indicates that an extractable substance is present in normal kidneys which has the property of reducing arterial blood pressure, and experience suggests that it may have therapeutic properties. A number of extracts have been found active. All extracts used for animals were treated by adding one part of merthiolate to 20,000 parts of extract. Sterility of extracts used for patients was assured by filtration through a Seitz filter. In dogs, subcutaneous or intramuscular injection of renal extracts caused no immediate change in blood pressure. Intravenous injection resulted in a sharp, prolonged rise, probably the result of contained renin. A fall in blood pressure usually began after two to four days. Its effect appeared cumulative, for if an excess was given the pressure continued to fall progressively until death occurred. A fatal dose of extract caused a shocklike syndrome to appear. The renal extract given to dogs with severe experimental hypertension and nitrogen retention often reduced both. Many extracts were inactive or an insufficient amount was given. The length of time before the arterial pressure rose after treatment was discontinued varied. In general the larger the dose of extract, the more prolonged the effect. In a few instances it rose above the hypertensive level (150 mm. of mercury mean pressure) within four days after treatment was stopped. In most cases from four to forty-one days was

required and in a few it has not risen even after ninety-seven days. The extract given has been measured in terms of original whole kidney substance used for its preparation. Roughly, from 400 to 900 Gm. of kidney was required for the preparation of sufficient extract to reduce the mean arterial pressure of a dog weighing 12 Kg. (26 pounds) from 200 to 130 mm. of mercury. The clinical condition of the animals remained excellent even when the pressure fell to 100 mm. or less, provided the drop did not occur too precipitously. The treatment of 54 animals exhibiting signs of the malignant syndrome saved the lives of 22. It appeared of the utmost importance to administer extract early and in large doses. The eye signs regressed, and vision was often restored. Improvement appeared to last only for as long as the animals continued to receive the extract. After the malignant syndrome reappeared, further treatment caused a second regression in 4 dogs. Much the same phenomena were observed in hypertensive rats as in dogs. The authors gave daily extracts of 800 to 1,000 Gm. of whole fresh kidney to hypertensive patients. The most general reaction was pain in the muscles of the back and a feeling of constriction in the chest. This may last for ten minutes or more and be followed by a rise in temperature to about 102 F. Occasionally a sufficiently sharp fall in blood pressure occurred a few minutes after the injection to make it desirable to administer epinephrine. Local reactions were reddening, induration and pain around the site of injection. All the reactions were irregular in their appearance. As in the animals, the extract caused no immediate fall, but after several days or a week the pressure was definitely reduced. The blood pressure of 6 patients with essential (fixed) hypertension has been reduced, respectively, from 220, 248, 200, 237, 213, 229 systolic and 130, 148, 129, 130, 123, 119 diastolic to 148, 172, 173, 189, 170, 157 systolic and 103, 104, 118, 102, 106, 78 diastolic. When the blood pressure was reduced, the headaches of the patients who had them when the blood pressure was high disappeared. Dyspnea was lessened. On the whole the patients felt much better, though some of them were not aware of the reduction of the blood pressure. The most dramatic changes were observed in 5 patients with advanced malignant hypertension; 1 of them had convulsions and 2 were stuporous. Two days after treatment was initiated the patients were alert and sitting up in bed. Convulsions did not recur during treatment. Two of the patients were almost blind and the other 3 had reduced vision because of hemorrhages, exudates and papilledema. Vision was partially restored in all. The electrocardiogram of these patients after treatment demonstrated an improved state of the myocardium; the T waves became upright when they had been inverted. Hemoglobin tended to fall even after sufficient amounts of extract; therefore the anemia of malignant hypertension may require additional treatment. Two of the patients with malignant hypertension are dead. The other 3 patients are ambulant, and 1 is now being treated as an outpatient. Increasing experience with the treatment suggests that it is of therapeutic value in hypertension but that it is as yet in the experimental stage.

Rocky Mountain Medical Journal, Denver

38:1-88 (Jan.) 1941

- Surgical Aspects of Peptic Ulcer. E. L. Eliason and J. Johnson, Philadelphia.—p. 19.
Acute Massive Pulmonary Atelectasis: Report of Case Following Subtotal Thyroidectomy. L. A. Stevenson and V. L. Stevenson, Salt Lake City.—p. 24.
Tonsillectomy Experiences in Private Practice: Based on Records of 1,500 Tonsillectomies, 1906-1940. E. Whedon, Sheridan, Wyo.—p. 29.
Alcoholism. P. Haun, Denver.—p. 33.
Modernizing Medical Public Relations. H. T. Sethman, Denver.—p. 40.
*Continuous Transthoracic Aspiration of Pulmonary Cavities: Indications, Technique and Case Reports. A. Guggenheim and M. Finkelstein, Denver.—p. 45.

Continuous Aspiration of Pulmonary Cavities.—Since September 1939 Guggenheim and Finkelstein have used continuous transthoracic aspiration of pulmonary cavities, according to the method of Monaldi, for 4 patients. The first patient experienced definite improvement with the beginning of aspiration and has gained in weight. The sputum dropped from 90 to 2 cc. daily. Aspiration was discontinued after two months; ten sputum speci-

mens were found negative on direct smear and five positive. The aspirated material of the second patient dropped from 75 to 8 cc. daily after ten weeks of treatment. The sputum decreased to 75 cc. (by one half) daily. Both sputum and aspirated material are still positive for tubercle bacilli. The cavity, as seen on roentgen study, was decreased by almost one half. Aspiration is being continued. Aspiration of the third patient was discontinued after eleven days, as the temperature rose abruptly to 103 F. No fluid or air could be aspirated from the cavity. Roentgen study revealed a massive infiltration throughout the lower half of the right lung field. The infection subsided, and the sinus healed after three weeks. The temperature has remained normal for six weeks. The sputum decreased in quantity and was negative for tubercle bacilli. A roentgenogram showed complete resolution of the acute infiltration and disappearance of the cavity. The last patient had had an artificial pneumothorax on the right side two years previously. It was followed by a superimposed spontaneous pneumothorax and given up as dangerous. The patient's course was poor. Cough was excessive and harassing, expectoration reaching 500 cc. daily. Aspiration of the huge cavity on the left side was performed to relieve the excessive cough and expectoration. There was slight symptomatic relief but after four weeks the patient died. Necropsy revealed no gross changes in the cavity that could be ascribed to the procedure, except thinning of the wall near the site of entry. Continuous aspiration has thus far been applied only to tuberculous cavities, but the authors suggest that it may be of value in chronic lung abscess, infected pulmonary cysts and other conditions characterized by infected cavities in the lung. Aspiration may be useful as a preliminary to thoracoplasty, making it possible to operate on a lung containing a shrunken cavity free of secretion, instead of a large defect containing infectious pus. Since the period of observation for any case has been short, it is impossible to draw conclusions. Immediate results have been encouraging and indicate that the procedure is worthy of further clinical trial.

South Carolina Medical Assn. Journal, Greenville

36:331-366 (Dec.) 1940

- Preliminary Discussion of Poliomyelitis in South Carolina in 1939. G. E. McDaniel, Columbia.—p. 331.
Use of Vitamin K in the Newborn. G. D. Johnson, Spartanburg.—p. 336.
Intravenous Therapy in Treatment of Acute Heart Failure and Cardiac Asthma. J. T. Quattlebaum, Columbia.—p. 338.

Virginia Medical Monthly, Richmond

68:1-66 (Jan.) 1941

- Roentgen Ray Examination of Small Intestine in Nutritional Disturbances. R. Golden, New York.—p. 1.
Cancer Control in Virginia. E. P. Lehman, University.—p. 9.
Effects of Quinine as Prophylactic versus Influenza and Probable Reason. A. M. Showalter, Christiansburg.—p. 15.
Ultimate Prognosis in Eclampsia. M. P. Rucker and E. S. Williams, Richmond.—p. 20.
Diagnosis and Treatment of Stomach Trouble. J. S. Horsley, Richmond.—p. 22.
Rapid Bedside Micro-Prothrombin Test: Preliminary Report. C. S. White, D. J. Abramson, J. J. Weinstein and Mary T. Sproul, Washington, D. C.—p. 27.
Roentgen Therapy of Inflammatory Conditions. W. H. Whitmore, Norfolk.—p. 29.
Vicarious or Endocrine Bleeding: New Theory Concerning Spontaneous Hemorrhage. P. Jacobson, Petersburg.—p. 37.
Carcinoma of Cervix: Statistical Analysis of Cases Seen at the Medical College of Virginia. R. H. Hoge, Richmond.—p. 39.
Frequency of Spina Bifida. H. G. Hadley, Washington, D. C.—p. 43.
Diabetic Coma Complicated by Pneumonia: Report of Case. C. D. Nofsinger and B. Katzen, Roanoke.—p. 46.
Hydrannios: Brief Review of Literature with Report of Two Cases. C. L. Riley, Winchester, and F. T. Hauser, Purcellville.—p. 48.

Wisconsin Medical Journal, Madison

40:1-84 (Jan.) 1941

- Treatment of Trichomonas Vaginalis Vaginitis, Including Analysis of 100 Cases. J. D. Owen, Milwaukee.—p. 17.
Maternal Mortality and Forceps Deliveries. F. A. LaBreck, Eau Claire.—p. 22.
Roscola Infantum (Exanthem Subitum). R. M. Greenthal, Milwaukee.—p. 25.
Evaluation of Heart in Hypertension. V. W. Koch, Janesville.—p. 28.
"Hollow Foot" in Industry. H. H. Huber, Milwaukee.—p. 30.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Experimental Pathology, London

21:243-314 (Oct.) 1940

- Effect of Carbon Dioxide on Growth of Tubercle Bacillus. R. Davies.—p. 243.
Output of Lymphocytes from Thoracic Duct in Cats and Rabbits. A. G. Sanders, H. W. Florey and J. M. Barnes.—p. 254.
Enzymes of Lymphocytes and Polymorphonuclear Leukocytes. J. M. Barnes.—p. 264.
Effects of Removal of Lymphoid Tissue. A. G. Sanders and H. W. Florey.—p. 275.
Relationships Between Respiratory Activities of Bacteria and Their Sensitiveness to Sulfanilamide, β -Hydroxylaminobenzenesulfonamide and β -Nitrobenzenesulfonamide. H. Burton, J. W. McLeod, T. S. McLeod and Anna Mayr-Harting.—p. 288.
Appraisal of Therapeutic Agents in Experimental Staphylococcal Infection. L. N. Farrell.—p. 302.
Technic of Coagulase Test for Staphylococci. A. Fisk.—p. 311.

Lancet, London

2:737-768 (Dec. 14) 1940

- Plea for Despecializing of Pathology. G. W. Goodhart.—p. 737.
Wartime Psychiatry and Economy in Man Power. D. Curran and W. P. Mallinson.—p. 738.
Operation for Epiphora. H. B. Stallard.—p. 743.
Shelter Deaths from Pulmonary Embolism. K. Simpson.—p. 744.
Santonin Poisoning: Fatal Case. H. A. Cookson and C. J. H. Stock.—p. 745.
Continuous Venous Hum and Thrill in Cirrhosis of Liver. L. A. Wilson.—p. 745.
New Use for the Both Respirator. R. R. Macintosh.—p. 745.

2:769-798 (Dec. 21) 1940

- Mass Psychotherapy. E. N. Snowden.—p. 769.
Control of Air-Borne Infection in Air Raid Shelters and Elsewhere. C. H. Andrewes and Others.—p. 770.
*Effects of Serum and Saline Infusions: Quantitative Studies in Man. D. K. Hill, J. McMichael and E. P. Sharpey-Schafer.—p. 774.
Operation for Penoscrotal Hypospadias. D. Levi.—p. 777.
Outbreak of Paratyphoid B in Bristol. I. G. Davies, K. E. Cooper, J. Wiseman and J. M. Davies.—p. 778.
Agranulocytosis After Sulfapyridine Therapy, with Recovery. J. E. G. Pearson and A. A. G. Lewis.—p. 779.

Effects of Serum and Saline Infusions.—According to Hill and his associates, accurate knowledge is needed of the effects of various types of infusions recommended in the treatment of hemorrhage and shock, both of which conditions are characterized by a depletion of the volume of circulating blood. They made observations on the hemoglobin concentration, blood volume and blood pressure before and after infusion with physiologic solution of sodium chloride, hypertonic saline solution, serum or concentrated serum in normal persons and in patients with postoperative and posttraumatic shock. They found that physiologic or hypertonic saline solution given intravenously to normal persons is rapidly lost from the circulation. Serum given intravenously to normal persons is retained in the circulation for long periods. The rise in blood volume depends on the total quantity of protein added and is independent of the dilution of serum employed. In shocked patients the intravenous administration of saline solution produces only transient benefit. Giving serum intravenously is effective in overcoming circulatory collapse due to diminished blood volume. The recovery of a shocked patient is invariably heralded by a rise in systolic and pulse pressures. The pulse rate, on the other hand, is a deceptive index of the patient's condition, for it often remains high, even when the blood pressure has risen to normal. It is useful to follow the concentration of hemoglobin in the blood of shocked patients. A rising hemoglobin means a falling blood volume and precedes a deterioration in the patient's condition. Recovery can be forecast if the hemoglobin is falling, meaning that the blood volume is being spontaneously restored by dilution of the blood. The retention of infused serum or saline solution can be gauged by estimating the hemoglobin.

Medical Journal of Australia, Sydney

2:555-588 (Nov. 30) 1940

- Investigation of Condition Known as Coastal Fever in North Queensland: Its Separation from Scrub Typhus. W. G. Heaslip.—p. 555.
Survey of Endemic Typhus in New Guinea. C. E. M. Gunther.—p. 564.
Some Observations on Endemic Typhus in South Australia. J. M. Dwyer and Nancy Atkinson.—p. 573.

Medicina, Madrid

8:1-74 (Oct.) 1940. Partial Index

- Classification and Systematization of Osseous Dystrophy. S. Olmo.—p. 48.
*Kauffmann Diuresis Test of Heart Function in Children. J. T. Rubio Garcia.—p. 59.

Kauffmann Diuresis Test of Heart Function in Children.—Rubio Garcia performed the Kauffmann test on 100 children ranging in age from 4 to 13 years. A positive test is indicated by the increase in diuresis in the last two hours of the test. The patient lies in bed during the test in the horizontal posture for the first four hours and in the inclined headward position for the last two hours. The test was negative in cases of rheumatic fever and heart disease with edema, in chorea with or without rheumatism, in chronic deforming polyarticular rheumatism without heart disease, in congenital heart disease, and in various diseases not related to rheumatism and heart disease. The test was positive in all cases of rheumatic fever with heart disease in the absence of edema or with very mild edema. In some of the cases positive results were observed in the absence of edema. The test became negative when edema appeared or reappeared, or the reverse. In all cases a positive test was observed only in the absence of edema and pointed to impending decompensation of the heart. The author suggests the use of an index for the gradation of the results of the test as a help in recognizing impending decompensation. The index is obtained by ascertaining the average hourly output for the first four hour period and the average hourly output for the second two hour period and dividing the figure of the first average hourly output by that of the second one. Amounts below the index are considered positive and above negative. The results are indicated by plus and minus signs respectively. Figures between 0.9 and 1 are weakly positive (+), between 0.6 and 0.9 positive (++) and below 0.6 strongly positive (+++). Figures between 1 and 1.1 are weakly negative (—), between 1.1 and 1.6 negative (—) and above 1.6 strongly negative (—). The author concludes that Kauffmann's test is of value for the diagnosis of latent decompensation of the heart. The test is simple, harmless and reliable. It has no prognostic value nor applicability to children with manifest edema. The index for grading the results of the test is also simple and of value for a rapid evaluation of the results of the test and for helping one in deciding on the advisability of continuing or discontinuing the periods of rest in bed, the proper diet and treatment.

Prensa Médica Argentina, Buenos Aires

27:2611-2662 (Dec. 18) 1940. Partial Index

- *Adrenal Insufficiency in Epilepsy. E. Cantilo.—p. 2641.
Sulfapyridine in Therapy of Gonococcal Arthritis. D. Cattaneo.—p. 2644.

Adrenal Insufficiency in Epilepsy.—Cantilo states that chronic adrenal insufficiency in the absence of any other pathologic factor may be the cause of epileptic crises of the type of essential epilepsy or its equivalents. The condition is symptomatic for adrenal insufficiency and can be controlled by proper endocrine therapy without bromides and barbiturates. Patients with this type of epilepsy have an asthenic body build, hyperpigmented skin, a depressive temperament, hypoglycemia during fasting and a diminished insulin tolerance. Glycemia and insulin tolerance return to normal values if the epileptic crises are controlled by endocrine therapy. The author reports satisfactory results in three cases from exhibition of endocrine extracts in daily doses of 0.5 Gm. of extract of the anterior lobe of the hypophysis, 0.25 Gm. of extract of total adrenals and 0.1 Gm. of extract of the thyroid. The extracts were administered by mouth. The patients received a preparation of gonadotropic hormone ("pregnyl") in doses of 1 cc. containing 500 units of the hormone, every other day for the first two months of the treatment. In cases reported by the author, glycemia and insulin tolerance returned to normal values and the epileptic crises have been controlled up to the present for more than one year without administering any other drug. The author believes that this type of epileptic crises is due to sudden lowering of glycemia, which is preventable by endocrine therapy.

Book Notices

Clinical Diabetes Mellitus and Hyperinsulinism. By Russell M. Wilder, M.D., Ph.D., F.A.C.P., Professor and Chief of the Department of Medicine, The Mayo Foundation for Medical Education and Research, University of Minnesota, Minneapolis. Cloth. Price, \$6. Pp. 459, with 19 illustrations. Philadelphia & London: W. B. Saunders Company, 1940.

An important contribution to the subject of disorders of sugar metabolism with emphasis on diabetes mellitus, this first edition will fill a void in the textbook literature for physicians and medical students. In such a rapidly changing field Dr. Wilder authoritatively strikes a nice balance between vital scientific facts and practical knowledge. His right to appraise the important modern advances can scarcely be questioned in view of his annual reviews of the literature. Likewise, as one of the most experienced clinicians in the field his practical methods are useful.

From a concise physiologic approach clinical features are evolved, including diagnosis of diabetes, its pathogenesis, prognosis and course, therapy by insulin, diet and education of the patient, and complications. The author has done an exceptionally fine piece of work in presenting the complications of diabetes in an organized form. Refreshing is his treatment of the subject of arteriosclerosis associated with diabetes. Too long has it been tacitly assumed that vascular disease necessarily results from long continued diabetes. This critical discussion should help to dispel an illusion.

The sections on substitution therapy (insulin and protamine zinc insulin) and diet are especially valuable to the student and practitioner. They emphasize the practical and could almost be followed by the layman. Details of injection technic, sterilization, care of apparatus, manipulation of dosage, nutritional rules, quantitative diet methods and menus are all described clearly and from the point of view of one who has met the problems of the diabetic patient in his home in the simplest fashion possible without sacrifice of effectiveness. Some will take issue with the opinion regarding the advisability of permitting glycosuria and hyperglycemia in certain cases as a buffer against insulin shock, but at least the opposing views are cited and reasons are given. Probably most students of diabetes are forced to abide by the same principles, but some lack the courage to advise so publicly. Perhaps there is no better authority in the world for an evaluation of hyperinsulinism and its management; hence its handling in somewhat greater detail than in most reference volumes.

With the advent of Wilder's monograph the practicing physician is provided with a volume of intensely practical methods. More important, the teacher of medicine now has a sensibly accurate reference book with which to guide his students.

Absorption, Metabolism and Storage of Vitamin A and Carotene, With Some Remarks on the Vitamin A Requirement. By Torben K. Wihl. Translated from Danish by Hans Andersen, M.D. Paper. Pp. 263. Copenhagen: Einar Munksgaard; London: Oxford University Press, 1940.

Approximately half the monograph is used for describing and discussing the author's own researches. The remainder is used for orientation in the chemistry of vitamin A and the carotenoids and for review and discussion of the literature. The monograph is of value not only because it gives much useful information with a direct application but also because all experiments and analytic procedures and methods are described in meticulous detail. The author is commendably critical in his interpretations and judgments. Some of the interesting conclusions reached are as follows: Serum vitamin A concentration does not represent accurately the content of the depots. No connection exists between the carotenoid concentration in serum and its vitamin A content. "Tolerance tests" give no information about the carotenoid or vitamin A contents of the organism. Even with the ingestion of large amounts, little or no vitamin A is excreted in the feces, whereas from 20 to 70 per cent of carotenoids are excreted even with moderate doses. Much of the difference in excretion is probably due to greater resistance of the carotenoids to destructive agents in the intestine. No essential difference exists as to vitamin A reserves of the liver between the Danish population and the population of neighboring countries. The conversion of carotene

to vitamin A is a rapid process. The effect of intramuscular administration of vitamin A is far inferior to the oral. Presumably the optimum requirement of an adult person for vitamin A is between 2,000 and 4,000 units daily; the requirement for β carotene is twice this amount. The vitamin A requirement of the infant is reckoned at 25 units for each kilogram. To lactating women whose diet is suspected of being low in vitamin A, 6,000 units daily should be administered. Vitamin A deficiency in the diet may give rise to night blindness even when large reserves are stored in the liver.

The American and His Food: A History of Food Habits in the United States. By Richard Osborn Cummings, Assistant Professor of History, Lawrence College, Appleton, Wisconsin. Cloth. Price, \$2.50. Pp. 267, with illustrations. Chicago: University of Chicago Press, 1940.

Food habits are fundamental in the development of good diets. People differ according to race, religion and environment in the types of food that they prefer. More and more the part played by nutrition in health is becoming established and is becoming the intimate concern of governments and nations. This story of food from 1789 until our present times provides a mass of material and references from diaries, cook books and newspapers showing how our food interests and ideals have changed with the passing years. The work of the federal government in nutrition is emphasized; also the influences of war and wages. Now that we are confronted with another military emergency, more and more attention is likely to be given to nutrition. The science of nutrition is now more firmly established. The need for education in food has been increased by higher standards of living and more knowledge. A number of appendixes provide factual data not elsewhere available.

A Boy Grows Up. By Harry C. McKown and Marion LeBron. Cloth. Price, \$2. Pp. 299, with illustrations by E. R. Conerly. New York & London: Whittlesey House, McGraw-Hill Book Company, Inc., 1940.

Modern life is complicated. It is not as easy for a boy to pass from adolescence to manhood as it used to be. Any help that he can receive along the way is bound to be useful. The authors consider first the boyhood years of famous men. Then they discuss such matters as the adjustment of the boy into various organizations, the question of finances, of health, of hobbies and of jobs. Here are some nice hints on how a boy ought to act to his mother and his father, although there are many a mother and father nowadays who think they are lucky if the child will simply let them alone. There are innumerable rules of conduct, some of which sound a little comical if one takes them too seriously; for instance, "It is never good manners to slap, push, pat or nudge a girl in fun while talking with her." The authors tell the young man to wear a good, dark suit with a white shirt and plain tie to formal occasions if he has no tuxedo. Yet we have seen young men with a tie that was not quite plain panic an entire group of girls, while the boys with the plain black ties and the plain blue ties and the plain red ties gnashed their teeth in envy. Somehow this book is a little too serious and solemn about itself, perhaps enough to defeat its purpose, but there is a lot of useful information that will help teachers and parents in their attitudes to the boy it is planned to help.

Principles and Practice of Bacteriology. By Major Arthur H. Bryan, M.A., V.M.D., F.A.P.H.A., Science Department, Baltimore City College, Baltimore, and Charles G. Bryan, M.D., M.R.C.S., F.R.C.S., Royal Army Medical Corps, Poole Hospital, England. Second edition. Paper. Price, \$1.25. Pp. 410, with 76 illustrations. New York: Barnes & Noble, Inc., 1940.

This book is composed of three parts. Part 1 is concerned with principles of bacteriology and is made up of thirteen chapters. Part 2 deals with medical bacteriology and is covered in sixteen chapters. Part 3 is concerned with serology and immunity, which is discussed in three chapters; it has a glossary, National Board examinations in bacteriology and immunology, State Board questions in veterinary bacteriology, State Board questions and answers for nurses in bacteriology, serology, infection and immunity and finally Maryland State Board questions for nurses. Numerous charts are included for differentiating and classifying the various microbial species. The book has real merit in outlining and classifying knowledge in the field of bacteriology and should prove useful to the physician.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

BLOOD SUGAR TESTS AND PROTAMINE INSULIN

To the Editor:—I should like to clear up a matter of technic in taking blood sugar on patients who are receiving protamine zinc insulin. Should the blood sugar be taken before the administration of the morning dose of protamine or should one withhold the morning dose until after the blood sugar is taken? It has been my feeling that, since protamine zinc insulin does not have any effect for some time after it is administered, one could take a blood sugar shortly after it is administered without its having any appreciable effects on the results. I have felt that this method permits the patient to receive his daily protamine dose at the same time without varying the time of administration, as may happen if one has to wait for a blood sugar to be taken occasionally.

H. A. Slesinger, M.D., Windber, Pa.

ANSWER.—When patients are taking protamine zinc insulin the blood sugar should be determined before breakfast. In that way information is gained as to its efficiency in controlling at least the endogenous carbohydrate metabolism. Whether the blood is taken a few minutes before or after the daily dose of protamine zinc insulin is probably of little significance. Theoretically, protamine zinc insulin might begin to act immediately, but so slightly that even though its effect was added to that of the previous day it probably would not be of importance for an hour or two. On the other hand, the delay of breakfast by an hour with a patient whose blood sugar is well controlled with protamine zinc insulin might bring on a hypoglycemic reaction as a result of summation of doses, not only of one but of several previous days.

When crystalline or regular insulin is given at the same time as protamine zinc insulin, it is important that the breakfast follow within fifteen or at least thirty minutes, because if the protamine zinc insulin is acting well the blood sugar already is within normal limits and possibly even slowly falling and then the additional dose of a quick acting insulin would depress it so rapidly that unless carbohydrate was taken a reaction would intervene.

INTERMITTENT LOSS OF VOICE

To the Editor:—A white man occasionally suffers from complete or partial loss of his voice for days or weeks at a time. During these periods, close observation in hospitals has elicited no evidence of any organic cause for the disease. Neurologic examination has also been negative. None of the stigmas of hysteria are present. On no occasion has there been any apparent "asset value" to the attack. Recently I heard another physician mention something about a lecture on "phonasthenia." Do you know of any recent diagnostic or therapeutic discoveries for the complaint I have described, i.e. attacks of variable duration of complete or partial loss of voice?

M.D., New York.

ANSWER.—Complete or partial loss of the voice for a variable period of days or weeks followed by normal voice and then a return to a loss of voice, in the absence of organic disease of the central and peripheral nervous system and of the larynx, is most always a result of hysterical paralysis. In this condition the loss of the voice is an aphonia, the patient speaking only in whispers. In such cases coughing, hawking and even singing are accompanied by normal vocal sounds. This type of aphonia tends to disappear suddenly and spontaneously. The disappearance of the aphonia is usually due to the effect of emotion. Strong galvanic and faradic currents applied to the neck muscles may also cure this symptom. Some mental excitement may cause the return of the normal voice. The loss of the voice is apt to relapse easily and to become intractable with time. Has a laryngoscopic examination been made to visualize the vocal cords? Local disorders of the larynx and vocal cords such as laryngitis, papillomas and tuberculoma are occasional causes of loss of the voice. In such instances the loss is more of a huskiness or hoarseness and not a whisper.

Treatment should consist of a detailed psychiatric examination in order to determine the presence of emotional conflicts. If such are found, the patient must be made to face the facts instead of developing a loss of voice. Painful applications of the faradic and the galvanic current to the muscles of the neck have been used with success. While doing this the patient may cry or yell that "it hurts." These words will be of a normal sound.

EFFECT ON EYES OF BELLADONNA ADMINISTRATION FOR ENURESIS

To the Editor:—A girl aged 7 years is practically free from other abnormalities but has enuresis, both nocturnal and diurnal. She has responded well to medical treatment in which a tablet containing some belladonna is given. The result of taking the belladonna, however, is dilatation of the pupils, and this may impair her vision. If the belladonna is taken from the medicine, enuresis develops again. She has been checked over on many occasions by several physicians, and nothing abnormal has been found aside from this inability to control her urine when she is not taking the medicine. What possibility is there concerning the effect of the atropine and other belladonna drugs influencing her vision? Is there any possibility that she could be corrected by glasses? She has been taken to an optician who was not a physician, and he had recommended dark glasses. However, this did not seem to clear up the condition.

M.D., Idaho.

ANSWER.—In a girl 7 years old the chance that belladonna would increase the intraocular tension is slight. There might be considerable interference with accommodation, however, and if this should be the case it would be necessary for her to wear reading glasses in school. This would be especially true if she had a latent hyperopia to begin with, which should be determined by retinoscopy. Her accommodation should be checked by estimating the near point, and the proper addition for reading should be given on this basis, preferably in bifocal glasses. The risk that there would be any permanent damage to the accommodation from the systemic use of belladonna seems to be slight. The belladonna should be discontinued from time to time to allow restoration of the normal accommodation and, of course, discontinued entirely as soon as it is no longer necessary.

HYMENAL TEAR OR UTERINE DISPLACEMENT FROM BASKETBALL

To the Editor:—Can hymenal injury or malpositions of the uterus be induced or aggravated by girls between the ages of 13 to 15 playing basketball? The idea seems preposterous to me, yet it is asked in good faith by a person whose responsibility it is to arrange for and supervise athletics for girls in this age group.

M.D., Wisconsin.

ANSWER.—Hymenal injuries may occur while playing basketball, but they are of minor importance, for even an expert can scarcely tell whether a particular hymen has been torn. The hymen may be congenitally almost absent. Much more significant at examination is the relaxation and absence of fear of pain or injury on the part of the patient.

Malpositions of the uterus undoubtedly do occur as the result of a serious fall, particularly when the patient lands on her buttocks or back with a severe jolt, comparable to a fall from horseback or while skating or from a considerable height. In such cases there is usually a history of dysmenorrhea, backache or pelvic pressure dating from the time of the accident. The hazard of an injury producing a retrodisplacement is scarcely sufficient to warrant forbidding a child the pleasure of playing basketball.

TRICHOMONAS INFECTION IN MAN—SEXUAL TRANSMISSION

To the Editor:—A man aged 39 is accused of causing infection with *Trichomonas vaginalis* of a woman through sexual contact. The man himself has no symptoms of the disease, and this is also true of his wife, with whom also he has intercourse. There is no history of a reasonably close interval between the times he has relations with his mistress and with his wife and vice versa. The husband of the mistress is also free from the disease apparently. Several questions arise, namely: Is it possible or probable for the trichomonad to be transmitted from man to woman during sexual intercourse? Just how common is such a transfer if it does occur? Is it possible or probable for a man who has no symptoms of infection with the parasite to transfer the disease? Can a man act as a carrier of the parasite without having some manifestations of the disease in himself? Can a woman have the disease without her knowledge, i.e. without symptoms? Are there apt to be spontaneous recurrences of the disease even though it is apparently cured? Would sexual intercourse have any influence on the course or recurrence of the trouble? What procedures should be undertaken if one is to determine the presence of the parasite in the man if he presents no symptoms of the disease?

M.D., New York.

ANSWER.—It is both possible and probable for *Trichomonas vaginalis* to be transmitted by sexual intercourse but how frequently this occurs is not definitely known. A man can harbor the organism without symptoms and possibly act as a carrier. Many women also have *Trichomonas vaginalis* without any apparent symptoms, although the majority do have leukorrhea. Recurrence of this disease in women who have been apparently cured is common. This usually occurs after the menstrual period. In some instances sexual intercourse may be a factor provided one of the partners is infected.

The proper procedure to follow in order to establish the diagnosis of *Trichomonas* infection in man is to strip the urethra and obtain some of the discharge, if present, on a slide and immediately search for the organism microscopically after the secretion has been covered with a cover slip, using either the high power or oil immersion lens. If there is no discharge, the prostate should be gently massaged and prostatic fluid examined in the same way. Several examinations of the fluid, at least three days apart, should be made before it is said that the man does not have *Trichomonas* infection. Usually many pus cells are found in the prostatic smear when trichomonads are present. However, it does not follow that pus in the prostatic fluid indicates the presence of trichomonads.

LOSS OF LIBIDO IN DIABETES

To the Editor:—Are there any reports on the therapy of progressive loss of sexual power complicating diabetes mellitus? What forms of treatment are indicated as a trial? What other procedures should be followed? The patient in question is a man 31 years old, and ever since the opening of an apical abscess three or four years ago he has noted loss of sexual power. At the present time he is without any libido. Early during this complication another doctor treated him with androgens but without any effects. Inventory of systems elicits paresthesias of the feet and legs, slight constipation, occasional nocturia and dizziness, questionable intermittent claudication and a cutaneous rash on his hands and forearm. His past history is essentially normal with the exception of mumps without testicular involvement at the age of 16, diabetes at 19 and the opening of the apical abscess at age 28. His habits are normal. He has been taking about 20 units of regular insulin daily. Careful physical, neurologic and laboratory examinations showed the following positive findings: (1) diminished biceps and ankle jerk reflexes; (2) variation from hypesthesia to anesthesia as well as to tactile sensation over the front of the legs and foot which seems to follow the distribution of the fourth and fifth lumbar and the first sacral nerves; (3) slightly enlarged prostate; (4) eczematoid dermatitis of the hands and forearms; (5) 5 per cent sugar in the urine; (6) a trace of acetone; (7) a fasting blood sugar of 295 mg. per hundred cubic centimeters; (8) carbon dioxide combining power of 64 volumes per cent; (9) Wassermann reaction negative and blood count normal. At the present time his diabetes is controlled and his urine is sugar free.

M.D., California.

ANSWER.—The patient has diabetes mellitus of twelve years' duration with onset of the disease at the age of 19. The condition presumably has been uncontrolled throughout most of his diabetic lifetime because, prior to the recent treatment, he was taking only 20 units of insulin daily, his urine contained 5 per cent sugar and the fasting blood sugar was 295 mg. per hundred cubic centimeters. In addition he shows symptoms and signs of the neuropathy encountered in uncontrolled diabetes.

Lumbar puncture, including study of dynamics and careful examination of the spinal fluid, is indicated. In the neuropathy seen in diabetes, it is characteristic to find an increase in the total protein of the spinal fluid unaccompanied by an increase in cells.

If a complicating neurologic condition unrelated to diabetes is ruled out, then the best treatment includes control of the diabetic condition, bringing the weight up to standard with diet and insulin (using protamine zinc insulin with supplementary doses of regular or crystalline insulin, if needed), the development of his muscles and liberal provision for vitamins, particularly the vitamin B complex. There may, of course, be a psychic element.

ANESTHETIC FOR DRUM MEMBRANE

To the Editor:—What is considered to be the most effective local anesthetic (or combination) for use in paracentesis of the membrana tympani?

M.D., Washington.

ANSWER.—There is no really satisfactory local anesthetic for use in paracentesis of the membrana tympani. Various preparations have been used. Thirty per cent phenol in glycerin affords some analgesia. Bomain's solution (equal parts of cocaine, phenol and menthol) has its supporters and does lessen the pain, but its use is not without danger. Some otologists prefer cocaine crystals (10 per cent) in aniline or in equal parts of aniline and absolute alcohol. Unfortunately epidermal desquamation of the canal is a common sequel to topical medication.

It is of interest to note that when paracentesis is required in such diseases as acute serous otitis or when medication is injected through the normal drum membrane (e. g. thyroxine, as in otosclerosis), no anesthetic is actually necessary. Opening of such a noninflamed drum is almost painless, and it is precisely under these conditions that proponents of local anesthetics have claimed the greatest success. The best anesthetic for paracentesis in acute suppurative otitis media is a short gaseous anesthetic when this is available.

CRUSTING NASOPHARYNX IN SINUSITIS

To the Editor:—A patient is suffering from chronic sinusitis. The discharge drops into the posterior nasopharynx, collecting there and forming a "scab" the size of a quarter (24 mm.) which necessitates instrumentation for removal. This has to be done every three to five days. Will you please give me some advice on how to prevent this "scab formation" besides the usual treatments for chronic sinusitis. The anatomy of the nasopharynx is normal.

G. F. Spielhagen, M.D., Iowa City.

ANSWER.—Assuming that the sinusitis is being cared for adequately, there remains the local condition in the nasopharynx to be treated. This may prove to be obstinate. Following the removal of the crust, the mucosa may be painted with increasing strengths of Mandl's pigment. A prescription for this is iodine 4 Gm., potassium iodide 1.3 Gm., peppermint oil 0.3 cc., glycerin 30 cc. As the treatment progresses, the strength of the iodine may be increased.

A bland oily preparation may be used in the nose several times a day to coat the mucous membrane and so prevent drying and crusting of secretions. The possible danger of lung irritation from such oils, however, must be considered. Small doses of potassium iodide by mouth are often found useful for this purpose.

This discussion assumes that the nasopharyngeal condition is secondary to the nasal infection and is not due to a retention cyst in the vault of the nasopharynx or to an atrophic change in the mucosa or some such similar state of affairs.

PROBABLE CHRONIC CYSTIC MASTITIS

To the Editor:—A married woman aged 42 had an amputation of the left nipple ten years ago for what was apparently a nonmalignant disease. The breast contains variable-sized movable nodules as evidence of chronic mastitis. Comparable nodules are found in the opposite breast. They have been present for several years without changes noted. What are the possibilities of malignant disease in a breast of this type? Assuming that an intraductal cancer should develop and assuming that the early symptom of discharge would necessarily be absent, is it conceivable that cancer would become inoperable before adequate recognition was possible? Are statistics as to cancer in breasts of this type available? Would the absence of the nipple coupled with the presence of the chronic mastitis and a positive family history of cancer justify resection of the breast?

M.D., Wisconsin.

ANSWER.—If one is to judge by the description, one is probably dealing with a case of chronic cystic mastitis. Furthermore, if the clinical diagnosis of chronic cystic mastitis is correct, then one can be reasonably certain that the patient has little chance of having a carcinoma in the breast now or at a later date. On the other hand, it is often difficult to make a definite clinical diagnosis as to the exact nature of lesions of the breast, and if there is any doubt as to the correctness of the clinical diagnosis the patient's breast should be amputated and subjected to a thorough pathologic examination.

BILATERAL COMPLETE CRYPTORCHISM IN EIGHT YEAR OLD BOY

To the Editor:—What is the proper therapeutic procedure in a boy aged 8 with complete bilateral cryptorchism when the testes cannot be palpated in the scrotum or in the inguinal canals? He is otherwise normal, mentally and physically. What is present day opinion on treatment with gonadotropic substance? At what age should treatment be started?

Irving Saffran, M.D., Dorchester, Mass.

ANSWER.—In a patient with bilateral intra-abdominal testes it is improbable that the gonadotropic substances will produce descent. A trial of this material for six to eight weeks at the most, using approximately 500 international rat units three to four times a week would probably not be harmful. If at the end of this time the testes had not descended, an operation should be considered, only one side at a time being done. Treatment should begin at once.

BIFOCAL GLASSES

To the Editor:—Do you know of a book or article that discusses types of bifocals for barbers and carpenters? Some people are dissatisfied with bifocals and a discussion of the subject would be of value to me. As you know, of late years there have been a number of bifocals on the market.

W. B. Hubbard, M.D., Flint, Mich.

ANSWER.—The problem of bifocals is the problem of ordinary refraction. There is no special book or even article dealing with the aspect of the problem requested. However, any of the standard textbooks on refraction, Thorington, Duke-Elder and others, discuss the required strength of the additional reading segment that may be incorporated into bifocals. The experienced refractionist tests in each case the requisite working distance and bases his prescription on the data thus obtained.

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PHYSICAL FITNESS IN TERMS OF PHYSIQUE, DEVELOPMENT AND BASAL METABOLISM

WITH A GUIDE TO INDIVIDUAL PROGRESS FROM
INFANCY TO MATURITY: A NEW
METHOD FOR EVALUATION

NORMAN C. WETZEL, M.D.
CLEVELAND

A new method for evaluating physical fitness, based on the use of a grid to aid in this purpose, is described in the present paper. The method is particularly adapted to clinical work, since it requires as initial measurements merely routine data on weight, height and age. In return for these data, and these alone, it supplies objective ratings on physique (body build), development, nutritional grade, physical status and age advancement and, in addition, information on certain other items of importance. A concrete record is thus constructed which complements the subjective result gained by clinical examination. It is, therefore, a special purpose of this paper to show how the grid may aid medical examiners in judging the individual physical state and progress during the long period extending from the close of infancy to fully established maturity.

THE NEED FOR A NEW METHOD

The need for an instrument of this kind is widely felt. Souther, Eliot and Jeness¹ have remarked:

"With the public conscience demanding protection of the health of the child and the school medical services expanding to meet this need, the development of a simple economical but accurate means of assessing the child's state of well being or physical fitness is in order."

Today much of the information in medical records which refers to physical fitness is summed up in very general phrases such as "well developed and well nourished." In spite of countless attempts to standardize various physical dimensions and repeated exhortations to use them with understanding, physicians, school and public health officials and even laymen have come more and more to treat simple physical measurements, such as weights and heights, as all but worthless. The situation has not been remedied by the introduction of more extensive measurements comprising so-called batteries of tests.² Not only have recommendations been made to measure many different diameters, lengths and circumferences of the body and even thicknesses of the skin and subcutaneous tissues in the trunks and limbs, but also rather ambitious plans have been

proposed to estimate the content of vitamins, hormones, minerals and other substances in blood and urine, as well as to undertake roentgen studies of bones and performance tests on heart, lungs and muscle.³

This trend toward making the routine of examination and the methods of dealing with the troublesome question of physical state continually more complicated has been encouraged by repeated failure to establish consistent and reliable standards of comparison for simple physical measurements.

The difficulties in the problem are important and should be touched on briefly. The success of estimating physical fitness by clinical examination has found scarcely more than 50 to 70 per cent agreement between experienced physicians.⁴ Tables of height and weight, even when they are used in conjunction with medical estimates of physicians, have repeatedly been shown to possess no more than 60 per cent overall reliability in differentiating between persons of satisfactory and of unsatisfactory physical grade.⁴ Finally, indexes of nutrition, or of "body build" as they have been variously called,⁵ have failed notably to select subjects in under par classes.^{5a}

From the standpoint of national health the situation has been frankly discouraging, in spite of ever increasing funds and efforts devoted to the study of child development. Two facts are striking:

In the first place, no one denies that the tests mentioned, as well as others that could be enumerated, have their own proper place, namely in private practice or in research, and yet even then chiefly under conditions of hospitalization. But no matter how worthy or how well deserved the application of these intricate technics may be in selected cases in which time, expense and other items are of no great consequence, they remain, without question, thoroughly unpractical for large groups and hence precisely where the need for a screen is usually greatest.

Meanwhile, measurements of height and weight are being taken with routine care and also with about the same attention paid to them as to a morning bath, namely as part of a "well organized health program." Under the circumstances, those concerned with child welfare, including (in certain communities) nurses and teachers in addition to medical officers and private physicians, have continued to assess a child's physical makeup by methods long recognized as crude and not trustworthy but nevertheless still in use because of the want of anything better for the purpose. The present scheme, as embodied in the grid, is offered to fill this urgent need.

While the demand for a reliable aid to medical examiners in evaluating physical fitness is, as just outlined, an important stimulus for submitting a solution to the problem, no new method, however accurate or reliable,

3. Franzen, R.: Physical Measures of Growth and Nutrition, New York, American Child Health Association, 1929. Report.² Jones.⁶

4. Manny, F. A.: A Comparison of Three Methods of Determining Defective Nutrition, Arch. Pediat. 35:88 (Feb.) 1918. Dublin, L. L., and Gebhart, J. C.: Do Height and Weight Tables Identify Under-nourished Children? New York, New York Association for Improving the Condition of the Poor, 1924.

5. Clark T.; Sydenstricker, E., and Collins, S. D.: Weight and Height as an Index of Nutrition, Pub. Health Rep. 28:39 (Jan. 12) 1923. Jones.⁶

5a. The failure of various methods of assessing physical fitness mentioned in the text has just recently been restated in a comprehensive review by Jeness, Rachel M., and Souther, Susan P.: Methods of Assessing the Physical Fitness of Children, Children's Bureau Pub. 263, Washington, D. C., Govt. Printing Office, 1940.

Read in part before the American Pediatric Society, Skytop, Pa., May 2, 1940.

From the Babies and Childrens Hospital, and the Department of Pediatrics, Western Reserve University School of Medicine.

1. Souther, Susan P.; Eliot, Martha M., and Jeness, Rachel M.: A Comparison of Indices Used in Judging the Physical Fitness of School Children, Am. J. Pub. Health 29:434 (May) 1939.

2. Report on the Work of the Group of Experts Appointed to Study Methods of Assessing the State of Nutrition in Infants and Adolescents, Bull. of Health Organ., League of Nations 6:129 (April) 1937.

should be proposed unless it meets, in addition, the three conditions stipulated by Jones.⁶ These, in brief, are:

1. Measurements should be restricted to those which can be made in routine examinations at office or school.
2. No recalculation of basic data should be required.
3. No extra time or labor should be involved.

These are severe conditions but, as the present paper shows, they can be and have been completely met.

THE ROLE OF GROWTH AND DEVELOPMENT

From the clinical point of view, it is axiomatic that a child who fails to grow properly is not healthy and that such a child, accordingly, should become the subject of medical examination. Again, from a broader point of view, the chief burden and concern of parents is to provide the most favorable conditions for growth and development of their children. Similarly, the main object of all organized child health work is to facilitate growth

of progress. Now, as far as young subjects aged from 2 to 20 years are concerned, nothing so completely characterizes them in these two respects as their own growth and development. But a child's proper development depends implicitly on its proper growth, and this in turn depends not only on proper food supply but on proper physiologic use of food. Satisfactory progress implies maintenance of this delicate balance between food, digestion, metabolism, nutrition, growth and, finally, development. In a complicated chain such as this some variation of response is inevitable. Differences become especially imposing if observations are extended to many children. Such variations, however, have sometimes been taken to signify that growth is too irregular to have any valuable diagnostic worth. There are, on the contrary, some very significant events of growth and development which recur with startling regularity. Fortunately, both the regular and the irregular features can be detected by the grid, and one is thus able

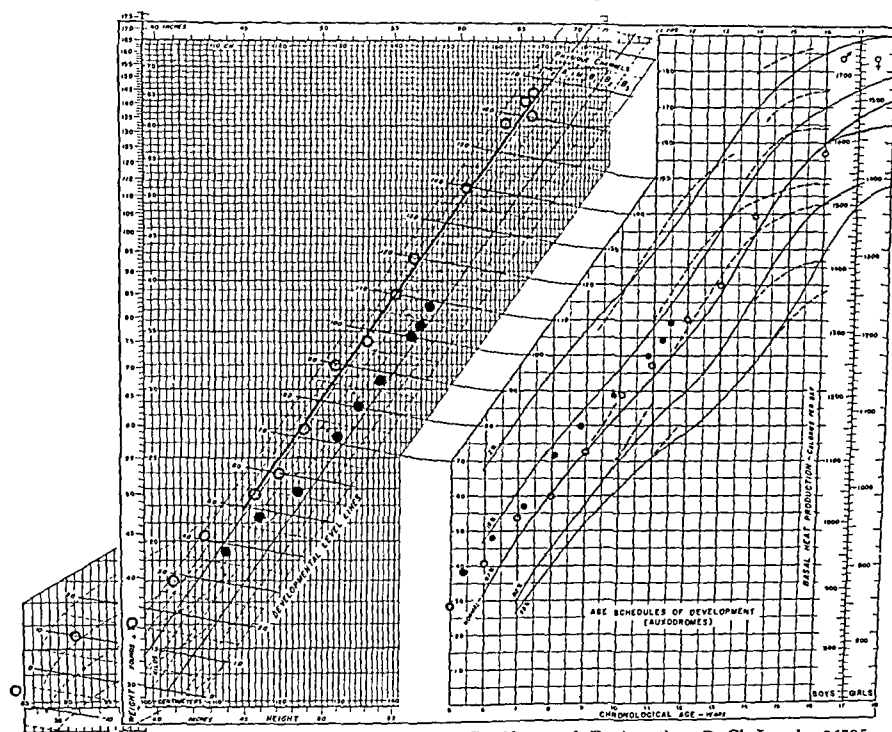
to obtain a clearer picture than otherwise of the causes that give rise not only to variation in the individual subject from time to time but also to those physical differences that distinguish person from person.

GRID TECHNIC OF EVALUATING PHYSICAL FITNESS

A grid rating of physical condition is established in the following way: Measurements on weight, height and age, the traditional data collected over and over again in everyday clinical work, are entered, according to directions, on the grid illustrated in figure 1. From a point so plotted, or from the curve defined by several points representing successive observations, it becomes immediately possible to elicit quantitative information on all the items listed in table 1. The first five are necessary and also sufficient for an objective rating of physical fitness; the remaining items have only accessory though often valuable significance. If a single observation (one point only) is available, information on item 3 is presumptive and not final until it is definitely established, as explained later, by a subsequent measurement.

Under ordinary conditions the changes in item 1 through item 8 (table 1) are going on simultaneously throughout adolescence. This has always been a major obstacle to the appraisal of physical fitness by other methods. A characteristic and important property of the grid technic, however, is that it enables an examiner to measure and consider each item separately or in any combination that might be required.

Besides information on the tabulated items, one obtains, for successive annual or semiannual observations, not only a record of progress already achieved and an impression as to how satisfactory this has been but also an indication of what forthcoming progress may be expected for each particular subject in the near as well as in the more distant future.



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Fig. 1.—Left hand panel: the grid described in the text, made up of the oblique system of seven principal channels of constant physique subdivided by isodevelopmental level lines. Right hand panel: representative age schedules of development (auxodromes) with percentage of children on or ahead of each schedule, showing how widely separated in time (age) children of the same developmental level may actually be; boys are represented by the solid lines, girls by the broken lines. The small dots in the M channel identify the successive yearly levels indicated by the 67 per cent curve, which is taken as the standard of reference; a child whose curve is ahead of this is advanced in development, one whose curve follows behind the standard is retarded in development. The open circles O represent the developmental progress of subject F from February 1892 to February 1908;³ the solid circles ● represent subject D from September 1933 to September 1940. Estimates of basal heat production and daily caloric intake are read directly for the corresponding level and sex. (The original chart measures 9 by 11½ inches.)

and development, whether this is explicitly stated or not. There is, in each of these endeavors, an unmistakable implication that deviations in growth and development are connected with changes in health, and even that they may constitute initial signs of otherwise unsuspected disease. For all these reasons the present method of evaluating physical fitness has been specifically designed to provide tangible access to the phenomena and events of growth and development.

The chief principle underlying the grid technic is, therefore, the consideration of the individual child as a whole and especially in relation to his own past record

6. Jones, R. H.: Physical Indices and Clinical Assessments of the Nutrition of Schoolchildren, *J. Roy. Statist. Soc.* 101:1 (Part 1) 1938.

The Grid Itself.—This is shown in the left hand panel of figure 1.^{6a} It consists of seven principal channels of physique, symmetrically disposed about the middle, or *M*, channel and diagonally traversing the field graduated in metric and customary units of weight and height. The distance along the channels is subdivided equally by parallel iso-developmental level lines.

The supplementary charts in the right hand panel contain (a) five representative curves henceforth referred to as auxodromes,⁷ which show how upchannel progress for both boys (represented by solid lines) and girls (represented by broken lines) is scheduled to proceed with increasing age, and (b) a scale aligning basal heat production to developmental levels.

The foregoing elements (grid, channels, level lines, auxodromes and basal heat production values) will now be described more thoroughly in connection with a detailed explanation of the specific meanings that pertain to the various items listed in table 1.

Channels of Constant Physique.—The seven principal channels designated A_3 , A_2 , A_1 , *M*, B_1 , B_2 , B_3 (the *A* and *B* denoting above and below middle *M*, respectively) are straight line paths for the duration of school life, that is from 6 to 18 years and beyond. During the preschool period, however, the channel trend is changing continuously, as shown by the dotted curves. Final settling into a channel may be delayed a year, but only in exceptional cases will this be later than the age of 8 years. Thenceforward healthy development continues in an established channel as though this were a preferred path, notwithstanding its apparently narrow width.

The records of two boys, F from 1892 to 1908 reported by Guttman⁸ and D from 1933 to 1940,

TABLE 1.—Items Entering into the Grid Evaluation of Physical Fitness

1. Physique (body build)	5. Relative age advancement or retardation, as the case may be
2. Developmental level	6. Maturation
3. Nutritional grade	7. Basal heat production
4. Physical status	8. Daily caloric intake

shown respectively by the open and solid circles in figure 1, are evidence of the tendency to proceed channelwise. This fundamental property of growth and development has obviously not been altered in the last forty years. The grid thus enables each subject to become his own standard of comparison.

This singular characteristic of healthy development to become channelwise and, in so doing, to keep body

build or physique constant, is clearly illustrated by the silhouettes shown in figure 2, which have been constructed to standard size with utmost care. From these it is plain that body shape has remained substantially the same during a period of two years in which development has advanced from the 117.5 to the 142 level. The silhouettes indicate the type of physique characteristic of subjects in channel A_3 .

Accidental variations⁹ such as occur in all observations are astonishingly small and always well within the width of a channel. Indeed, it may be stated as a simple and practical rule that normal variations do not exceed one-half channel per 10 units of advancement. Changes greater than this are cause for thorough physical examination and investigation. Continued cross channel advance, bearing left or right, is definite evidence of systematic deviation which, as shown in the next section, will soon lead to recognizable changes in body build and nutritional and physical states.

Paths of Changing Physique.—Two, and only two, types of changing physique occur. They are illustrated by the standard size silhouettes and their respective curves in figures 3 and 4. The curve directed upward leads toward obesity, whereas the other, directed downward, is clearly indicative of oncoming "malnutrition." In both cases a change in the channel has taken place and therefore a change in physique. In any case (fig. 4) the change in physique is measured by the projection of the curve on a developmental level line as shown by the arrow.

So long as external and internal conditions remain the same, no deviation of path is to be expected. But if deliberate therapeutic changes in diet, for example, are introduced, corresponding changes in the curves will follow.

Thus, in the severely malnourished boy in figure 5, whose original silhouette quite clearly defines the state of "nothing but skin and bones," treatment in a convalescent hospital resulted in the improvement displayed in the curve and in the second silhouette.

The opposite effect is illustrated in figure 6, which shows the results attained in an obviously obese child whose only fault was overeating and who became, under supervision, a healthier child as she entered the normal channel of medium build, A_1 , for which her natural frame was suited and presumably intended.

A plotted point in any of the seven principal channels or in any that lie above or below them gives an immediate indication of body build or physique at that point. Study of upchannel and cross channel progress has sufficiently indicated that the obese-plump,

stout, stocky types are found above and in the upper *A* channels; the medium types of body build are represented in the three outer channels; and, so far as build itself is concerned, the genetically slender, linear, thin

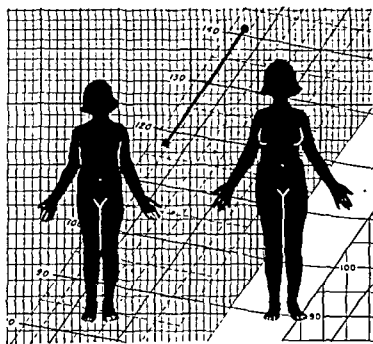


Fig. 2.—Channelwise progress of a stocky girl (L. D.) in A_3 , from level 117.5 to 142. Note preservation of same physique during the period from 10.5 to 12.5 years.

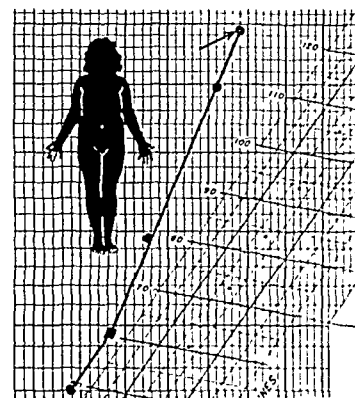


Fig. 3.—M. D., an obese girl, showing the inevitable result of progress at a slope greater than that of the channel.

6a. See figure 7 for greater detail, especially in upper channel regions.
7. Derived from the Greek words $\alpha\upsilon\gamma\alpha\omega$, to grow, and $\delta\epsilon\mu\omicron\varsigma$, a course.

8. Guttman, M.: Einige Beispiele individueller körperliche Entwicklung, *Ztschr. f. Kinderh.* 12: 248, 1916.

9. Minor irregularities and differences due to circumstances which cannot always be completely controlled; e. g., diurnal variations traceable to meals, rest and emunctory functions, and error of personal equation.

examples are in the lower *B* channels (fig. 7). A change in physique, moreover, is measured simply by a change in the channel.

Developmental Level.—Physical development is measured on the grid by means of the isodevelopmental level lines. These subdivide the distance along the channels into equally spaced units, each 10 units being shown by solid and each 5 units by broken lines. The zero base is taken somewhat below the entrance to the linear path and corresponds to the level which marks the end of infancy and thus the beginning of adolescence.¹⁰ All points on any level line are equally removed from the zero base line. The shortest path for development is strictly along the channel, all other paths being longer, though this fact cannot be verified in

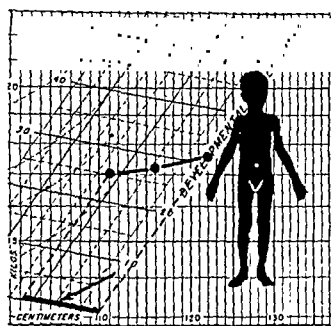


Fig. 4.—G. M., a malnourished boy aged 9 years with a telltale direction to his curve. Arrow points to graphic measure of change in physique. His developmental level of 32 at 9 years signifies that he is retarded by three years, thus giving him a developmental age of 6 years, according to the 67 per cent standard.

figure 1 owing to the effect of scale. Thus development may be measured independently of physique and independently of upchannel or cross channel progress, a result hitherto impossible with any of the usual "indexes of nutrition" or body build. Hence, 2 subjects both of whom have arrived at level 100, no matter how or in which channel, are specifically to be considered as being on the same developmental level. For the present, the units of development are arbitrary. In a later section their calibration in terms of power, or calories of basal heat output daily, will be explained. This is also a new result showing that physical development need not be considered a thing apart, but rather that structural change and physiologic (metabolic) change can be made co-servants in clinical appraisal.

Nutritional Grade.¹¹—As indicated before, channel-wise progress is the preferential path pursued in health. It is, moreover, the only mode of developmental advance which proceeds without change in physique. Optimum nutrition, accordingly, may be defined as the sum total of those processes which together enable development to proceed along the contour lines of one's inherited physique. Thus normal or optimum nutrition in the clinical sense is indicated whenever the slope of a given child's curve is equal to that of the channel, provided progress is also on a satisfactory time schedule, as explained later.

If, however, the gradient or slope of a particular curve departs from that of the channel, one of two opposite types of nutritional state is in the making. Curves proceeding less steeply than the channel will be associated not only with change in physique toward a more slender body build but also with a state of comparative malnutrition. Causes for this kind of progress need not, of course, be traceable solely to defective diets,

for all possible causes—e. g., dental caries, tonsils and adenoids, fatigue and poor hygiene—will likewise require to be looked into.

Similar considerations hold for curves proceeding more steeply than the slope of the channel system. In this event, change in physique toward ultimate obesity ensues, and the subject, meanwhile, is becoming "over-nourished." Here, again, diet alone need not be at fault, for the endocrine system will also demand attention.

To put these results briefly, it may be said that a curve of development which shows significant departure from the channel slope indicates simultaneous changes in (a) nutritional grade and (b) body build; each change is separately indicated by the grid. The slope or gradient of the curve is the measure of what clinicians, in assessing physical fitness, call the state of nutrition, whereas the projection of the curve on the channel axis is, as before, the measure of coincident change in body build.

Physical Status.—This otherwise troublesome term now takes on a perfectly definite and distinct meaning of its own which may be explained as follows: It signifies precisely that resultant physical state which has been produced by the combined effects of growth, development and nutrition cumulated to the moment in question. Graphically, some particular physical state will therefore be associated with every height-weight point in the grid field. But, since the complete determination of physical status depends on knowledge of the past history, the specific state in a given subject associated with any point cannot be unconditionally defined until the mode of approach to that point (of which there are an infinite number) has been revealed. This is equivalent to saying that the graphic determination of physical status (item 4, table 1) depends on all three preceding items in the table. It also means that the combination of items 1, 2 and 3, which together give 4, can be represented graphically not by a height-weight point itself but rather by such a point as terminus of a directed line segment (vector) originating in some previous observation.

On the practical side, fortunately, the impossibility of determining the mode of approach to a given point by a single observation, and hence the limitations thus imposed on the determination of item 3, does not prevent an approximate evaluation of physical status,

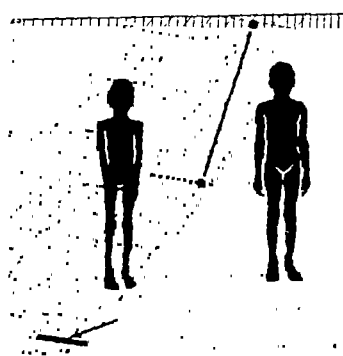


Fig. 5.—J. H., another undernourished boy, showing response to convalescent care. The change in physique is characteristic and is measured by the projection on the cross channel axis.

as the following considerations show. Every point, when plotted, may be resolved by means of the grid into two parts: (a) the physique component, as represented by the channel in which the point lies, and (b) the developmental component, as given by the respective level scale. This resolution, therefore, takes care of items 1 and 2 in table 1, with the result that, to every point, there corre-

sponds one, and only one, combination of physique and development. Knowledge of this combination, which every point gives, constitutes the greatest share of

10. Wetzel, N. C.: On the Motion of Growth: XVI. Clinical Aspects of Human Growth and Metabolism with Special Reference to Infancy and Preschool Life, J. Pediat. 4: 465 (April) 1934.

11. With due regard for already established meanings attached to the term "nutrition" itself, and especially to the fact that it has been used on some occasions to refer simply to single elements in the diet, on others to the whole nutritional process and, finally, in clinical work to various rather well recognized states of health, there is need for a cognate term which will connect nutrition per se with the various types of developmental progress already described.

information required for a complete estimate of physical status. Hence, even if measurements are limited to a single observation, a graphic estimate of physical status can at least be partially made. It remains provisional until a second observation establishes the trend required for a determination of the nutritional gradient (item 3).

TABLE 2.—Grid Ratings of Physical Status Corresponding to Location of Points in Various Channels

Physical Status	Channel	Per Cent of 2,000 Cases at Developmental Level = 100 and Economic Tenth = 3.4
Obese (O).....	A ₄ , A ₅	6.8
Stocky (S).....	A ₃ , A ₂	9.4
Good (G).....	A ₁ , M, B ₁	61.6
Fair (F).....	B ₂	13.9
Borderline (B).....	B ₃	5.9
Poor (P).....	B ₄	2.4

Pending this, however, a tentative estimate is justified on the ground that subjects of "medium build" and "good nutrition" are in and tend to progress along the center channels; the stocky types, whose nutrition is not in question, travel in the upper two channels, whereas the slender, linear types, whose nutrition is often doubtful, are found in the two lower channels and below (fig. 7). For ready reference the grid ratings of physical status as determined by the location of individual plotted points are given in table 2.

Thus, according to table 2, any point lying in channel A₃ represents a subject of the stocky and well nourished type. A point in B₂ represents a child whose physical status can be considered only "fair," that is, in doubt, but not yet so greatly in doubt as a point in B₃, which is "borderline." In A₄ and above are those of increasing grades of obesity beginning, perhaps, with the dignified "stout" or "overly plump." In B₄ and below are those whose physical status is frankly "poor."

No difficulty will arise in distinguishing between the meanings here placed on "physical status" and "physique" if it is remembered that the latter refers only to body build and is therefore but one of the items required to define physical status, the others being items 2 and 3 of table 1.

As the final column of table 2 shows, one may expect roughly 30 per cent of children to be in a physical state requiring medical investigation and supervision. This estimate agrees with earlier observations¹² and serves to show that the grid technic is capable of expressing independent ratings which may be used by medical examiners as a guide in screening the under par child.

The subjects in channel B₂ (fair) are of special interest. It has been found¹³ that physicians cannot agree by more than 50 per cent on medical ratings of children in this channel, although they agree among themselves on 94 per cent of subjects in all other channels, a figure which greatly exceeds previous trials at correlating medical opinion with some objective measure of physical state and nutrition. For this reason a child in the fair or B₂ channel should routinely become the subject of examination in order to determine whether heredity and background account for its being there or whether disease is at work. Similar warnings hold true for the borderline B₃'s. It may be taken for granted that the children of the B₄ group are "poor" and require not merely examination but treatment as well. Those

above A₃ likewise need careful watching, first to prevent their going still farther beyond the outer channel and second to remedy their obesity. A course of development directed upward and out of bounds, when once initiated, tends to proceed with all but unbelievable momentum (fig. 3).

Relative Age Advancement or Retardation.—Until now, no mention of the time element in developmental progress has been made or required. Attention has been directed solely to matters of body build, developmental level, nutritional grade and, lastly, physical status in which all other elements are embodied. This order of procedure does not signify that time or speed of progress is not essential to a final rating; on the contrary, it helps to emphasize the important role of age, which may next be dealt with from a more appropriate point of view.

*The Auxodromes.*⁷—These curves, which are shown in the right hand panel of figure 1, measure relative age advancement or retardation as the case may be. To put the matter somewhat differently, it may be said that the curves display advanced, normal and retarded patterns of developmental progress and may, accordingly, be taken to show how physical development proceeds with respect to age during its channel course on the grid. These curves are, in a very real sense, schedules of progress which indicate how far the advanced, regular and retarded child may be expected to have developed at a given age.

The percentage figure at the lower end of each curve indicates the relative number of children who are on or ahead of the respective schedule. Thus, only 2 per cent will have advanced in their development at successive ages as far as or farther than the uppermost curve calls for; 67 per cent will have reached the levels given by the center auxodrome on or before the corresponding ages to which it refers; finally, 98 per cent of children will therefore certainly have advanced as rapidly as the lowest curve, so that only 2 per cent remain behind this in their development. The 67 per cent curve is taken as the standard of reference by which advancement or retardation in a given child may be measured.

Distinction is made between boys and girls. During the earlier stages from 5 to 9 years, to which Stratz¹⁴ referred as "neutral childhood," boys and girls follow a common course to the lower point of bifurcation. Thenceforward girls (broken curves in figure 1) tend quite characteristically to proceed ahead of boys (solid

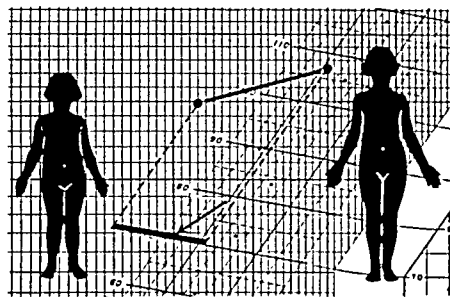


Fig. 6.—J. D., an obese girl showing a conspicuous change in physique as a result of dietetic therapy.

curves in figure 1) toward their own upper boundaries and with earlier cessation of development.

The average rate of progress by these schedules is approximately one level line a month. This figure may

12. Chenoweth, L. B., and Selkirk, T. E.: School Health Problems, New York, F. S. Crofts & Co., 1937, chap. 6. The White House Conference on Child Health and Protection, J. A. M. A. 95: 1765 (Dec. 6) 1930. Manny, F. A.: Defective Nutrition and the Standard of Living, Survey 39: 698, 1918.

13. Discussed in a later section dealing with statistical background.

14. Stratz, C. H.: Der Körper des Kindes und seine Pflege, ed. 11, Stuttgart, F. Enke, 1928.

conveniently be referred to as "a point a month" for developmental advancement during all adolescence irrespective of seasonal effects. However, as the slight but definite change in the slope of the curves clearly shows, development does not take place at constant time rates. Following the steep rise at 6 and 7 years there is a clear-cut tendency to proceed more slowly, the lag effect being most conspicuous in the lowermost curve. The lag, in turn, is followed by the final episode of acceleration associated with puberty.

The set of five auxodromes thus represents a family of curves that may be used as a direct guide with which to compare the personal curve of the subject whose data are located in the channel. One is merely required, when plotting a height-weight point in the grid, to read the corresponding developmental level and then to plot this against the subject's age. A series of such points automatically constructs that subject's own auxodrome, which will be found in health to follow the illustrated pattern quite faithfully.^{14a} Failure

level. Their physical status will likewise be the same, namely of "medium build" and "good nutrition." Now they may or may not be of the same age. If they are, and this is 11.6 years, their points will both be on the center auxodrome where the 100 level line intersects the 11.6 year mark. They would, accordingly, be equally advanced with regard to age and they would, for the moment at least, be on the same schedule. If, however, one of the subjects is only 8.35 and the other 14.25 years old, their points will be placed, instead, on the widely separated age schedules represented by the intersection of the 100 level line with the 2 and the 98 per cent auxodromes, respectively. This would indicate a difference of almost six years in relative advancement between them, the former being about three and five-tenths years in advance of "normal," the latter about two and five-tenths years retarded as compared with the "normal" 67 per cent curve.

Developmental Age.—An alternative method of estimating relative advancement or retardation is to determine a subject's developmental age. This is obtained at once by reading the age at which the 67 per cent norm intersects a given developmental level. For example, the child whose level was previously stated to be 100 at 8.35 years by actual age is said to possess a developmental age of 11.6 years. Similarly, a level of 130 attained at 15.3 years corresponds to a developmental age of 13.7 years. The former child is advanced, the latter retarded in development.

This method of assessing development is comparable in some respects to, and serves the purpose of, determinations of skeletal age. It is, however, much simpler, entirely objective, less time consuming and less expensive. In short, it avoids the disadvantages connected with roentgenologic determinations of skeletal age.

Maturation.—The onset of puberty is usually a perfectly definite and recognizable event, by long experience awaited between the twelfth and sixteenth years. Individual variations, especially when the onset seems premature or too long delayed, may be a source of concern. The average age at onset, as indicated in an earlier paper,¹⁰ is remarkably close to 13.6 years for both sexes. This estimate was fixed by the age at which the final deceleration of growth in weight had been found to reach its maximum value. Reports which Greulich¹⁵ has collected give almost exactly the same average age. Concerning individual differences, on the other hand, Shuttleworth¹⁶ has found that girls who mature early are significantly larger than girls of the same age who mature late. By the grid technic this means that girls on the advanced auxodromes tend to mature earlier than those on late schedules. In fact, a study of the question shows that the auxodromes of figure 1 are quite reliable in predicting the onset of menarche. The rule is that this may be expected in the neighborhood of the greatest upper curvature. Puberty in boys is similarly to be expected on their own curves. The greatest upper curvature, moreover, occurs at the very age at which the final deceleration of development is maximum. These results suggest that

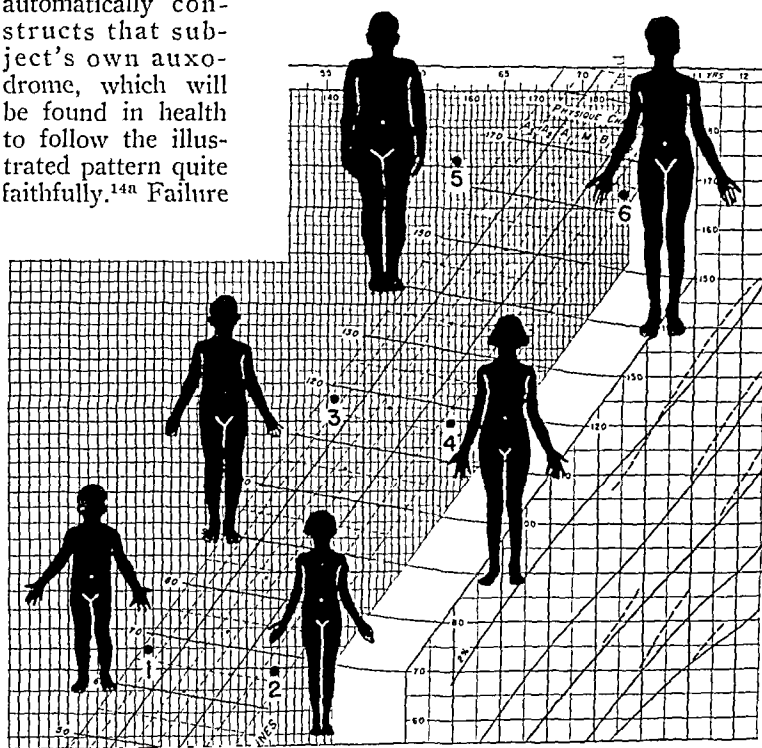


Fig. 7.—Six different subjects with corresponding grid positions, illustrating, in the first place, the difference between stocky and linear types paired at the same developmental level and, in the second place, the constancy of physique for points located at different levels in the same channel. Note that subject 5 is visibly more stout than subjects 1 and 3, the point 5 lying in channel Aa. Note also the identity of the silhouette of subject 3 in this figure with the silhouette in figure 2 at level 118 in Aa.

to do so, as in the case of deviation from the channels, is likewise cause for investigation. The most common abnormal result is the tendency for an auxodrome which has been following one of the more advanced courses to fall behind its expected schedule by a year or more. This may be the first sign of physical trouble and may appear even before the child's developmental curve has departed from its own channel. It signifies that development is being slowed down surreptitiously. Thus, upchannel progress may be considered normal only when it is proceeding at a rate sufficient to maintain advance comparable to that of the standard auxodromes in figure 1.

The significance and mechanism of the age schedules may be brought out by a few examples. Suppose, to begin with, that 2 children are placed on the 100 level line in channel M. They will possess the same physique and be at the same developmental

level. Their physical status will likewise be the same, namely of "medium build" and "good nutrition." Now they may or may not be of the same age. If they are, and this is 11.6 years, their points will both be on the center auxodrome where the 100 level line intersects the 11.6 year mark. They would, accordingly, be equally advanced with regard to age and they would, for the moment at least, be on the same schedule. If, however, one of the subjects is only 8.35 and the other 14.25 years old, their points will be placed, instead, on the widely separated age schedules represented by the intersection of the 100 level line with the 2 and the 98 per cent auxodromes, respectively. This would indicate a difference of almost six years in relative advancement between them, the former being about three and five-tenths years in advance of "normal," the latter about two and five-tenths years retarded as compared with the "normal" 67 per cent curve.

15. Greulich, W. W.: Some Anatomical Aspects, in *A Handbook of Methods for the Study of Adolescent Children*, Monographs Soc. Research in Child Dev., 1938, vol. 3, no. 2, pt. 1, p. 53.
16. Shuttleworth, F. K.: Sexual Maturation and the Physical Growth of Girls Age Six to Nineteen, Monographs Soc. Research in Child Dev., 1937, vol. 2, no. 5.

14a. See, for example, the two sets of data charted in figure 1.

maturation is not directly related to age or to size but rather to a more fundamental and critical property, namely maximum deceleration of growth and development and through this, only indirectly, to age.

Basal Heat Production.—Owing largely to technical difficulties in obtaining satisfactory metabolism tests, the determination of basal heat production has been limited in practice almost entirely to those subjects suspected of disease. But aside from the very real difficulties in getting basal and hence comparable records, another drawback has been the disturbing number of discrepancies among a variety of standards about which there has been almost endless dispute.

The new standards of basal heat production erected on the right hand scale in figure 1 and aligned directly to developmental levels are included in the grid technic of evaluating physical fitness for three main reasons: (1) because of the utter simplicity by which estimates of metabolism may now be made, without correcting for body size, physique or age, the only step required being to read the value of heat output that corresponds to the developmental level in question; (2) because of the extremely important advantage of being thus enabled to check pure physical development by entirely independent physiologic measurements of daily energy turnover and vice versa, and (3) because these standards, based on developmental level, can be shown to possess a coefficient of variation as small as, or even smaller than, those of other methods of estimating basal metabolism from the physical measurements of human subjects.

A more complete discussion concerning the theoretical aspects of this problem, with special reference to the derivation of the present standards, will be given in a forthcoming paper. Here it is sufficient to state that they have been adequately tested out against many individual sets of observations, including, besides my own, those reported by Lewis,¹⁷ de Bruin,¹⁸ McKay,¹⁹ Stark,²⁰ Newburgh,²¹ Talbot, Wilson and Worcester²² and others.²³ A single example may be briefly cited: In two hundred and seventy-one tests on 41 girls between the ages of 2 and 12 years, Lewis found the mean coefficient of variation of heat output in calories per hour referred to weight to be 4.9 per cent; all the other six methods he used to express metabolism gave values higher than this. For the same

group of girls the grid method of determining their basal heat production from their developmental levels gives a coefficient of variation of 4.6 per cent. This figure is just slightly below Lewis's but far below the 11 per cent variation reported by Talbot and his co-workers,²² who also, however, found their own group of subjects to be "internally" more variable than others whom they examined.

The present method, accordingly, offers the encouragement that clinical distinction between normal and abnormal states of metabolism can be made with greater accuracy and less uncertainty than before.

A final point may be mentioned briefly. Basal heat production as here aligned to and estimated from the developmental level alone, without correction of any kind, is wholly independent of a child's physique. Specifically, several children, each in a different channel, will have the same standard heat production, provided only that they are all on the same developmental level and all in good health. The true significance of this fact is easily arrived at, though it may not be at once apparent. Heat production clearly has little or nothing to do with the bones but is concerned instead with the soft tissues. The bony skeleton occupies the chief place in the list of elements which determine body build. Hence, on a priori grounds physique itself should contribute little or nothing to daily heat production. In this connection it may be recalled that the grid resolves a given point into two components, only one of which is now seen to be concerned with heat production, for no premium is charged to the account of physique

nor is any profit rendered to a subject who possesses one rather than another; but there is an unavoidable price that must be paid in real energy for every step of developmental advancement, and that price is the same for all subjects of the same sex.

Daily Caloric Intake.—The scales for basal heat production also serve as a practical guide for estimating the daily caloric intake. This figure is always required for computing diabetic, ketogenic, reducing and other special diets, though it is often neglected in the control of normal or regular diets. To obtain the maximum daily caloric intake for either sex at any developmental level one has merely to multiply the corresponding basal heat value by 2. Average values such as those given in the White House Conference Reports²⁴ are, of course, somewhat lower, the factor being 1.9 for boys and 1.8 for girls. The 10, 20, 30 and 50 per cent above basal values used in calculating reducing diets are likewise easily computed.

Measurements.—Circumstances do not always permit net weight and height to be measured. It is therefore another advantage of the grid technic that any method of taking height

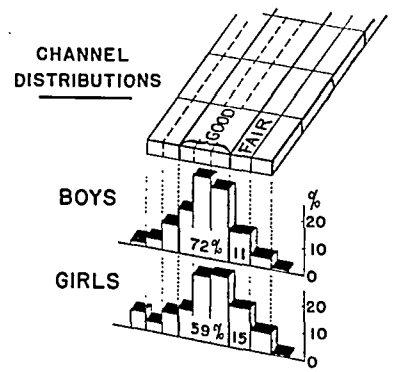


Fig. 8.—Frequency distributions of 4,045 individual children with respect to physical status (compare with table 2). The distribution again represents that at developmental level 100. Economic tenth = 5.3. All children had 6 to 12 year records.

17. Lewis, R. C.; Kinsman, Gladys M., and Iliff, Alberta: The Basal Metabolism of Normal Boys and Girls from Two to Twelve Years Old, Inclusive, *Am. J. Dis. Child.* 53: 348 (Jan., pt. 2) 1937.

18. de Bruin, M.: Metabolic Rate in Children with Abnormal Bodily Dimensions, *Am. J. Dis. Child.* 57: 29 (Jan.) 1939.

19. McKay, Hughina: Basal Metabolism of Young Women, Ohio Agric. Exper. Station (Wooster), Bull. 465, November 1930.

20. Stark, Marian E.: Standards for Predicting Basal Metabolism: I. Prediction for Girls from 17 to 21, *J. Nutrition* 6: 11 (Jan.) 1933; Standards for Predicting Basal Metabolism in the Immediate Pre-Adult Years, *Am. J. Physiol.* 3: 630 (April) 1935.

21. Newburgh, L. H.: The Importance of Actually Measuring the Total Heat Production, *Ann. Int. Med.* 8: 459 (Oct.) 1934.

22. Talbot, F. B.; Wilson, E. B., and Worcester, Jane: Basal Metabolism of Girls: Physiologic Background and Application of Standards, *Am. J. Dis. Child.* 53: 273 (Jan., pt. 2) 1937.

23. These include:

Benedict, F. G., and Talbot, F. B.: Metabolism and Growth from Birth to Puberty, Carnegie Institution of Washington, Pub. 302, 1921.

Du Bois, E. F.: Recent Advances in the Study of Basal Metabolism, *J. Nutrition* 3: 217 (Sept.), 331 (Nov.) 1930.

Harris, J. A., and Benedict, F. G.: A Biometric Study of Basal Metabolism in Man, Carnegie Institution of Washington, Pub. 279, 1919.

Lucas, W. P., and Pryor, Helen B.: The Body Build Factor in the Basal Metabolism of Children, *Am. J. Dis. Child.* 46: 941 (Nov., pt. 1) 1933.

Nakagawa, Itsiro: Growth and Metabolism, *Am. J. Dis. Child.* 47: 963 (May) 1934; 48: 35, 39 (July) 1934; 49: 1232 (May) 1935.

Pi-Suñer, J.: Studies in Racial Metabolism: Basal Metabolism of the Araucanian Mapuches, *Am. J. Physiol.* 105: 383 (Aug.) 1933.

Topper, Anne, and Mulier, Hannah: Basal Metabolism of Normal Children: The Puberty Reaction, *Am. J. Dis. Child.* 43: 327 (Feb.) 1932.

Wang, C. C., and Hawks, J. E.: Basal Metabolism of Twenty-One Chinese Children Reared or Born and Reared in the United States, *Am. J. Dis. Child.* 44: 69 (July) 1932.

24. The Energy Requirements of Children After Infancy; in *Growth and Development of the Child: Part III. Nutrition*, Reports of the White House Conference on Child Health and Protection, New York, Century Company, 1932, pp. 409-420.

and weight, consistently employed and suitable to the scene of examination, may be used, for the effect of indoor clothes plus shoes is merely to displace true net values along the same channel by approximately 3 to 5 units, because clothes weight is compensated by moderate heel height.

No measurements other than those of weight, height and age are required. These, moreover, may be taken in either metric or customary systems with identical results. A child's body build or physical or nutritional status should not be made to depend on the purely arbitrary choice of units of measurement, as has so frequently been the case. This defect invalidates much previous work on the subject. *Body build is the same whether it is measured by meter rule or yardstick.*

Other measurements, viz. iliac (bicristal) diameter, chest circumference, bisacromial width, sitting height, are not needed in the present method, since the grid with benefit of height-weight data alone is sufficiently sensitive for clinical purposes to detect measurable changes in physique.

It should be emphasized, finally, that the usual accidental variations in measurements of this kind are allowed for by channel width and that any difference greater than one-half channel per 10 units of advancement must be regarded as systematic until proved otherwise.

STATISTICAL BACKGROUND OF THE GRID TECHNIC

The grid has been tested in a number of ways. In the first place more than twenty-five thousand paired sets of measurements on 4,000 children have been individually analyzed. Among these were twelve thousand sets of measurements on 2,093 Cleveland school children whose grid ratings of physical status were compared with clinical appraisals rendered by school physicians.²⁵ No published records, except for a few examples, supply this crucial combination of observations. While a detailed account will be reported elsewhere, a few important results may be stated here. Gross agreement between estimates made by the grid and those made by physicians turned out to be 87.5 per cent, which significantly exceeds the 60 to 65 per cent figure reported by other workers.²⁶ Half the discrepancies occurred among children whose curves and points fell into the B_2 (fair) channel. These are the children on whom physicians themselves find it difficult to agree in more than 50 per cent of cases. Consequently, agreement between the grid and physicians on subjects in all the other channels rose to 94.5 per cent.

Of 205 children called "poor" by physicians, 203 were caught by the grid as unsatisfactory, either because of unfavorable channel position (table 2), excessive change in channel between successive measurements, age retardation or objectionable progress. Again, of 371 subjects called "poor" or "borderline" by physicians, the grid caught 350, or 94.5 per cent. In other words, the grid may be depended on to select those subjects in the obese, fair, borderline and poor groups whom physicians themselves consider to be in need of more intensive examination than that afforded by routine check-up. Of special importance is the fact that the grid identifies those children who are "not doing so well as might be," even though they are placed at the moment, as regards their physical status, in the channels called "good."^{26a}

As a further check, the grid method has been tested on the voluminous data reported from the Materials

of the Harvard Growth Study by Dearborn and his co-workers,²⁷ on the data of several smaller series²⁸ and finally against the mean values of more than 400 reports in the literature dealing with growth and nutrition of large groups of children under various conditions.

The frequency distributions of physical status, as defined by the grid method, are almost identical for all reports thus far examined, and they compare with the distributions given in table 2 and figure 8. Differences between groups can be explained by differences in socioeconomic and racial factors. Broadly speaking, 15 to 25 per cent of boys and 30 to 35 per cent of girls are today definitely in need of medical supervision and care; the majority of these are under par, the remainder obese. The unfavorable position of girls in both obese and under par classes is a continually recurring result and merits closer investigation.

COMMENT

The grid technic of evaluating physical fitness has been designed to serve a number of different purposes and to fulfil certain long felt needs. Its chief purpose is to aid a medical examiner in rendering a more objective opinion than would otherwise be possible on the physical condition of a given subject. It is intended to be used as a record of and as a guide to individual progress throughout the entire range of adolescence from infancy well into maturity.

Simplicity of operation has been a main objective; another object has been to achieve maximum returns for a minimum of effort and time, without sacrifice in accuracy or dependability. The required steps, entries and items of analysis have been limited wholly to those considered necessary and sufficient for a grid rating of physical fitness. To facilitate actual work with the grid, a three color design (9 by 11½ inches) is now in preparation.

The amount of information which the grid recovers from a given set of observations that are ordinarily disregarded as soon as they have been made is obviously great. The results, moreover, can be obtained with no more expenditure of time or effort than that required to plot two points and to sight on a third. They constitute a quantitative rating of physical fitness which is independent of any bias traceable to the subject, to physicians or to the circumstances of examination, and they may be compared directly with the clinical estimate.

Aside from its usefulness in private practice, the grid is especially suitable whenever large groups of children must be dealt with. From the standpoint of public and school health, it appears that about 30 per cent of children are definitely in need of very careful medical attention. Yet, owing to lack of time and funds, no medical staff can possibly examine all its children at close intervals to detect those who require continued observation, examination and advice. The unfortunate result is that much trouble is not recognized until it

25. Dr. Harold J. Knapp, commissioner of health, and Dr. J. I. Hartman, supervisor of medical inspection of the Board of Education of the City of Cleveland, and members of their respective staffs made the study possible by providing what was essential, namely, simultaneous records of clinical appraisal along with the physical measurements of each child.

26. Franzen.³ Jones.⁴

26a. E. g., by a shift from channel A_1 to B_1 or from one age schedule to another.

27. Dearborn, W. F.; Rothney, J. W. M., and Shuttleworth, F. K.: Data on the Growth of Public School Children (from the Materials of the Harvard Growth Study), Monographs Soc. Research in Child. Dev., 1938, vol. 3, no. 1.

28. Davenport, C. B.; Renfro, O., and Hallock, W. D.: The Relation Between Change in Basal Metabolism and Growth During Adolescence, Child Dev. 10: 181 (Sept.) 1939. Espenshade, A.: Motor Performance in Adolescence Including the Study of Relationships with Measures of Physical Growth and Maturity, Monographs Soc. Research in Child Dev., 1940, vol. 5, no. 1. Zeithaml, C. E.: Data to be published.

has become unnecessarily far advanced. The present scheme provides a simple technic for screening children whose physical condition is presumably under par or whose progress and development are not satisfactory. The important practical result is that the work of medical staffs in connection with child health programs can be made more efficient. With the grid record of each child before him, the physician will be enabled to devote more effort to those children who actually require attention, instead of being burdened 70 per cent of the time with searching for possible defects among children whose progress and physical condition are in reality up to acceptable standards.

Two important side effects are assured. First, those children selected by their own grid records may be immediately placed under remedial control; second, a more accurate estimate of the extent and distribution of malnutrition in any community will be available to authorities. In all events the advantages traceable to early identification of unsatisfactory physical state and progress are self evident.

A warning note may be sounded. From one point of view the grid technic is almost too simple. Widespread interest in personal health might entice unqualified "observers" to render judgments otherwise unavailable to them. The grid, however, gives information on, and only on, the items explicitly listed in table 1. Specific pathologic events are entirely outside its field. A brain tumor, or many another disease, can appear in a subject of most excellent physical build. Consequently, it must be finally emphasized that the interpretation of the curves lies solely within the province of the physician, who can take the results of his own examination and the grid rating into joint account.

SUMMARY

1. A simple, objective method for evaluating physical fitness is based on the use of a grid devised for this purpose.

2. To establish a grid rating of physical condition, only three traditional measurements (weight, height and age) are required. When these are plotted on the grid, direct estimates of physique (body build), developmental level, nutritional grade, physical status and relative age advancement are obtained independently of one another. For successive annual or semiannual observations a record is built up which shows how satisfactory progress has been in the past and also indicates what forthcoming progress may be expected in the near and more distant future.

3. The grid consists of seven principal channels, the axes of which, taken crosswise, cover a range of physique (body build) from the obese to the extremely slender type and, channelwise, a range of development from infancy to maturity. The paths are linear during school life.

4. Healthy developmental progress continues in an established channel as though this were a preferred path; channel width accounts for accidental variation which does not exceed one-half channel per 10 units of advancement. Channelwise progress indicates development with preservation of given physique; cross channel progress is accompanied by change in physique. The latter type, sufficiently continued, culminates in a pathologic state. An upward trend greater than that of the channel slope indicates that obesity is in the making;

a downward trend less than that of the channel system suggests that "malnutrition" is not far removed.

5. The slope or gradient of the developmental curve gives a simple and direct measure of what clinicians, in assessing physical fitness, call the state of nutrition. Optimum nutrition, overnutrition and undernutrition are presumptively indicated by zero, positive and negative departures, respectively, from the channel slope.

6. Physical status is the attribute which results from the combined effects of growth, development and nutrition cumulated to the moment in question. Six ratings are tabulated to identify subjects in the obese, stocky, good, fair, borderline and poor groups.

7. Standard schedules of developmental progress (auxodromes) are given which show how far the physically advanced, regular or retarded child may be expected to have developed at a given age. Average progress is approximately one level line a month. Values much greater or less than this are unsatisfactory, even though development is proceeding strictly at the channel slope.

8. Maturation for both boys and girls may be expected at the age when their own auxodromes undergo the greatest curvature and thus at the time when deceleration of development is maximum.

9. An alternative method of estimating relative advancement or retardation is to determine a subject's developmental age. This serves the same purpose as, but avoids the disadvantages connected with, roentgenologic determinations of skeletal age.

10. New standards of basal heat production are included which enable estimates of metabolism to be made, without further correction, from the developmental level attained by a given subject.

11. The heat production scale in conjunction with developmental levels also provides a ready estimate of the daily caloric intake required in regular and special diets.

12. By actual test, grid ratings of physical fitness on 2,093 school children have been compared with physicians' estimates. Agreement reached 94 per cent for all children except those in the B_2 (fair) channel, on whom physicians find it difficult to agree among themselves. The grid, moreover, caught 94.5 per cent of the subjects called "poor" or "borderline" by the physicians. Today approximately 30 per cent of all children are in need of more than routine check-up. The screening and identification of these particular children are greatly facilitated and reliably performed by simple inspection of their grid records. But final judgment on their physical fitness rests with the physician, who can take both the grid and the clinical results into joint account.

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Personal Improvement of Health.—Many persons fail to understand that the quality of health may be improved. They live without personal effort to enrich their lives. On the contrary, every intelligent person should have the desire to take charge of his life and to make himself as efficient as possible. Such advice is not directed at those who are ill. It is meant to apply especially to those who are not sick, because even the well, by better living, can attain an increased strength. No experiment in the laboratory of the school is half as fascinating as this one of personal improvement.—Williams, Jesse Feiring: *Healthful Living*, New York, Macmillan Company, 1941.

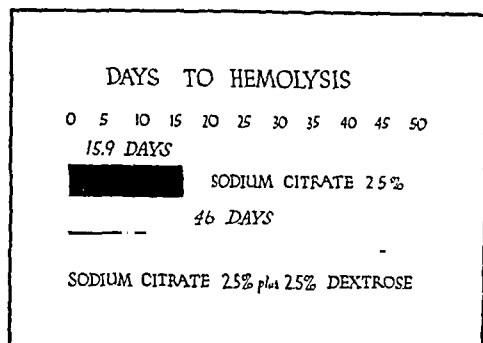
A SIMPLIFIED CITRATE-DEXTROSE BLOOD PRESERVATIVE

FRANK E. BARTON, M.D.

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In the Oct. 14, 1939 issue of *THE JOURNAL* the Transfusion Service of the Massachusetts Memorial Hospitals, Boston, reported on "The Use of Placental Blood for Transfusion."¹ This article emphasized among other things the advantage obtained by the addition of dextrose to the preservative. We reported that the addition of dextrose retarded hemolysis from fourteen and four-tenths days to twenty-two and three-tenths days. This same paper stated that we were confident a series of blood specimens then being studied would show an even more delayed hemolysis. It is on this series of 250 blood specimens that we are now reporting.

The Rous and Turner² solution consisting of dextrose, citrate and blood, as described by Robertson,³ was efficacious in delaying hemolysis. There were two outstanding disadvantages in their technic: (1) the large amount of preservative that was required; (2) the concentration of sodium citrate in the mixture,



Advantage of sodium citrate 2.5 per cent plus 5 per cent dextrose over sodium citrate 2.5 per cent.

which was too high for safe intravenous administration. These factors necessitated the discarding of the supernatant plasma and the transfusing of the cells suspended in saline solution. DeGowin and his co-workers⁴ modified the original Rous and Turner solution, reducing the concentration of citrate so that the modified mixture could be transfused without discarding the plasma. In our original work on placental blood we used the so-called Moscow solution, adding varying amounts of dextrose in an attempt to simplify the Rous and Turner procedure. As our work on preservatives advanced we discarded the Moscow solution for 2.5 per cent sodium citrate, adding 5 per cent dextrose. The citrate-dextrose solution retarded hemolysis ten and eight-tenths days longer than the Moscow dextrose solution. With these results in mind we began a series using fresh venous blood in April 1939.

We standardized our work and equipment. One operator was responsible for collecting the blood, and

one technician was responsible for the laboratory work required in preserving the blood. A closed method of collection was adopted. The blood was stored in the same type of container (Fennell flask), and at a constant temperature of 38 C. All flasks were stoppered with air-tight rubber Stazon stoppers. Care was taken not to agitate the flasks, and the flasks were not exposed to direct sunlight, the supernatant fluid of the flasks was inspected daily and beginning hemolysis was recorded on the day when a faint pinkish tint was demonstrated. The only variable factor was the percentage of dextrose. As a control we preserved every third flask with 2.5 per cent sodium citrate. The amount of blood preserved in each case was 500 cc.

Fifty flasks of fresh venous blood were preserved by means of sodium citrate 2.5 per cent with dextrose 0.5 per cent. The average number of days to the appearance of hemolysis in this series was twenty-one and five-tenths days.

Following this series of fifty flasks of 0.5 per cent dextrose and 2.5 per cent citrate we preserved six flasks of 1 per cent dextrose with citrate, six flasks of 1.5 per cent dextrose and citrate and so on up to 2.5 per cent dextrose.

In a series of 92 bloods preserved with 2.5 per cent sodium citrate and dextrose 2.5 per cent the average number of days to the appearance of hemolysis was forty-six.

In a series of 84 bloods in which 2.5 per cent sodium citrate was used as a control the average number of days to the appearance of hemolysis was fifteen and nine-tenths.

In the beginning of our experiment we encountered immediate hemolysis on the addition of the citrate-dextrose mixture. At that time the citrate-dextrose mixture was packaged in an amber colored bottle⁵ with a soft rubber stopper. The citrate-dextrose solution was drawn through the needle and tubing of our collecting apparatus into the flask. A venipuncture was then performed, and by negative pressure the blood flowed into the flask containing the preservative. Apparently immediate hemolysis occurred when the first blood came in contact with the high concentration of dextrose. Our technic was changed, citrate was placed in the flask, 500 cc. of blood was collected and then 25 cc. of 50 per cent solution of dextrose with 25 cc. of sterile distilled water was carefully added. This simple modification of technic prevented further difficulties. The flasks were inspected daily for beginning hemolysis, and if hemolysis was observed even before the date of expiration the flask was immediately removed and forwarded to the laboratory for conversion into plasma. We have arbitrarily chosen eight days as the date of expiration for flasks preserved with sodium citrate. Likewise we have arbitrarily chosen twenty-one days as the date of expiration for flasks preserved with dextrose and citrate.

In May and June 1939 we took cultures of the flasks for contamination. Contamination was not encountered, and it is a policy now to take cultures only of the flasks that have been opened for one reason or another. Cultures are taken on all flasks of plasma.

Reactions following transfusions in which the citrate-dextrose solution preserved twenty-one days was used have been no greater than when blood preserved with citrate for eight days was used. A slight febrile reaction has been encountered in 2 per cent of all trans-

From the Transfusion Service, Department of Surgery of the Massachusetts Memorial Hospitals.

1. Barton, F. E., and Hearne, T. M.: The Use of Placental Blood for Transfusion, *J. A. M. A.* **113**: 1475-1478 (Oct. 14) 1939.

2. Rous, Peyton, and Turner, J. R.: *J. Exper. Med.* **23**: 219 (Feb.) 1916.

3. Robertson, O. H.: Transfusion with Preserved Red Blood Cells, *Brit. M. J.* **1**: 691 (June 22) 1918; personal communication to the author.

4. DeGowin, E. L.; Harris, J. E., and Plass, E. D.: Studies on Preserved Human Blood: I. Various Factors Influencing Hemolysis, *J. A. M. A.* **114**: 850-855 (March 9) 1940.

5. Furnished through the courtesy of the Alba Pharmaceutical Company for experimental purposes.

fusions, with no deaths. No difficulties have arisen from the diffusion of potassium, and the clinical response following the transfusion of blood preserved with the citrate-dextrose solution has been entirely acceptable. It is extremely simple to carry out the procedure outlined. It does not require added space for storage. We believe that this method of preservation of blood has a distinct advantage for a small bank.

SUMMARY

A technic of preserving blood by the use of a simplified citrate-dextrose solution was adopted.

Fifty flasks preserved with sodium citrate 2.5 per cent and dextrose 0.5 per cent failed to show hemolysis for twenty-one days.

Ninety-two flasks preserved with sodium citrate and dextrose 2.5 per cent failed to show hemolysis for forty-six days.

Eighty-four flasks with sodium citrate 2.5 per cent used as a control showed hemolysis in fifteen days.

Blood preserved with the citrate-dextrose solution has been used clinically with good results.

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TREATMENT OF THE MENOPAUSE

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Although clinicians generally are convinced of the value of estrogenic substances for the relief of the premenstrual symptoms of the climacteric period in women, there is much uncertainty about the optimal preparation. The choice must be made among three distinct estrogenic compounds and mixtures of these with other less potent substances. Unstandardized preparations of ovary may give clinical results, but the benefits are too uncertain to justify the employment of these early types of medication any longer. The choice between pure compounds such as estrone or estradiol and mixtures in which estrone is the chief ingredient depends on two factors: price and type of result. Except in rare cases the clinical result from any one of this estrogenic group has been found so similar to that of the others that the only important factor is price. But direct comparisons in cost have been impossible for the clinician, since the units employed by manufacturers have not been easily compared. Some preparations are marketed in terms of international units, others of rat units, others of "active biologic units" and "day oral units" and others of milligrams. The weight basis is obviously the best, but it cannot be applied to mixtures of more than one estrogen.¹ This interferes at once with the evaluation of the oldest standardized preparation on the market, which contains several estrogenic substances but chiefly estrone. Furthermore, the weight basis is misleading when applied to estradiol, for in animal assays this is known to be far more active than estrone or estriol. But the comparisons of biologic activity vary significantly, depending on the test which

is employed. There is no accepted ratio for comparison of the efficacy of these pure estrogenic molecules in relieving the symptoms of women.

From the point of view of the clinician it seems worth while to establish a comparison of the better known estrogens for women who are suffering from menopausal symptoms. As criteria for the effectiveness of therapy there are two indicators: subjective relief and vaginal epithelial response. The technic for the study of the vagina has been described and validated by Papanicolaou and Shorr.² They have shown that the qualitative changes in the appearance of the desquamated vaginal epithelium are proportional to the amount of estrogen acting in the body. This vaginal effect serves to demonstrate the effects of oral as well as parenteral estrogen therapy. By this method the doubts of skeptical clinicians can be satisfied, for relief of symptoms can be shown to parallel objective findings. In this study the two criteria have been used as independent end points in an attempt to "titrate" the evidences of the menopause with a series of estrogenic preparations. The chart of a typical patient will illustrate how this was carried out. The symptom relief was recorded as "excellent," "good," "fair" or "poor" at the time of an office visit and always by the author in person. Vaginal samples were obtained by the well known method, fixed at once in alcohol and ether and read by an especially trained assistant who knew nothing of the patient's report. The readings were not known until some days later. Alterations in dose were ordered according to the symptoms, and the results of microscopic studies used as a check in later study. When these results are plotted on a scale of 1 to 4 plus for the intensity of estrogen action, and the symptom relief similarly, two curves are obtained with surprising parallelism. It is this tendency to parallel variation of the objective changes and symptoms which gives reason for confidence in the comparisons to be made.

Because of the local reactions to oil injections by some patients and the superior type of control obtainable with oral therapy, as well as the greater convenience secured by avoiding injections, all the comparisons to follow were based on oral administration of estrogenic material.³ Earlier trials of estriol had been far less satisfactory than those with estrone; hence no use of estriol was undertaken.

Late in 1940 the Council on Pharmacy and Chemistry of the American Medical Association adopted the term "estrogenic substance" to refer to naturally occurring mixtures of estrogenic materials. Since more than one estrogenically active compound is present in such mixtures and since potency per milligram varies widely, it is impossible to state potency of such substances in terms other than biologic units. The application of the international unit for pure estrone to such mixtures is far from satisfactory. Attempts to improve this standardization technic are under way in 1941. This should make it possible to check satisfactorily by laboratory methods on the potency for clinical use of the

2. Papanicolaou, George, and Shorr, Ephraim: Action of Ovarian Follicular Hormone in the Menopause, as Indicated by Vaginal Smears, *Am. J. Obst. & Gynec.* 31: 806 (May) 1936.

3. For this study Schering Corporation supplied estradiol and also some modifications of this compound not yet ready for market release; Ayerst, McKenna and Harrison, estriol glucuronide; Endo Products, Inc., Lakeside Laboratories, Inc., Kremers-Urban Drug Company and E. R. Squibb & Sons supplied estrogenic substances 1, 2, 3 and 4. Special mention should also be made of the estrone supplied by the Abbott Laboratories in capsules for oral use, of the estrone in 90 per cent alcohol prepared by Eli Lilly & Co. and of supplies of stilbestrol from the Squibb and Lakeside laboratories. These special products are not yet to be placed on sale but were compared with the other commercial products mentioned.

Publication delayed because of unpreventable complications.

From the State of Wisconsin General Hospital and the Department of Medicine, University of Wisconsin Medical School.

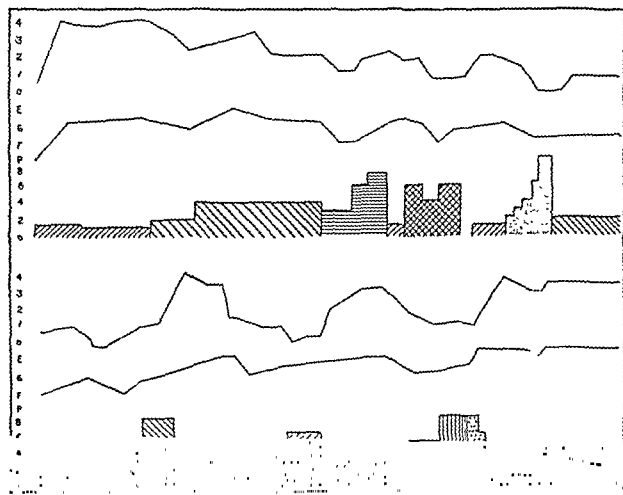
Read before the joint meeting of the Section on Practice of Medicine and the Section on Pharmacology and Therapeutics at the Ninetieth Annual Session of the American Medical Association, St. Louis, May 19, 1939.

1. Pedersen-Bjergaard, Kaj: Comparative Studies Concerning the Strength of Oestrogenic Substances, London, Oxford University Press, 1939.

numerous brands of estrogenic substances which are appearing on the American market.

One of the results is the demonstration that there are minor variations in the results, objective as well as subjective, when a given dose is used daily by a particular woman. Therefore it would be necessary to keep each patient for several weeks on each dose of each estrogen to be certain of the exact value of that treatment. This method seemed too tedious. Results are therefore presented in terms of a series of comparisons which state that a certain dose of preparation A is better or worse than a definite dose of preparation B. The differences are slight, but they exist, without doubt. In a few cases essential equivalence of result could be read with certainty from the protocols. The comparisons as stated are in terms of the objective changes; that is, the vaginal reactions and not the patients' reports.

Table 1 presents the comparisons of four of the most widely known estrogenic preparations. Results are all calculated to the amounts of estrogenic substance, or estrone, which are compared with 600 active biologic units of estradiol. The actual doses



Comparison of objective and subjective changes in one woman from use of various estrogenic substances. Upper line represents response of vaginal epithelium from 0 (castrate type) to 4 (full estrus smear). Lower line represents subjective relief, e. g. E excellent, G good, F fair, P poor. Doses of estrogens in thousands of units orally a day, estriol glucuronide in tablets, stilbestrol in tenths of milligrams. Time elapsed seventeen months.

varied from 600 to 7,200 such units of estradiol and from 2,000 to 10,000 units of estrogenic substance. There are some variations, but the best statement in summary would be that estradiol is at least three times as potent as estrogenic substance 1, unit for unit. Just here is met the difficulty. The unit of estrogenic substance 1 is the international unit as defined by the League of Nations. The unit of estradiol is an "effective unit" or an active biologic unit as defined by the manufacturer. This unit does not bear a constant relationship to the weight of material in the tablet and depends on a clinical report from one cooperating clinic. The 600 "units" have been claimed for 0.9 mg., more recently for 0.5 mg. Since there can be no rational comparison of such units, it is possible to make this comparison clinically only on a price basis. The quotation to the retail trade as of January 1941 on estradiol containing 600 effective (or active biologic) units per tablet was 14 cents per tablet. That for estrogenic substance in 2,000 international unit capsules was 9.6 cents. The aforementioned 600 and 2,000 unit amounts are

as nearly comparable as can be determined from this method of study. It is therefore evident that the price will lead the clinician to choose estrogenic substance 1.

A further factor in making a choice would be any superior type of result due to one product. In general

TABLE 1.—Relative Potency of Estrogenic Substances

Estradiol, 600 Active Biologic Units, was more potent than		
Estrogenic Substance 1	Estrogenic Substance 2	Estrone
2,000 I. U.	5,000 I. U.	3,600 I. U.
2,000	4,800	2,500
2,000	3,000	2,000
1,666	2,500	1,200
1,200	2,000	
833	2,000	
750	2,000	
	or as potent as	
2,000		4,500
666		3,750

all these comparisons have led me to make the statement that any of the estrogens considered can give any degree of control desired, depending entirely on the dose. There have been only two exceptions to this conclusion: In one woman nausea and emesis followed the use of estrogenic substance or of stilbestrol, but results were entirely satisfactory with estradiol. In another the use of estrogenic substance was entirely unsuccessful in the control of hot flashes, whereas comparable doses of estradiol were satisfactory.

Comparisons with estrogenic substance 2 have been surprising. This material is labeled in international units and was expected to be directly comparable to estrogenic substance 1. Table 2 shows it in comparison with estradiol, and the results may be summarized as showing that estradiol is from four to eight times as effective as estrogenic substance 2. Table 2 also shows that estrogenic substance 1 is at least two and a half times as useful as 2. Further comparisons with estrone are available. The latter substance was used in weighed doses. A capsule with 1 mg. of estrone would by definition contain 10,000 international units. Direct comparisons between estrone in milligrams and estrogenic substances 1 and 2 in units cannot be drawn from the protocols. Indirect comparisons of each with the nearest equivalent doses of estradiol suggest that estrone and estrogenic substance 3 are both inferior to estrogenic substance 1 unit for unit. In this case the units are the same. This comparison can hardly be final, but it suggests that the mixture of estrogens 1 is more effective

TABLE 2.—Relative Potency of Estrogens

Estrogenic Substance 2, 1,000 I. U., was less potent than		
Estrogenic Substance 1	Estrone	Estradiol
400 I. U.	1,250 I. U.	120 A. B. U.
415	1,250	125
	1,800	200
	2,000	240
		300

tive in the human being than its potency in international units based on estrus production in the rat would indicate. There will remain some uncertainty about the significance of these comparisons of two brands of estrogenic substance until the exact chemical composition of each is known and the purity of estrone certified. Estrogenic substances 1 and 3 appeared directly comparable, unit for unit.

Table 3 presents a series of statements about estriol glucuronide. This material, derived from the placenta, is a mixture of estrogenically active substances. It is standardized not in international units but in day oral units, 120 to each tablet. Again it would have to be compared on a price basis. The most recent quotations on estriol glucuronide are 3.7 cents per tablet of 120 day oral units. The comparison is therefore that for 3.7 cents one can secure less help with estriol glucuronide than for 1.07 cents with estrogenic substance 1 or for 3.1 cents with estradiol. Furthermore, it will be noted that doses of 6 to 9 tablets of estriol glucuronide were required, with less benefit than was obtained from small doses of the other estrogens. Because of the large doses sometimes required, i. e. from 10,000 to 20,000 units daily in cases of severe involvement, it becomes manifestly impossible to use estriol glucuronide in the more extremely disturbed menopausal patients, as the manufacturers have stated frankly. Recent trials of 600 and 1,200 unit tablets

TABLE 3.—Relative Potency of Estriol Glucuronide

Estriol Glucuronide		
1 tablet or 1 teaspoon (120 day oral units) was less potent than		
Estrogenic Substance 1	Estrone	Estradiol
222 I. U.	1,000 I. U.	133 A. B. U.
333	1,000	

TABLE 4.—Relative Potency of Estrogens

Estrogenic Substance 1, 2,000 I. U., as potent as		less potent than
Estrone	Estradiol	Estradiol
3,750 I. U.	600 A. B. U.	600 A. B. U.
	1,800	600
		600
		720
		1,200
		1,440
more potent than Estriol Glucuronide (120 oral units) 6 or 9 tablets		

indicated a wider usefulness for these more potent tablets.

One of the surprising results has been the demonstration that estrone can be applied on the skin in alcohol solution and that there is prompt and efficient absorption of the estrogen, while the alcohol evaporates quickly. I have repeatedly demonstrated that this method will control climacteric symptoms satisfactorily. In 1 case in which daily intramuscular administration of 10,000 unit doses of estrogenic substance 1 had long been given it was possible to transfer to the same dose of 10,000 units of estrone in alcohol on the skin. Later, as is the case with oral therapy, the dose was gradually reduced with continued control of symptoms. In another case daily administration of 4,000 units in oil given intramuscularly was replaced by 4,000 units on the skin. The first patient had been castrated by irradiation several years previously because of neurofibroma in the femur, which also led to a high amputation of the thigh. The daily use of large doses of an estrogen had been necessary to control extraordinarily severe pain and nervousness associated with a neuroma in the stump. The application of from 5,000 to 10,000 units of estrogen daily to the skin of the abdomen for more than twenty-eight months has led to no sign of

any dermal change. Occurring in a woman with a known history of tumors, this is rather reassuring. The possibilities of surface application of estrogen are encouraging because of ease of application, ease with which the dose can be measured and greater efficiency per unit than in any other route of administration save that by oil injection. Eli Lilly & Co., which furnished the material, is not prepared to release this solution. Brief experience with estradiol in alcohol demonstrates it to be absorbed through the skin likewise.

Recently the trials of stilbestrol have been compared with the results from estrone and estradiol. The preliminary results suggest that stilbestrol must be approximately as potent orally as estrone when compared on a weight basis. The oral use of estradiol is inefficient, as a consequence of which the doses of stilbestrol are much smaller in milligrams than those of estradiol. The reports of nausea from stilbestrol can be confirmed for a few patients, but in all save 2 it has been easy to secure relief from symptoms of the climacteric with doses small enough not to cause gastric distress. There have been no other unpleasant effects from stilbestrol. Since this compound is a synthetic substance, without known biologic effects other than its estrogenic action, it probably ought not to be introduced into general clinical use until more extensive toxicologic studies have been reported. It is not at present available for sale in the United States.

In conclusion there is one further observation of clinical significance. The foregoing comparisons were all made on the basis of the objective data from vaginal epithelium. If the subjective relief curves had been used, the advantage of estrogenic substances and even estriol glucuronide would have been slightly greater. In other words, there were numerous occasions when patients were better satisfied than the vaginal cell response would suggest. The differences between the two criteria were not great, but they occurred frequently enough to call attention to their direction.

It is evident that estrogenic therapy by the oral route is dependable. The choice of preparation to be used is largely a matter of price, save that estriol glucuronide is not practical in large doses. Comparisons of units are still difficult unless one is dealing with identical chemical compounds. The mixed estrogens known now as estrogenic substances and estriol glucuronide appear to have an advantage per unit over the pure estrone, which is the chief constituent of the mixture. Estradiol is not better clinically and suffers from the price comparison. If this can be adjusted, the clinician may use whichever preparation he prefers and secure equally good control of climacteric symptoms.

Four Years Short of New Zealand.—In the sixteenth century the average length of life in western Europe is said to have been nineteen years; in the seventeenth century, twenty-five years; in the eighteenth century, thirty-two years. In the nineteenth century in this country life averaged approximately forty years; at the beginning of the present century this average had increased to forty-nine years, and by the end of the first quarter of the twentieth century to approximately fifty-seven years for boys and to approximately sixty years for girls. By 1938 this increase in life expectancy at birth in the United States had extended to sixty-two years for males and females combined. Splendid as this is, it is still four years short of the present life expectancy in New Zealand.—Diehl, Harold S.: *Healthful Living*, New York, McGraw-Hill Book Company, Inc., 1941.

ACCIDENTAL TRANSMISSION OF MALARIA

THROUGH ADMINISTRATION OF STORED BLOOD

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YONKERS, N. Y.

In 1938 Wright¹ published an excellent review in which he collected 24 case reports of accidental transmission of malaria through the administration of blood. To this he added 6 cases of his own. Since 1938, 5 other cases covering this subject have been described by McCulloch,² Gardner and Dexter,³ Zussman and Silver,⁴ Nabarro and Edward⁵ and Chamorro and Molezzun.⁶ In all these cases the blood used for the recipient was freshly drawn from the donor and given shortly afterward either intravenously or intramuscularly.

The case about to be related is probably the first ever to be reported in which malaria was acquired through the transfusion of stored blood obtained from a blood bank. As careful a search as it was possible for me to make failed to uncover any like report.

REPORT OF CASE

M. C., a 7 year old white boy of Irish-American parentage, was admitted to the pediatric service of the Yonkers Professional Hospital on March 6, 1940 because of an unexplained fever of three months' duration.

The patient's past history revealed nothing of importance up to Oct. 25, 1939. On this date he was admitted to a hospital because of burns involving the left side of the head and the left upper and lower extremities. He remained in the hospital nine weeks, during which time the burns responded to treatment except for a small area behind the left ear which became secondarily infected. He had a high continuous fever for the first four weeks, and three blood cultures taken at various times in this period were negative except for the initial one. This yielded a staphylococcus producing a small amount of yellow pigment and a slight zone of hemolysis. The impression then was that the culture had become contaminated.

The hematologic examination on admission was normal, but in the course of nineteen days moderate secondary anemia developed. Because the boy was seemingly losing ground he was given blood transfusions on November 11, 19 and 22 of 300 cc., 300 cc. and 250 cc. respectively. The blood was obtained from the blood bank maintained by the hospital. Two different donors were used. Unfortunately it could not be determined how many times each person's blood was given.

During the last five weeks that the patient was hospitalized his progress was one of slow but steady improvement, and he continued to be afebrile and asymptomatic.

Following his discharge on December 23 he was seen in the surgical outpatient department on several occasions. On Jan. 29, 1940 the mother told the attending physician that her son was having recurrent attacks of fever, and because there was no apparent explanation for it he was referred to the pediatric clinic. The appointment was not kept.

The story from that time until his present admission, as obtained from the mother, was that on December 25, two days after discharge, the boy began to have a high temperature. Bouts of fever were noted to have made their appearance once a week up to a month prior to admission, after which they recurred twice a week. On one occasion the temperature was taken and found to be 106 F. Frequently there was a chill

just before the fever reached its peak, and sometimes vomiting occurred at the height of the fever. Jaundice was never observed, and at no time did the patient complain of abdominal discomfort. Urologic symptoms were also absent.

When the patient was admitted to the pediatric ward his rectal temperature was 99 F., pulse rate 110 and respiratory rate 25. He was very thin, poorly developed and malnourished but did not appear to be very sick. The positive manifestations were limited to the left mastoid region, where the skin had been burned and had not entirely healed. There was no edema of the tissues and no pain. Some crusting of the burn was evident. The left leg was rather badly scarred but completely healed. The spleen was not palpable at this time, though the tip of it could be felt at times later on.

Urinalysis disclosed a faint trace of albumin and rare hyaline and granular casts. The red cell count was 3,120,000 per cubic millimeter, with hemoglobin 56 per cent (Sahli); the white cells numbered 6,500 per cubic millimeter with 65 per cent polymorphonuclear leukocytes. The stained smear showed evidences of moderately severe secondary anemia. The Wassermann reaction was negative.

The patient's chart illustrates his progress in the hospital.

At first osteomyelitis of the mastoid process was considered to be the cause of the fever, but roentgenograms failed to reveal any bony changes. Two blood cultures taken during the second and third peaks did not yield any organisms. Agglutination tests for typhoid, paratyphoid and undulant fevers all gave negative results.

After my observing the patient closely for ten days, during which time he had three febrile episodes regularly spaced by intervals of two days, the cause of these rises was suspected. Clinically, the patient did not seem to be much affected by them. He appeared rather listless, but he did not vomit and had no chills. It occurred to me that the boy might have malaria. Accordingly, on the morning of March 16, a few hours before the anticipated rise, thick drop preparations of his blood were made. The smears were stained by the Giemsa method and examined by Dr. H. K. Russell, director of the hospital laboratory. Quartan malaria schizonts were found in fair numbers by him.

Treatment with atabrine, 0.1 Gm. twice a day, was begun on March 18 and continued for five days. On March 19 the patient was given a transfusion of 250 cc. of citrated blood, his father acting as donor. A few hours later, the temperature rose suddenly to 107 F. and the patient had a severe shaking chill lasting an hour. The next day the boy was moderately jaundiced and the spleen was palpable. He voided a bloody urine which gave a positive benzidine reaction. Microscopically, no formed elements were found; the lack of them thus confirmed the diagnosis that the patient had suffered from an acute attack of paroxysmal hemoglobinuria. At the end of ten days the jaundice had cleared up and the urine showed no blood. A recheck on the recipient's and donor's blood was made, and they were again found compatible.

On March 26 the temperature went to 101.4 F., and it was felt that another course of atabrine was indicated. This was begun the next day and continued, as before, for five days. Soon afterward the temperature dropped to normal and remained so to the time of discharge. Smears of the patient's blood were taken almost daily after the diagnosis was made, and March 22 was the last date that any parasites were found.

The boy's appetite during the last three weeks of his stay became enormous. He gained in weight and improved in every other respect. The diet was reinforced with 9 grains (0.6 Gm.) of ferrous sulfate and 500 international units of thiamine hydrochloride daily. The red cell count on discharge was 3,530,000 and the hemoglobin 77 per cent (Sahli).

As soon as the diagnosis of quartan malaria was made the problem of discovering the source of the infection immediately presented itself. Since the boy was born in Yonkers and had never resided outside the city, and because malaria is almost unheard of in this area,⁷ it seemed logical to suspect the blood transfusions which the patient received at the other hospital.

7. Only 1 case was reported to the Yonkers Health Department during the past ten years, and 26 cases, during the same period from Westchester County.

From the Pediatric Service of the Yonkers Professional Hospital.

1. Wright, F. H.: *J. Pediat.* 12: 327 (March) 1938.

2. McCulloch, Ernest: *Canad. M. A. J.* 37: 26 (July) 1937.

3. Gardner, W. A., and Dexter, Lewis: Case of Quartan Malaria Following Transfusion and Treated with Sulfanilamide, *J. A. M. A.* 111: 2473 (Dec. 31) 1938.

4. Zussman, B., and Silver, A.: *M. Rec.* 148: 176 (Sept. 7) 1938.

5. Nabarro, David, and Edward, D. G. F.: *Lancet* 2: 556 (Sept. 2)

1939.
6. Chamorro, T. A., and Molezzun, R.: *Semana méd.* 2: 908 (Oct. 20) 1938.

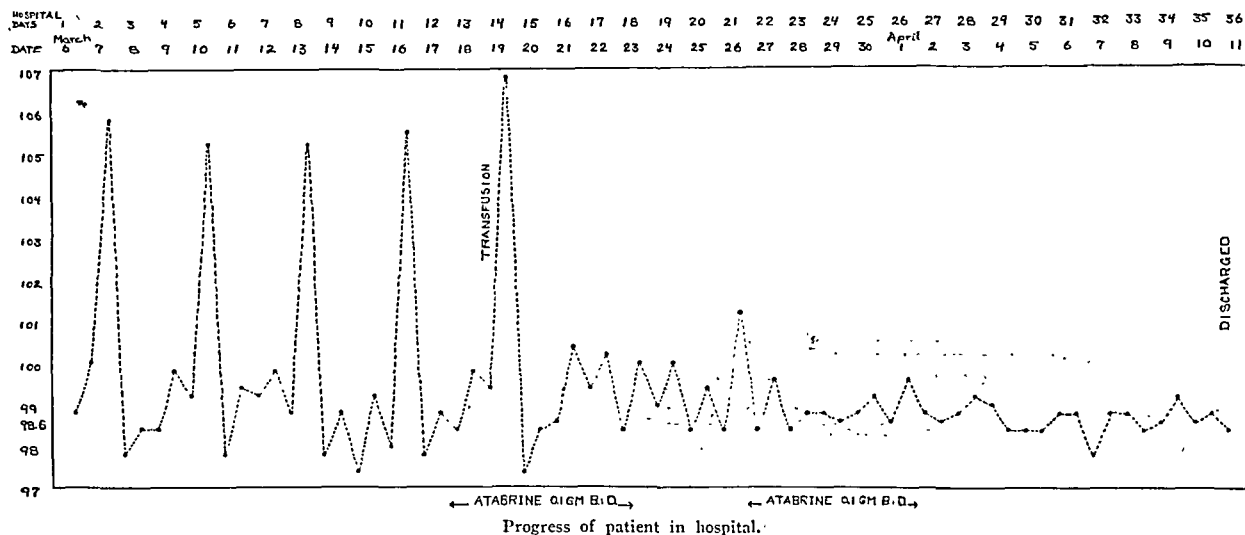
Through the cooperation of that hospital it was possible to establish contact with the two donors and obtain samples of their blood for study. One was a man aged 29 who was born and had lived all his life in Yonkers. He gave no history of any infection. His blood was eleven days old when it had been given to the patient.

The other donor was a man aged 50 who was born in Italy and had lived there until 1905, when he migrated to the United States. He could not recall any illness there or any in his family that resembled a malarial infection. His family were farmers, apparently of good, healthy stock. He entered in the United States Army during the World War and was in France fourteen months. While there he contracted an ill defined febrile illness lasting two or three days but not severe enough to call it to the attention of the army physician. In 1921 he was operated on at Mount Sinai Hospital for "pus on the kidney" secondary to osteomyelitis of the distal phalanx of the left thumb, which had been draining for more than a year. He made an uneventful recovery from the operation, and since then his health has been excellent. When his blood was used for the patient it had been stored for two days.

Thick drop blood smears were made of both men's blood. They were first given a hypodermic injection of 5 minims (0.31 cc.) of a 1:1,000 solution of epinephrine, and fifteen minutes later the blood was drawn. Dr. Russell found the

instances of syphilis, tuberculosis, smallpox and sepsis innocently acquired through the administration of some one's blood, but it must be admitted that the total number of infections is infinitesimally small when compared to the total number of transfusions. The fact that accidents have occurred and probably will recur in the future should constantly remind physicians of such hazards and stimulate them to bend their efforts to minimize these incidents. Another factor of utmost importance is that technical difficulties at present make these unfortunate occurrences almost unavoidable. Neither the hospital nor the physician can be blamed for this circumstance.

The preservation of blood for transfusion is a recent development in medical therapeutics. Many hospitals all over the world now have blood banks as part of their services. The manner in which the blood is collected and preserved is familiar to all, and numerous articles on the subject have been written.⁹ Suffice it to state that every known precaution is observed to prevent such an accident as the one here described. Before a prospective donor is used he is asked many questions,



blood from the first (i. e., the American-born) donor normal; after a considerable length of time he discovered a few malarial parasites like those seen in the patient's blood in the blood of the donor who was born in Italy.

COMMENT

When it was found that the blood of one human being could be injected into the circulation of another, the physician's armamentarium in the fight against disease was tremendously augmented. Today the indications for the application of transfusion are legion. Its use is no longer restricted to those persons who are desperately ill, but, as far as the pediatrician is concerned, transfusion is frequently utilized prophylactically to prevent the development of serious complications.

No one can estimate the number of transfusions given all over the world every year, but one can imagine that it is great. The total count must be staggering when it is recalled that the first transfusion was given as far back as 1667 by Denys.⁸

Potential dangers of a blood transfusion are recognized. Besides malaria, one has read or heard of

including questions about his place of birth, occupation, residence in the tropics and illnesses such as malaria and syphilis.

The donor used for the patient under consideration was subjected to such scrutiny and apparently was found to be suitable. The only criticism that might be made about this man's blood being taken is that he was born in a country where malaria is known to be endemic and therefore should have been rejected on that basis alone, despite the negative history and blood analysis.

Certain procedures in the preservation of blood might be adopted to aid in minimizing the opportunities to spread infection from man to man. By employing only those persons who have been born in this country and have never lived in districts where malaria is prevalent, physicians would be taking a long step forward. Secondly, an examination of a thick drop preparation would appear to be essential. Finally, to be absolutely sure that malaria would not be transmitted the blood ought to be stored for at least eight days before being

8. Cited by Powers, G. F.: Blood Transfusion as a Therapeutic Procedure, in Brennemann, Joseph: Practice of Pediatrics, Hagerstown, Md., W. F. Prior Company, Inc., vol. 1 chap. 14, p. 1.

9. Fantus, Bernard: Therapy of Cook County Hospital: Blood Preservation, J. A. M. A. 109:128 (July 10) 1937; Blood Preservation Technic, *ibid.* 111:307 (July 23) 1938; Mod. Hosp. 50:57 (Jan.) 1938.

used. Ackermann and Filatov¹⁰ and Antschelewitsch¹¹ have shown, by both human inoculations and in vitro experiments, that the plasmodia gradually degenerate and finally disappear from the blood the longer the blood is stored. The former investigators were unable to transmit malaria in 22 psychotic patients after known infected blood had been kept in the refrigerator for five days or longer. In his series Antschelewitsch was able to infect persons with malarial blood which had been preserved up to the eighth day. After that time every attempted transmission failed.

SUMMARY

1. A 7 year old white boy contracted quartan malaria through the administration of stored blood. The plasmodium was found also in the blood of the donor, who gave no history of malaria.

2. The incubation period was somewhere between thirty-three and forty-four days after the transfusion. Mühlens and Kirschbaum¹² and Joyeux¹³ estimated the period of incubation for the parasite to be between twelve and fifty days.

3. The procedure which is outlined would help to avoid a repetition of the kind of accident described.

4. The foregoing case is the first of its kind to be reported.

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CALCIFICATION OF THE SUPRA- SPINATUS TENDON

A NEW TREATMENT

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AND

J. L. FERRY, M.D.

CHICAGO

Calcification in the supraspinatus tendon is a relatively common cause of pain and limitation of motion of the shoulder, occurring in adults of all ages, although it is most frequently found between the ages of 30 and 45. No cases have been reported among children. This condition is often erroneously diagnosed as bursitis, periarticular arthritis, brachial neuritis, paralysis of the radial nerve or rheumatism.

Our purpose in this paper is to discuss briefly the etiology, symptoms and physical findings and to present a method of medical management which has proved successful in a number of instances.

ETIOLOGY

The cause of calcification in the supraspinatus tendon is unknown. The tendon is so situated that it is subject to frequent mild trauma by being pinched between the head of the humerus and the acromion. Most recent writers have been of the opinion that injury to the tendon is a definite factor in the production of the calcareous deposits, yet in few cases is there a history of a definite single trauma. There is little evidence to show that calcification occurs more frequently in those people whose occupation requires the

use of the arm held in slight abduction, such as piano players, typists, scrub women, painters, tailors and professional baseball players. Among them the supraspinatus tendon must receive frequent mild trauma.

That some other factor than trauma is implicated is evidenced by the fact that the deposit of calcareous material occurs only in adults; that it occasionally is encountered in first one shoulder and then the other; that in some persons the deposit undergoes absorption, while in others it persists; that although it is a common affliction, it never develops in many persons using their arms in the same way and subjected to the same influences, and that it occurs in athletic as well as among sedentary and asthenic persons and in females as well as in males.

No definite evidence of the relation of foci of infection to the appearance of calcified deposits in the supraspinatus tendon or between foci of infection and the exacerbations of pain from the deposits has been advanced. Cultures from the deposits and the surrounding tissues have been reported negative for pathogenic organisms. On the other hand, the pathologic picture is that of chronic inflammation. The calcareous material is embedded in masses of inflammatory cells, chiefly lymphocytes and plasma cells, among which may be found a few giant cells. Fibrous tissue in various stages of development and containing acutely inflamed patches usually surrounds the calcareous material. Foci of infection may be related to these deposits. A part that is subjected to mild repeated traumas or to direct violence is more susceptible to the action of toxins or other products of the growth of bacteria than one that is not. This was shown by Burrows¹ and might explain why these deposits develop and why acute exacerbations occur in some persons and not in others, although the two groups may have had the same predisposing factors. In 1 of our patients there was an increase of pain after an abscessed tooth was removed. In others, however, apparently complete recovery has occurred in spite of definite foci of infection remaining untreated. We advised removal of the foci of infection in all cases, but as the patients improved they did not care to have it done. We are interested in following these patients to see if the deposits recur or if the patients have acute exacerbations of pain.

Metabolic disturbances have been suggested as possible causative factors, but there is no clinical or laboratory evidence that such is the case. There seems to be no connection between this condition and gout.

SYMPTOMS AND PHYSICAL FINDINGS

Apparently the deposit of lime salts occurs quietly and precedes by a considerable interval the onset of clinical symptoms. The onset may be either gradual or acute. In either case most patients complain of pain in the region of the apex of the shoulder joint occasionally radiating down the anterior aspect of the arm or to the side of the neck. Movement may be little restricted in cases of chronic calcification, but when the condition is acute there is much muscular spasm and the arm may be held rigidly to the side. In cases of less acute calcification, there is usually a varying degree of limitation of abduction and external and internal rotation. Many patients complain of tenderness over the shoulder and state that they are unable to lie on the diseased part; at times even the pressure

10. Ackermann, V. V., and Filatov, A. N.: *J. Trop. Med.* 37:49 (Feb. 15) 1934.

11. Antschelewitsch, W. D.: *Folia hæmat.* 57:406, 1937.

12. Mühlens, P., and Kirschbaum, W.: *Parasitologische und klinische Beobachtungen bei künstlichen Malaria- und Recurrensübertragungen*, *Ztschr. f. Hyg. u. Infektionskr.* 94:1, 1921, cited by Wright.¹

13. Joyeux, Charles: *Précis de médecine coloniale*, Paris, Masson & Cie, 1927; cited by Wright.¹

From the Department of Medicine, University of Chicago.

1. Burrows, Harold: *Some Factors in the Localisation of Disease in the Body*, Baltimore, William Wood & Company, 1932.

of a coat is uncomfortable. Stiffness is not an uncommon complaint.

The contour of the shoulder joint usually shows little change, although there is occasionally slight atrophy of the muscles. In the cases of more severe calcification fulness at the apex of the shoulder may be observed together with redness, tenderness and induration. In the uncomplicated case, when the calcification of the tendon alone exists, tenderness is well limited to a point just below the acromial process. Fairly large deposits may occur in some persons without appreciable symptoms and are occasionally accidentally discovered.

On roentgen examination the calcareous deposits cast a shadow of varying density. The shadow may be thin and hazy or dense as bone. Shadows of the two extremes may exist in roentgenograms of the same patient. The deposits may be single or multiple and may be unilateral or bilateral. They vary in size from a few millimeters to several centimeters in diameter. They may escape detection when the roentgenogram is made from only one angle if the shadow of the deposit is superimposed on the shadow of the humerus or of the acromion. Especial emphasis should be placed on the proper roentgenologic technic because the failure to make a diagnosis has often resulted from failure to place the tube at a proper angle. The technic used by the roentgenologic department of the University of Chicago Clinics is as follows: The patient is supine with back to film; the arm is in neutral position with forearm across the abdomen—palm down. The tube is centered on the acromioclavicular joint; 50 to 60 kilovolts is used for a person of average weight, and the tube is at 36 inch distance. A Bucky-Potter grid and high detail screens are used.

Fever is not usually present in this condition, but during the acute stage there may be moderate leukocytosis and a slight increase in the sedimentation rate of the blood.

TREATMENT

The management of patients with calcification of the supraspinatus tendon is largely dependent on whether the condition is acute or chronic. Obviously when the calcified material is present without causing symptoms there is little need for treatment.

Until recent years the best treatment in the acute stage was considered by many, especially surgeons, to be surgical excision of the calcified material. That this procedure is questionable in the majority of patients is evidenced by the excellent results obtained by medical management.

The treatment that we have used with good results during the past few years consists of (1) relatively large doses of ammonium chloride, (2) rest of the diseased part, (3) physical therapy and (4) elimination of foci of infection.

In reviewing the literature we have found no reference to the use of ammonium chloride or other means of lowering the hydrogen ion concentration of the blood

and lymph in the treatment of the condition. On this management there is a rapid disappearance of pain in the acute stage, and, when the deposit is not too dense, the ammonium chloride appears to cause an absorption of the calcified material. It is given in doses of 1 Gm. or more four times a day. If given after meals it seldom causes gastric discomfort. If it should, enteric coated tablets are available. The purpose of the ammonium chloride is to produce mild acidosis which tends to absorb deposits and acts somewhat similarly to the process of deleading in chronic lead poisoning. We realize that occasionally the deposits will disappear spontaneously, but we believe the ammonium chloride exerts a favorable influence in the process of absorption.

Rest of the diseased part is important. Patients should be instructed to refrain, as far as possible, from performing those movements of the shoulder which their own personal experience has shown to cause pain. Each time pain is inflicted the underlying lesion is subjected to further trauma with consequent aggravation and prolongation of symptoms. Some physicians endeavor to obtain rest of the diseased part by holding the arm at a 120 degree angle on various forms of splints or plaster casts or by tying the wrist to the head of the

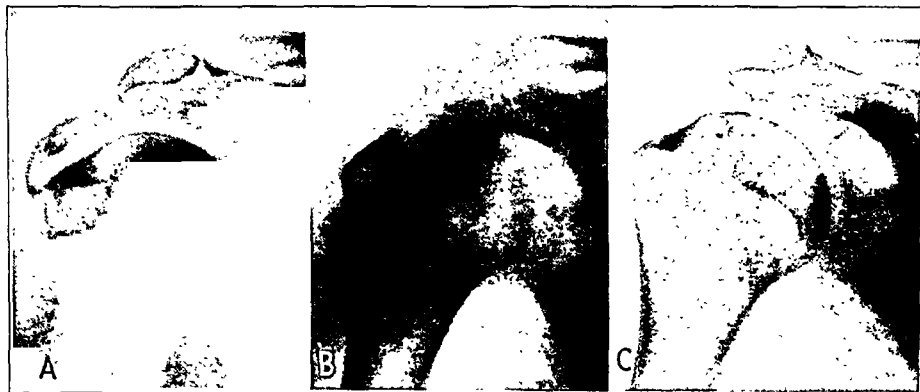


Fig. 1 (case 1).—Calcification in supraspinatus tendon of right shoulder: A, measuring 3 by 1 cm.; B, decrease in size one month after institution of treatment; C, almost complete disappearance six weeks after institution of treatment.

bed. Such positions are rather uncomfortable, and patients are prone to consider such treatment worse than the disease. Proper rest of the diseased part can usually be obtained during the day by a properly applied sling, and at night a 40 to 60 degree angle of abduction can be obtained by resting the arm and forearm on a pillow which is placed with one end on the mattress and the other end over the chest and the abdomen of the patient.

Physical therapy in its various forms is helpful but if used injudiciously may cause an aggravation of symptoms. Diathermy is probably the best form of physical therapy in this condition, but if it is not available or expense prohibits its use an infra-red lamp for thirty minutes two or three times a day is a good substitute. Gentle massage combats the tendency to atrophy and may aid in the relief of pain, but it should not be employed directly over the tender area.

Foci of infection are usually apical dental infections, pyorrhea alveolaris, infected tonsils, infected nasal sinuses, chronic nasopharyngitis, cervicitis or prostatitis. Careful search for these foci of infection should be made and proper treatment given.

The results obtained by the method of treatment outlined are well illustrated by the following consecutive

reports of several patients who have been treated during the past few months. The majority of these patients had been treated by the usual methods before coming to the University Clinics.

REPORT OF CASES

CASE 1.—V. W., a 44 year old housewife, came to the arthritis clinic March 5, 1940, complaining of severe pain in



Fig. 2 (case 2).—Calcification in supraspinatus tendon of right shoulder: A, measuring 2 by 0.8 cm.; B, decrease in size to 4 by 3 mm. six months later.

the right shoulder and upper arm with inability to move the arm at the shoulder for the preceding four days. She had noticed slight pain in the right shoulder at intervals for four or five months, especially after ironing. There was no history of injury, but she had done a good deal of ironing for several years. For the past four days before coming to the clinic, the pain was so severe she could not sleep and she could not lie on the right side.

Examination of the shoulder showed an area of localized tenderness just below the acromion. None of the movements at the shoulder could be performed on account of intense pain. The soft tissues over the area of tenderness were swollen, indurated and slightly reddened.

The urine was normal; the Wassermann and Kahn tests gave negative results. Examination of the blood showed hemoglobin, 84 per cent; white blood cells, 11,800, and sedimentation rate, 3 mm. per hour. Serum calcium was 8.8 mg. per hundred cubic centimeters; phosphorus, 2.9 mg. per hundred cubic centimeters; carbon dioxide, 29.7 millimols per liter; hydrogen ion concentration of serum, 7.4, and uric acid, 2.4 mg. per hundred cubic centimeters. A roentgenogram of the shoulder showed a spectacular degree of calcification in the right supraspinatus tendon, the deposit measuring 3 by 1 cm.

The arm was immobilized; the patient was given 1 Gm. of ammonium chloride four times a day and advised to have inductotherm treatments. Because of financial conditions she could not get the inductotherm treatments, and she was advised to use an infra-red lamp for thirty minutes three times daily.

She was seen again on March 12, 1940, a week after the first visit, and reported a noticeable decrease in the severity of the pain. She was able to sleep and could abduct the arm to an angle of 60 degrees.

A week later she was again seen and had had no pain in the shoulder. She was able to abduct the arm to an angle of 90 degrees.

Roentgenograms of the shoulder taken one month after treatment showed considerable absorption of the deposit.

Roentgenograms taken two months after treatment was begun showed almost complete disappearance of the deposit.

CASE 2.—The patient, a 39 year old housewife, was first seen in the arthritis clinic on Sept. 15, 1939, and complained of pain in the right shoulder at intervals for four or five years. During the past year the pain had been present daily. She had also noticed tenderness over the shoulder and an inability to raise the hand to the head. She was awakened frequently on account of the pain, especially when she turned on the right shoulder. There was no history of injury.

Examination revealed a point of tenderness just below the acromion of the right shoulder, but there was no swelling or redness. Abduction of the shoulder was limited to 110 degrees, and there was a moderate degree of limitation of internal and external rotation.

The urine was normal; Wassermann and Kahn tests gave negative results. The blood showed white cells, 10,900; hemoglobin, 83 per cent; sedimentation rate of erythrocytes, 16 mm. per hour; blood uric acid, 2.1 mg. per hundred cubic centimeters; hydrogen ion concentration of serum, 7.43; carbon dioxide serum, 28.2 millimols per liter; serum phosphorus, 3.1 mg. per hundred cubic centimeters; serum calcium, 8.9 mg. per hundred cubic centimeters, and basal metabolic rate, —13.

Dental roentgenograms showed one tooth with a large periapical lesion.

Roentgenograms of the cervical portion of the spine showed normal conditions.

Roentgenograms of the right shoulder showed a calcification in the supraspinatus tendon measuring 2 by 0.8 cm.

The patient was advised to immobilize the right arm in a sling, to use an infra-red lamp on the shoulder for thirty minutes three times a day and to take ammonium chloride, 1 Gm. four times a day. She was advised to have the tooth with the periapical lesion removed. This was done, and for a few days afterward the pain in the right shoulder increased. One month later the pain had entirely disappeared except on extreme internal rotation. Six months later when the patient was seen again she had no pain on motion of the arm or when at rest, and the motion at the shoulder was free in all directions. A roentgenogram taken at this time showed that the deposit had decreased in size from 2 by 0.8 cm. to 4 by 3 mm., and only a trace of the calcium remained.

CASE 3.—A 43 year old Jewish woman came to the arthritis clinic on Aug. 14, 1939, complaining of severe pain in the left shoulder of two weeks' duration. She had noticed her inability to comb her hair or put on her dress. She also had noticed transient pain in the right shoulder. There was no history of injury.

Examination showed a point of tenderness just below the acromion and tenderness of the muscles of the left arm and shoulder. All movements of the shoulder were limited. There was no tenderness of the right shoulder, and motion was free and unimpeded.



Fig. 3 (case 3).—Calcification in supraspinatus tendon of left shoulder: A, measuring 2 by 0.4 cm.; B, complete disappearance four months after institution of treatment.

The urine was normal; Wassermann and Kahn tests gave negative results. The blood showed hemoglobin, 85 per cent, and white blood cells, 9,900.

Roentgenograms of the shoulders were not obtained at the first visit. The patient was advised to put the arm in a sling and to use an infra-red lamp for thirty minutes twice a day and was given sodium salicylate, 0.6 Gm. four times a day. She returned two weeks later but had had little relief.

Roentgenograms at this time showed calcification of both supraspinatus tendons, more extensive on the right. The deposit

in the left supraspinatus tendon, where she had the acute symptoms, measured 2 by 0.4 cm.; that in the right, which was symptomless, measured 1 by 1 cm.

Dental roentgenograms showed no abnormalities.

There was a tonsillar tag in the right tonsillar fossa from which pus was expressed.

The patient was given 1 Gm. of ammonium chloride four times a day and inductotherm treatments twice weekly for six



Fig. 4 (case 4).—Calcification in supraspinatus tendon of left shoulder: A, measuring 10 by 5 mm.; B, no change in size of calcification three months after institution of treatment; C, decrease in size to 7 by 1 mm. Dose of ammonium chloride increased from 4 Gm. to 6 Gm. a day one month previously.

treatments. This was supplemented by the infra-red lamp at home for thirty minutes twice a day. Relief from the pain occurred rapidly. She was last seen on Jan. 15, 1940, four months after treatment was begun. She had had no pain for three months; motion at the shoulder was free, and roentgenograms of the shoulders showed complete disappearance of the calcified deposit in the left supraspinatus tendon; the deposit in the right supraspinatus tendon, which was symptomless, showed no apparent change.

CASE 4.—A housewife aged 35 came to the University clinics on Nov. 23, 1939, complaining of pain and limitation of motion of the left shoulder at intervals for five years. She experienced pain only with certain motions, notably in raising the arm above the shoulder level and in reaching backward as in putting on a coat. There was no history of injury.

Examination showed a slight atrophy of the muscles about the left shoulder. Grating was present on motion of the shoulder. Abduction and internal and external rotation were moderately limited. There was a point of localized tenderness on deep pressure just below the acromion.

The Wassermann and Kahn tests gave negative results; the urine was normal. The blood showed hemoglobin, 84 per cent; red blood cells, 4,310,000; blood uric acid, 2.5 mg. per hundred cubic centimeters, and sedimentation rate of erythrocytes, 2 mm. per hour.

A roentgenogram of the left shoulder showed a calcification of the supraspinatus tendon 10 by 5 mm. A roentgenogram of the right shoulder showed it to be normal.

The patient was advised to use heat and massage on the shoulder and to immobilize the arm in a sling. She was started on ammonium chloride, 1 Gm. four times a day, on Dec. 6, 1939. On December 27 she stated that she had had no pain except on extreme motion.

On Jan. 24, 1940, she had no pain at rest or motion of the shoulder. Abduction was slightly limited, but internal and external rotation could be performed with ease.

On March 20, 1940, three months after institution of treatment, all movements at the shoulder were free and painless.

Roentgenograms of the shoulder on March 20, 1940, showed no apparent change in the appearance of the calcification.

On May 13, 1940, the dose of ammonium chloride was increased from 4 Gm. to 6 Gm. a day. Roentgenograms of the shoulder taken one month later showed a decrease in size of the calcification from 10 by 5 mm. to 7 by 1 mm.

CASE 5.—The wife of a physician, aged 45, was admitted to Billings Hospital on Dec. 11, 1939, complaining of severe pain in the right shoulder. She had noted slight pain in the right shoulder for six months prior to the present acute exacerbation. This mild discomfort had persisted until two weeks before admission, when it suddenly became intense and unremitting and kept her awake at night. She had been unable to move her arm from her side because of the extreme pain on slight motion. There was no history of injury.

Examination showed tenderness about the right shoulder, especially just below the acromial process. No swelling or redness was present. No motion at the shoulder could be performed on account of the extreme pain.

The Wassermann and Kahn tests gave negative results; the urine was normal; the blood showed white blood cells, 9,800; hemoglobin, 84 per cent; red blood cells, 4,650,000; blood uric acid, 0.7 mg. per hundred cubic centimeters; cholesterol, 222 mg. per hundred cubic centimeters, and serum calcium, 10 mg. per hundred cubic centimeters.

A roentgenogram of the right shoulder showed a large calcification in the right supraspinatus tendon, measuring 2.5 by 1 cm.

Dental roentgenograms showed numerous pulpless teeth with incomplete root canal therapy, one of which had an apical granuloma.

The patient was placed on a ketogenic diet and given syrup of ammonium mandelate, 10 cc. four times a day, and ammonium chloride, 1 Gm. four times a day. This was continued from Dec. 13, 1939, to Dec. 30, 1939, at which time the dose of the drugs was reduced by one half and the regular diet resumed.

Blood carbon dioxide was 17.1 millimols per liter December 15; 18.1 millimols per liter on December 16, and 20.0 millimols per liter on December 20. The hydrogen ion concentration of the serum on the same days was 7.39, 7.33 and 7.36.

On this regimen the urine showed acetone, a trace to 1 plus.



Fig. 5 (case 5).—Calcification in supraspinatus tendon of right shoulder: A, measuring 2.5 by 1 cm.; B, complete disappearance four months after institution of treatment.

The patient was given daily inductotherm treatments during this period.

She obtained rapid relief from the pain. On December 15 the pain was gone at rest and on December 18 motion was only slightly limited by the pain. She had slight disability for about three weeks more.

A roentgenogram taken on April 9, four months after the onset of pain, showed complete disappearance of the deposit. There was no limitation or pain on motion.

SPONTANEOUS LUXATION OF
THE EYEBALLREPORT OF AN INSTANCE IN A BRACHY-
CEPHALIC PATIENT

JAMES GWYNNE FOWLER, M.D.

BUFFALO

There is little to be found in ordinary textbooks on ophthalmology on the subject of spontaneous luxation of the eyeball. Some confusion has resulted because of the use of the synonymous terms "dislocation" and



Fig. 1.—Idiopathic dislocation of the eyeball (after Greig).

"luxation." The word "avulsion," while in no sense a synonym of these two words, when applied to the eyeball does describe a condition which may result from the same type of injury that can cause luxation. Berens¹ mentioned luxation as being due to injury. Fuchs² and others mentioned instances of luxation of the eye which occurs

traumatically in certain barbarous tribes in which gouging of the eyes in fights and brawls is practiced. A cow horn injury has been known to luxate a human eyeball, the horn acting as a lever and the orbital margin as a fulcrum. One old report (DeWecker, cited by Parsons³) was of a pugilist who snatched his eye off and threw it to the floor after his opponent had luxated it by a blow. Kimball⁴ described the case of a white man aged 30 with dementia praecox. The patient had attended a university for two years. He began the process by pushing his index finger into the orbit beside his left eye. Six months later he was able to extrude the eye and lay it alongside his nose. The eye had complete optic atrophy.

While the luxations in the cases just mentioned were not spontaneous, they illustrate how injury may produce luxation without causing avulsion. Ball⁵ and Wood⁶ described luxation and dislocation, and the latter repeated Barck's classification of displacement of the eyeball:

1. Luxation refers to protrusion of the eye between the eyelids, with spastic closure of lids behind the eye. It occurs spontaneously in the presence of exophthalmos. Most cases are due to shallow orbits.
2. Dislocation refers to displacement of the eye into the nasal sinuses or nasal cavity and is due to trauma.
3. Avulsion refers to partial or complete severance of extraocular eye muscles and the optic nerve, or both, from the body.

From the wards of the Children's Hospital.
Dr. Ralph De Graff prepared the photographs and conducted the roentgen examination.

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2. Fuchs, Ernst: *Text-Book of Ophthalmology*, translated by Alexander Duane, ed. 8, Philadelphia, J. B. Lippincott Company, 1924.
3. Parsons, J. H.: *Pathology of the Eye*, London, Oxford University Press, 1908, vol. 4, pt. 2, p. 1179.
4. Kimball, A. H.: *Voluntary Displacement of the Eye*, J. A. M. A. 62: 1085 (April 4) 1914.
5. Ball, J.: *Modern Ophthalmology*, Philadelphia, F. A. Davis & Company, 1926, p. 1100.
6. Wood, C. A.: *American Encyclopedia and Dictionary of Ophthalmology*, Chicago, Cleveland Press, 1915, vol. 6, p. 4037.

Parsons³ mentioned the same classification, quoting Birch-Hirschfeld, and described luxation as being due to parturition, injury or accident, although he went on to say that it may occur spontaneously or be brought about at will by some persons with lax fascia.

It is my purpose here to discuss forward displacement of the eyeball (luxation) which occurs spontaneously. A pursuit of the literature on this subject has revealed a number of unique clinical experiences. Graefe and Saemisch⁷ described spontaneous luxation as occurring in exophthalmic goiter when exophthalmos is extreme. Tucker⁸ reported 2 instances in adults: 1 was due to exophthalmic goiter, and both eyes of the patient luxated by gentle pressure on the lower lids; the other was due to cerebral syphilis, probably gumma. The associated exophthalmos improved under treatment in each case. Oertel⁹ reported the case of a Negro woman aged 25 whose eye luxated when one of his students was retracting her lids with his fingers. The eyeball had come out on several occasions by itself, especially when she stooped over. Vision was 20/20 in each eye. Both eyes were prominent but there were no signs of goiter. Two months later she died and a small tumor of the cerebellum was found at autopsy. Oertel cited Galloway,¹⁰ who described a luxation which occurred as he was removing a foreign body from the cornea and retracting the lids with his fingers, and cited also a case of Levin's¹¹—that of an obese man aged 53 with bilateral exophthalmos and eyes which luxated spontaneously yet with no other evidence of exophthalmic goiter. Others in this patient's family



Fig. 2.—Appearance of patient with spontaneous luxation of eyeball.

had exophthalmos. Mertens¹² was examining a Negro man aged 38, and as he retracted the lids with his

7. Graefe, Alfred, and Saemisch, Theodor: *Handbuch der gesamten Augenheilkunde*, Leipzig, Wilhelm Engelmann, 1907, vol. 9, pt. 2, p. 39.
8. Tucker, B. R.: *Two Cases of Dislocation of Eyeball Through the Palpebral Fissure*, J. Nerv. & Ment. Dis. 34: 391 (June) 1907.
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10. Galloway, A. R.: *Luxation of the Eyeball*, Ophthalmoscope 8: 262 (April) 1910.
11. Levin, H.: *Fall von spontaner Luxation des Bulbus*, Berl. klin. Wchnschr. 42: 1105, 1905.
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fingers either eye would pop out of its orbit. Vision was 20/20 in each eye, and the fundi were normal, with no history of spontaneous luxation.

Another group of cases, which seems related to the group just mentioned yet presents in itself probably a



Fig. 3.—Prominence of eyes and alternating divergence are apparent.

distinct entity, is composed of instances in which the eye can be voluntarily luxated. Lyle and McGavie¹³ reported a case of a Negro man who had made his living by exhibiting his ability to luxate his right eye. He was unable to luxate his left eye. Autopsy, following death from pneumonia, revealed in the left orbit only normal eye muscles, but in the right there were a bifurcated superior oblique muscle and two inferior oblique muscles. The orbit was 44 mm. deep. The authors concluded that the protractor action of the four oblique muscles in one orbit enabled him to pull his eye forward between his lids. Almeida¹⁴ reported the cases of two Negroes with spontaneous luxation of the eyes. One of them had a goiter. Almeida expressed the belief that spontaneous proptosis occurred exclusively in the Negro race and that shallow orbits and relaxed ligaments were necessary adjuncts. He gave Willemer¹⁵ credit for describing the first case of spontaneous luxation and also mentioned Pereira Gomes'¹⁶ case of a Negro girl. DePontal (cited by Ball⁵) saw a young man who could luxate his eye by blowing his nose violently. Smith¹⁷ described the case of a Negro boy aged 11 years who could voluntarily propulse both eyes. Vision was 20/30 in each eye. He had normal fields and fundi but appeared subnormal mentally. At

first he had had to press his eyes out with his fingers but had with practice learned to do it without their help. Ferrer¹⁸ wrote of a half-breed man aged 20 who at the age of 5 or 6 years began voluntarily to displace both eyeballs. The fields were normal. Vision was 20/40 in the right eye and 20/30 in the left. The orbits were shallow. He had a high palate and was mentally defective. Ferrer expressed the belief that the patient's unusual ability to contract his protractor muscles made him able to luxate his eyes.

Then there is the group in which luxation occurs spontaneously because of the shallow orbits of a deformed skull. Power¹⁹ in 1893 reported the case of a child with both eyes luxated. He wired the lids together to prevent luxation. Greig's²⁰ patient was an 11 month old emaciated girl (fig. 1) whose prominent eyes would bulge outward and extrude when she cried. Her cranial sutures were very prominent, but Greig stated that the orbits were not shallow. He suggested abnormal Müller's muscles as the cause of the luxation. Donaldson's²¹ patient was a 2½ year old boy who had had prominent eyes since birth. His head was deformed and dysostosis was present. One eye had been luxated eleven times, but the tendency became less as the child grew older. Fletcher,²² in reporting a series of cases of oxycephaly, mentioned Hutchinson's patient, a girl aged 12 years, with oxycephaly whose one eye was "dislocated" on one occasion. Franceschetti's²³ patient with "dysostose cranio-faciale héréditaire" had luxation of the eyeballs.

The following case of luxation of the eyeball due to brachycephaly is, I believe, the first of its kind recorded

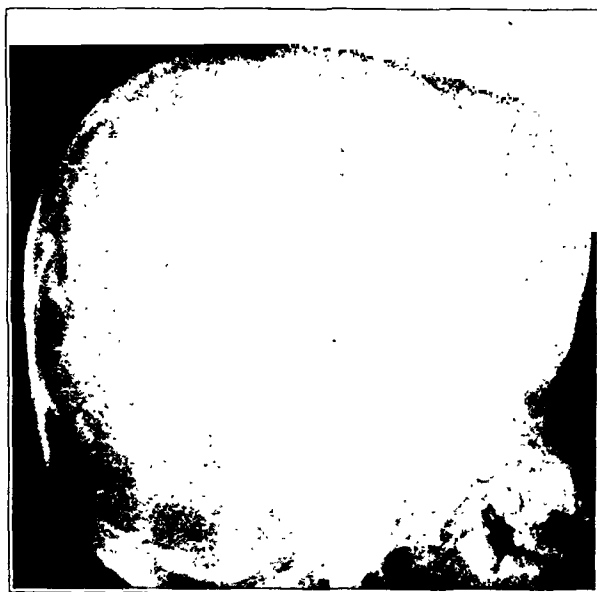


Fig. 4.—Lateral view of skull.

with complete roentgenographic studies and photographs.

13. Lyle, D. J., and McGavie, J. S.: The Cause of Voluntary Forward Luxation of the Eyeball, *Am. J. Ophth.* 19: 316 (April) 1936.

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REPORT OF CASE

In February 1940 I was called to the dispensary of the Children's Hospital to see a 2½ year old girl with an "extruded" eye (fig. 2). She had never walked. She had a cold and a fever. While she was sitting on the floor she looked up and her right eye "popped out." Whether she was crying at the time or coughing could not be determined. During her subsequent stay in the hospital she cried, coughed and sneezed a great deal. When I first saw her the eye had been luxated one-half hour. Pushing it back seemed impossible, because the lids were spastically closed behind it. A hook was slipped under the upper tarsus and as the upper lid was brought forward the eye readily fell back into the socket. The lids were taped shut for a few days. Her cold improved, and during her ten day stay in the hospital her eye did not luxate again. Up to the present writing (June 1940) the child has remained well and no further luxations have occurred.

Physical examination revealed a deformed skull, a large open anterior fontanel, poorly formed teeth and a high arched palate. Her eyes were prominent (fig. 3), yet the lids covered them easily. The lids looked large. The pupils seemed normal. There was an alternating divergence, as seen in figure 3. The general musculature was weak. A Wassermann test was negative. The eyegrounds were normal. The pupils dilated readily with homatropine. There was no optic atrophy, no papilledema and no retinal hemorrhages. A differential blood cell count was negative.

Roentgen examination of the skull in anteroposterior and lateral views (fig. 4) showed a definite foreshortening of the skull in the anteroposterior dimension, with flattening in the occipital region. The orbital cavities were shallow. There was synostosis of the sutures and evidence of intracranial pressure, as seen by convolution atrophy in the occipital region and upward bulging of the bone and pressure atrophy in the region of the anterior fontanel. The diagnosis was brachycephaly.

Rubin²⁴ gave a complete survey of oxycephaly. It is due to premature synostosis of the bones of the skull. Various deformities due to this condition are (1) scaphocephaly—narrow skull with bulging forehead and occiput; (2) dolichocephaly—long, narrow skull; (3) brachycephaly—short, wide skull, and (4) oxycephaly—high-domed or tower skull. In cleidial dysostosis, the skull is usually of the brachycephalic type. The word "oxycephaly" is predominantly used throughout the text, the other prefixes denoting variations in shape of the skull due to the underlying premature synostosis. The commoner eye changes are listed as optic atrophy, amaurosis, exophthalmos, divergent strabismus and nystagmus. All observers cited found these defects in a large percentage of their cases. Various observers have estimated the incidence of oxycephaly to be from 1 per cent to 12.4 per cent of the population. Many criminals and persons with mental disease have oxycephaly. "Exophthalmos is due to the shallow orbits, and may be unequal. Dislocation of eyes is reported."

From the literature one must conclude that spontaneous luxation of the eyeball, though rare, has been described a number of times, and if one studies reported cases a varied etiology is at once apparent. The related terms of dislocation and avulsion properly refer to trauma. Luxation of the eye should be further qualified as:

1. Spontaneous—arising from (a) oxycephaly, brachycephaly and related conditions due to premature synostosis; (b) prominent eyes—usually in Negroes or (c) exophthalmic goiter (in which disease luxation occurs very rarely).
2. Voluntary—usually found in mentally subnormal Negroes. Probably luxation is due to protractor action

of oblique muscles. In some cases it begins as a self-induced anomaly.

3. Self induced—found in persons with mental disease. Later may become voluntary or at least very easily accomplished.
4. Traumatic—eye is luxated but not avulsed by trauma.

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RENAL INSUFFICIENCY FOLLOWING TRANSFUSION

REPORT OF THIRTEEN CASES

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During the past few years we have had the opportunity to observe 5 instances of renal failure after transfusion. Indeed, one of us in the course of his private practice within a few months was called to see 3 patients with this condition. In none of these cases had the attending physician thought of the transfusion as a causative factor in his patient's illness. It seems probable, therefore, that it occurs more commonly than is generally realized and that frequently the diagnosis is not made. Those patients who are treated with transfusions of blood are often suffering from some severe illness which in itself may cause renal failure, so the transfusion is too often not considered the cause of the difficulty. Since the methods of grouping, cross matching and transfusing blood have been perfected, transfusion has become so common that respect for its hazards has waned. There is no branch of medical practice in which it is now not a common mode of therapy. So we think it worth while again to call the attention of the profession to one of the serious reactions that may follow transfusion.

Denys¹ described hemolytic reactions with "sooty urine" when he transfused the blood of a lamb into man in 1667. The work of Landsteiner,² Jansky³ and Moss⁴ on the isoagglutinins and the isohemolysins of human blood has made of transfusion a reasonably safe mode of therapy. But, in spite of careful blood grouping and cross matching, serious sequelae still develop. Bordley⁵ in 1931 first brought clearly to the attention of American physicians the knowledge that renal failure sometimes followed transfusion. He said: "In not a single case is there complete and satisfying evidence to prove that the blood of the donor was compatible with that of the recipient." We agree with this statement. In general, his opinion has been confirmed, though there are several instances on record in which reexamination seemed to indicate an in vitro compatibility.⁶

24. Rubin, M. I.: Premature Synostosis and Associated Phenomena, in Brennemann, Joseph: Practice of Pediatrics, Hagerstown, Md., W. F. Prior Company, Inc., 1940, vol. 4, chap. 25.

1. Cited by Wiener, A. S.: Blood Groups and Blood Transfusion, Springfield, Ill., Charles C. Thomas, Publisher, 1935, p. 37.

2. Landsteiner, Karl: Ueber Agglutinationserscheinungen normalen menschlichen Blutes, Wien. klin. Wchnschr. 14: 1132, 1901.

3. Jansky, J.: Haematologische Studien bei Psychotikern, Klin. Shorn. 8: 85, 1907.

4. Moss, W. L.: Studies on Isoagglutinins and Isohemolysins, Bull. Johns Hopkins Hosp. 21: 63, 1910.

5. Bordley, James, III: Reactions Following Transfusion of Blood, with Urinary Suppression and Uremia, Arch. Int. Med. 47: 288 (Feb.) 1931.

6. McCandless, H. G.: Hemolytic Transfusion Reaction with Oliguria, J. A. M. A. 105: 952 (Sept. 21) 1935. Hansen-Pruss, O. C., and Miller, B. N.: Uremia Following Blood Transfusion, South. M. J. 29: 1033 (Oct.) 1936. DeGowin and Baldrige.¹⁰

In these hemolytic reactions the exact mechanism of the development of the renal lesions is not entirely clear. Ponfík⁷ by the injection of heterogenous blood into dogs produced a clinical and pathologic condition similar to that found in man. Baker and Dodds⁸ and DeGowin and his co-workers⁹ have shown in animal experiments that if the urine is acid when hemoglobin is injected the acid hematin pigment will precipitate in the renal tubules, producing a blockage with a clinical picture of uremia similar to that seen in man. If the urine is alkaline, the hemoglobin will be passed in the urine without renal injury. Aside from blockage of the renal tubules a concomitant or independent tubular necrosis may occur. This is often serious enough to produce uremia and death. This has been demonstrated by DeGowin¹⁰ both experimentally and in man.

At autopsy, the changes are predominantly in the kidneys, which are usually described as being enlarged and congested. Microscopically, the picture varies and the anatomic basis for the renal insufficiency is not always evident. The most constant observation is considerable interstitial edema, frequently associated with leukocytic infiltration. The most striking renal change, though it is not always of great degree or even present, is the occurrence of masses of brown pigment filling the tubules. This pigment is considered to be acid hematin derived from hemoglobin of the hemolyzed blood, which is said to impair renal function by obstructing the tubules. In addition, the tubular epithelial cells contain droplets of this pigment and show advanced degenerative changes often comparable to that seen in poisoning from mercury. The glomeruli are, as a rule, intact. The liver may show small areas of central focal necrosis. A general deposition of hemosiderin is frequent.

Bordley⁵ originally advanced four hypotheses as to the mechanism of this renal failure. In view of subsequent work only two of these seem possible: first, the theory of tubular blockage by hemoglobin pigment and, second, the assumption that some portion of the free hemoglobin is nephrotoxic and capable of producing tubular degeneration, interstitial edema and leukocytic infiltration in the kidneys.

The most important and striking reaction to a blood transfusion is that due to an incompatibility of the bloods. Severe reactions have resulted from the transfusion of as small a quantity as 10 cc. of incompatible blood. In some cases, death has been almost instantaneous, probably from massive agglutination with embolism. Usually the reaction is more prolonged, and the symptoms fall into an immediate and a delayed group. The immediate reaction occurs during the transfusion. The patient may experience a severe chill, a rise in temperature, pains over the entire body but more particularly in the lumbar region, great restlessness and anxiety, a sensation of fullness in the head, precordial oppression, dyspnea, vomiting, flushing of the face and involuntary defecation. Collapse sometimes follows. In patients surviving the immediate reaction or in those who escape this a delayed reaction may ensue a few

hours to a few days later. This is often ushered in by a chill and fever. Oliguria develops in all cases and frequently there is complete anuria. Hemoglobinuria and jaundice may appear. After a varying length of time, usually from three to twelve days, the patient either succumbs to uremia or recovers after diuresis.

During the last few years we have seen 5 instances of renal failure following transfusion. Through the cooperation of our colleagues, we have collected other cases occurring in Washington hospitals. We are reporting 13 instances of this entity.

REPORT OF CASES

CASE 1.—E. M., a white woman aged 63, admitted to Garfield Hospital Jan. 12, 1936 with a history of pernicious anemia since 1931, had been treated successfully with liver extract until she discontinued treatment a year before admission. The patient was well nourished, with pallor of the skin and mucous membranes and an icteric tinge to the scleras, papillary atrophy of the tongue, enlargement of the liver and spleen and hyper-

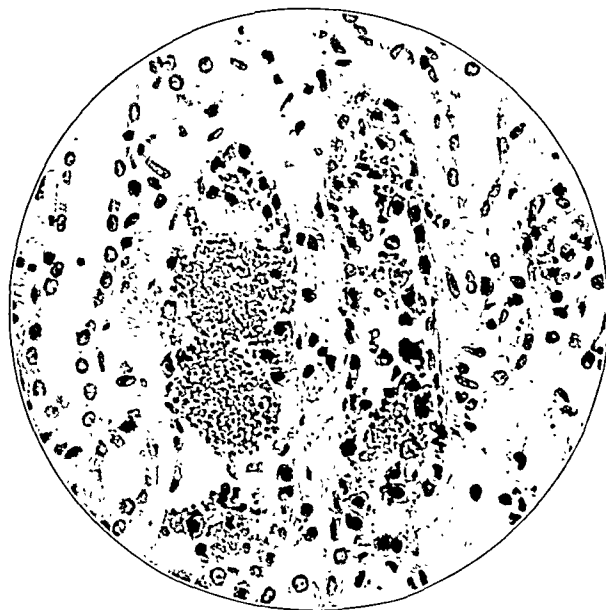


Fig. 1 (case 1).—Section of kidney showing the tubules filled with granular pigment. The tubular epithelium is swollen and in places desquamated. Interstitial edema is present. Reduced from a photomicrograph with a magnification of 377 diameters.

tension, the blood pressure being 145 systolic and 75 diastolic. The hemoglobin content was 47 per cent. The erythrocyte count was 2,000,000 and the leukocyte count 7,000. The urine showed a trace of albumin. On January 18 she was given 500 cc. of citrated blood by transfusion. No typing was done, but cross matching was reported as satisfactory. A mild thermal reaction followed. On January 22 another transfusion of 500 cc. was given without typing but with satisfactory cross matching. Shortly after the transfusion there was a severe chill, marked clonus of the entire body, nausea and vomiting, a thready pulse and involuntary defecation. Four hours later she voided 360 cc. of dark, blood-tinged urine. The temperature rose to 105 F. and drowsiness developed. The following morning there were deep jaundice, irrationality, nausea and vomiting, a blood pressure of 80 systolic and 40 diastolic and rales at the bases of both lungs. One hundred and fifty cc. of dark brown urine was voided on this day. The leukocyte count was 30,800, with 75 per cent polymorphonuclears. The urine showed albumin (4 plus) and gave a 4 plus reaction to benzidine, with only a few white cells in the sediment. The second day after the transfusion generalized edema appeared, and in spite of an intake of 2,000 cc. of fluid only 90 cc. of urine was voided. Four days after the transfusion there were complete anuria, stupor and hiccup. The nonprotein nitrogen level of the blood

7. Ponfík: Experimentelle Beiträge zur Lehre von der Transfusion, Virchow's Arch. f. path. Anat. 62: 273, 1875.

8. Baker, S. L., and Dodds, E. C.: Obstruction of the Renal Tubules During Excretion of Hemoglobin, Brit. J. Exper. Path. 6: 247 (Oct.) 1925.

9. DeGowin, E. L.; Osterhagen, H. F., and Andersch, Marie: Renal Insufficiency from Blood Transfusion: I. Relation to Urinary Acidity, Arch. Int. Med. 59: 432 (March) 1937.

10. DeGowin, E. L.; Warner, E. D., and Randall, W. L.: Renal Insufficiency from Blood Transfusion: II. Anatomic Changes in Man Compared with Those in Dogs with Experimental Hemoglobinuria, Arch. Int. Med. 61: 609 (April) 1938.

was 160 mg. per hundred cubic centimeters, and the combining power of carbon dioxide was 33 per cent by volume. Death occurred five days after the transfusion. No typing or rematching was done.

At autopsy both lungs showed congestion and edema. The liver was slightly enlarged and dark brown. The spleen was

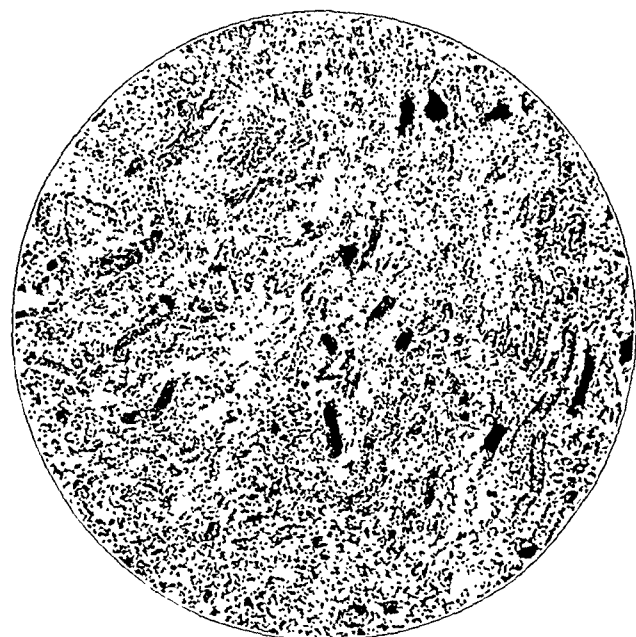


Fig. 2 (case 2).—Numerous tubules are filled with finely granular pigment and hyalinized material. There is interstitial edema and leukocytic infiltration. Reduced from a photomicrograph with a magnification of 87 diameters.

three times normal size, soft and of a mahogany color. The kidneys were enlarged, dark, deeply congested and edematous. The microscopic examination showed considerable interstitial edema with some infiltration of leukocytes. The tubules were greatly dilated and clogged with masses of dark pigment. The tubular epithelium was swollen and showed some desquamation, and deposits of granular pigment were present in the cells of the tubules. There was a definite increase of connective tissue in the glomerular tufts (fig. 1). Sections of the liver showed areas of necrosis about the central veins of the lobules.

CASE 2.—L. B., a white woman aged 28, admitted to Galinger Hospital March 20, 1940 with bleeding from a threatened abortion, was given 80 grains (5.2 Gm.) of sulfanilamide because of suspected infection. Abortion occurred two days later, but the placenta was retained. Since the bleeding continued the placenta was removed manually and the uterus packed two days after the abortion. The patient was given 250 cc. of citrated blood from the blood bank. The blood of both recipient and donor was of type IV (Moss), and cross matching was satisfactory. On the patient's reacting from anesthesia, a chill occurred and there was a moderate rise of temperature. Nine hours after the transfusion 150 cc. of dark brown urine containing albumin (3 plus), dark brown casts and an occasional red cell and leukocyte was voided. The following day there was jaundice, frequent nausea and vomiting, and only 350 cc. of brown urine was passed, despite an intake of 3,700 cc. of fluid. Two days after the transfusion the nonprotein nitrogen level was 100 mg. and the creatinine 3 mg. per hundred cubic centimeters. The leukocyte count was 19,100, with 89 per cent polymorphonuclears. This day a large amount of alkali was given by mouth, and sodium bicarbonate was given intravenously, but only 75 cc. of brown urine was passed. During the following six days stupor, generalized edema, restlessness and retinal hemorrhages were noted. The blood pressure was 130 systolic and 70 diastolic. The daily total output of urine was 250, 385, 220, 250 and 190 cc., despite a daily intake of 3,000 cc. of fluid. Death occurred eight days after the transfusion. The recheck showed both the donor's and the recipient's blood to be type IV (Moss), and the cross matching was satis-

factory. The autopsy revealed considerable congestion of both lungs and enlargement and congestion of the liver. Sections of the liver showed congestion only. The kidneys were swollen, enlarged and congested. The sections showed the glomeruli intact. The tubules were dilated, and there was flattening of the lining epithelium. Many of the tubules were filled with red cells in a hyalinized blood clot. All contained masses of finely granular pigment. There was considerable interstitial edema with some leukocytic infiltration (figs. 2 and 3).

CASE 3.—M. R., a white woman aged 50, admitted to the Emergency Hospital on Nov. 17, 1934 in a moderate degree of shock due to fractures of the femur and ribs, with considerable loss of blood, was given 500 cc. of citrated blood by transfusion. The patient and donor both had type IV (Moss) blood, and cross matching was reported satisfactory. There was no immediate reaction, but for three days after the transfusion there were nausea and vomiting without urinary suppression or any other abnormality aside from a trace of albumin and a few hyaline casts. Twelve days later, while under anesthesia for application of a cast, the patient was given 500 cc. of satisfactorily matched citrated blood. A chill occurred in thirty-five minutes, and the temperature rose to 103 F. Nausea, vomiting, jaundice and oliguria developed, associated with hemoglobinuria and hematuria. The urinary output per day was 150, 30, 13, 50, 70, 115 and 170 cc. On the fourth day the nonprotein nitrogen level was 56 mg. and chlorides 410 mg. per hundred cubic centimeters. By the seventh day the nonprotein nitrogen level was 75 mg. per hundred cubic centimeters. At this time Dr. R. E. Stetson, who had been called from New York, gave a direct transfusion of 500 cc. of blood after spending two hours in painstakingly grouping, regrouping and repeatedly cross matching the blood of the donor and the recipient with no results suggestive of any incompatibility. There was no immediate reaction, but thirty-five minutes later a chill and fever occurred, followed by jaundice, hemoglobinuria, hematuria, oliguria, nausea and vomiting. In spite of large amounts of physiologic solution of sodium chloride and hypertonic dextrose given parenterally, the total urinary output was on successive days 100, 225, 310, 414, 545, 715, 1,045, 1,140,

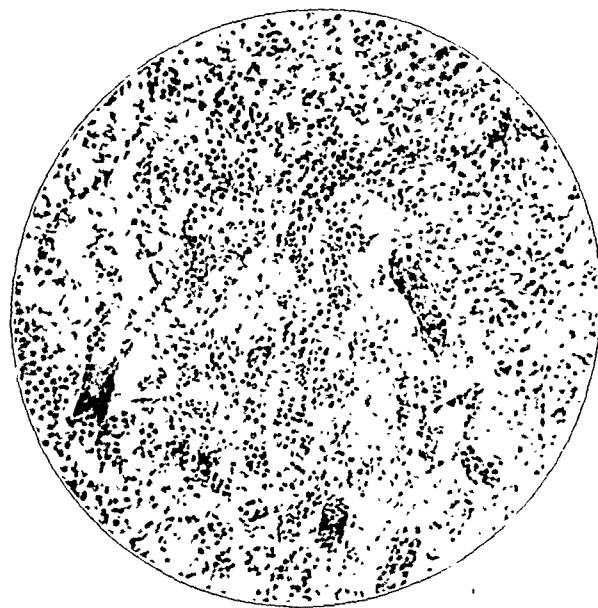


Fig. 3 (case 2).—Interstitial edema is present and the tubules are filled with finely granular pigment. Reduced from a photomicrograph with a magnification of 183 diameters.

1,295, 1,350, 1,455 and 1,240 cc. The abnormalities gradually decreased in the urine, but its specific gravity was fixed. On the fourth day after transfusion the leukocyte count was 30,000, with 98 per cent polymorphonuclears. The nonprotein nitrogen level was 90, the creatinine 3.6, chlorides 510 mg. and serum bilirubin 2.5 mg. per hundred cubic centimeters. The carbon dioxide combining power was 31 per cent by volume. General-

ized edema developed, and death with pulmonary edema occurred on the thirteenth day after the last transfusion.

The autopsy was limited to the abdomen. The only abnormalities were congestion of the liver, spleen and kidneys. Sections of the kidney showed areas of leukocytic infiltration throughout. The tubules were widely separated by delicate, pale, edematous, fibrous tissue. The tubules were dilated and the epithelium was granular and flattened. Their lumens only occasionally contained granular or fibrinous material or a globule of homogeneous hyalinized substance. The glomeruli were congested and for the most part well preserved. The blood vessels were decidedly sclerotic and in some cases completely obliterated by fibrous tissue (fig. 4).

Dr. Stetson¹¹ rechecked the blood of the donor and recipient carefully by both the macroscopic method and the Landsteiner technic. No agglutination or hemolysis occurred. However, when tube preparations of the donor's cells and the recipient's serum were incubated at 37.5 C. overnight there was marked agglutination and hemolysis. It was later ascertained that agglutination occurred regularly in thirty-five minutes when the preparations were incubated at 37.5 C. This is the exact time at which reactions occurred after the transfusions. The tests were repeated, various type IV cells being used with the patient's serum, and in the great majority this incompatibility was demonstrated.

CASE 4.—E. L. P., a white woman aged 28, had some edema of the ankles without hypertension or albuminuria during the last two months of her pregnancy. Her physical examination was negative. The urine showed no abnormality. The blood pressure was 130 systolic and 80 diastolic. On July 19, 1939 at Garfield Hospital she was delivered by high forceps of a large child after a hard labor. The placenta was retained. The following day, because of a temperature of 103 F., the placenta was removed manually under anesthesia. The third day after delivery the temperature was still high and sulfanilamide with sodium bicarbonate was given for two days and then stopped because of cyanosis. Three days after delivery the blood showed a hemoglobin content of 9.5 Gm., or 57 per cent, erythrocytes 3,000,000 and leukocytes 15,950. On this day the patient was given a transfusion of 500 cc. of citrated blood without a reaction. The blood of both donor and recipient were reported as type IV (Moss), and cross matching showed no agglutination. Three hours after the transfusion 90 cc. of "dark urine like argyrol" was obtained on catheterization, and thereafter all urine voided was dark brown. On examination the urine showed a large amount of albumin, and the sediment consisted of masses of almost black, coarse and finely granular amorphous material. There were no erythrocytes but clumps of red material. Many pus cells were present and the occult blood test gave a strongly positive reaction. Two subsequent transfusions were given without a reaction and without altering the patient's condition. On the day after the transfusion jaundice, stupor, nausea and vomiting developed. Hemoglobinuria persisted.

When the patient was first seen by one of us, three days after the transfusion, the following observations were made: The patient was obese and was critically ill; there were Kussmaul breathing, an odor of acetone on the breath, a blood pressure of 190 systolic and 100 diastolic, stupor, generalized edema, extreme pallor, moderate icterus, cyanosis, nitrogen retention (a nonprotein nitrogen level of 100 mg. per hundred cubic centimeters), acidosis (combining power of carbon dioxide 30 per cent by volume) and hemoglobinuria. The leukocyte count was 19,750. There were edema of both heads of the optic nerve, edema of the retina and a few rather large scattered hemorrhages in both eyes. The retinal arteries appeared normal. In both flanks and extending forward in the abdomen an indefinite mass was palpable which may have been the liver and spleen, but polycystic kidneys had to be considered. The patient was suffering from renal insufficiency following a transfusion, which we thought might be superimposed on polycystic disease of the kidneys.

In spite of massive quantities of physiologic solution of sodium chloride and hypertonic dextrose given intravenously only 1,140

cc. of urine was excreted from the time of the transfusion to death four days later. The nonprotein nitrogen level rose to 112 mg. per hundred cubic centimeters, the combining power of carbon dioxide fell to 24 per cent by volume, deep coma supervened and death occurred four days after the transfusion.

Rematching of the blood of the patient and of the donor was not done.



Fig. 4 (case 3).—Extreme leukocytic infiltration and interstitial edema. Reduced from a photomicrograph with a magnification of 87 diameters.

Autopsy by Dr. J. W. Lindsay gave the following information: The pericardium contained 75 cc. of straw-colored fluid. The heart was normal. Both lungs were congested and edematous. The spleen was enlarged and considerably congested. The liver was enlarged and showed extensive congestion. The right kidney weighed 425 Gm., and the pelvis was dilated. The left kidney weighed 375 Gm. Sections of the kidney showed the tubules generally dilated and containing granular or hyaline material. The tubular epithelium was compressed, and the nuclei were sometimes lost. The proximal tubules were usually dilated. The lining cells were swollen, granular and at times desquamated. Aside from the tubules containing hyaline material, there were others distended with masses of leukocytes and granular material. The glomeruli were well preserved. In some areas there was considerable interstitial edema and some hemorrhagic infiltration. There was extensive leukocytic infiltration, in places appearing like well defined small abscesses (fig. 5). Sections of the liver and spleen showed congestion only.

CASE 5.—B. R., a white woman aged 43, admitted to Garfield Hospital in shock from massive hemorrhage following a spontaneous abortion, was given a transfusion of 500 cc. of citrated blood after curettement and packing of the uterus. The blood of the donor and of the recipient was type III (Moss), and cross agglutination showed no incompatibility. During the transfusion palpitation, oppression, flushing, nausea and vomiting developed, but in spite of this the entire 500 cc. of blood was given. After the transfusion there were chilliness and a mild rise in temperature, and nausea and vomiting persisted. In spite of an adequate parenteral intake of fluids no urine was voided the next day, and on subsequent days, though not measured, the output was known to be inadequate. The urine was not examined. Jaundice was not noted. Four days later another transfusion of 500 cc. of citrated blood was given without reaction. One of us was asked to see the patient seven days after the first transfusion because of continued nausea and vomiting. The urinary output was 270 cc. that day. There were puffiness of the eyes, a blood pressure of 155 systolic and 70 diastolic, normal fundi and an otherwise unrevealing physical examination. The urine was found to contain a large

11. Stetson, R. E.: Personal communication to the authors.

amount of albumin but nothing abnormal in the sediment. The nonprotein nitrogen level was 117 mg. per hundred cubic centimeters. With increased injections of physiologic solution of sodium chloride and hypertonic dextrose the output was increased to 1,100 cc. and thereafter gradually rose, but anasarca and Kussmaul breathing, with a nonprotein nitrogen level of 100 mg. and a chloride level of 633 mg. per hundred cubic centimeters and a combining power of carbon dioxide of 26 per cent by volume were found. The leukocyte count was 23,900, with 91 per cent polymorphonuclear leukocytes. After reduction of the intake of fluid diuresis (6,000 cc.) occurred on the twelfth day after the reaction to the transfusion. Recovery was then rapid though marred by severe bilateral suppurative parotitis. On discharge the urine showed a trace of albumin, its specific gravity was fixed, the nonprotein nitrogen level and blood pressure were normal and the phenolsulfonphthalein test showed an excretion of 34 per cent in one hour. At present no evidence of impairment of renal function can be found.

The blood of donor and recipient was rechecked and found to be type III (Moss). On cross matching there was no agglutination, but at the end of twenty minutes all the donor's cells were hemolyzed by the recipient's serum.

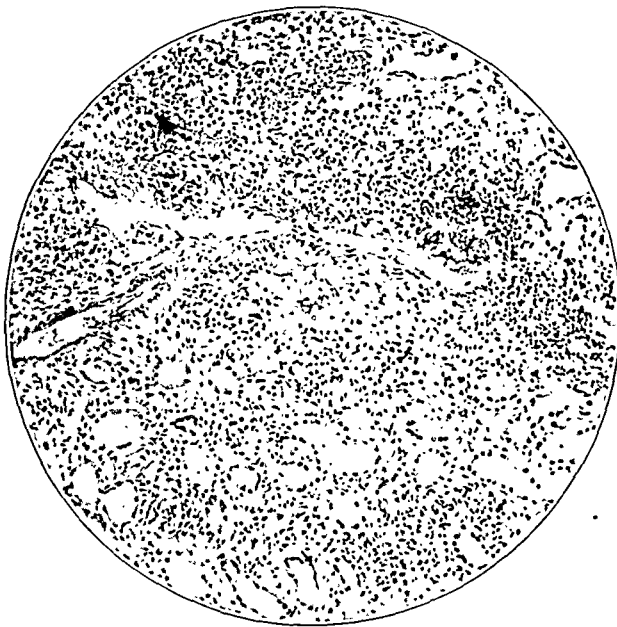


Fig. 5 (case 4).—Dilatation of tubules with flattening of the tubular epithelium. There is interstitial edema and extreme leukocytic infiltration. Reduced from a photomicrograph with a magnification of 87 diameters.

CASE 6.—B. M., a Negress aged 35, admitted to Emergency Hospital with an obscure abdominal condition on April 25, 1939, was given transfusions on three occasions without a reaction. After an exploratory laparotomy she was given a transfusion of 500 cc. of citrated blood. The blood of the patient and the donor was type IV (Moss), and cross matching was reported as satisfactory. When 350 cc. of blood had been given a shaking chill occurred and the pulse became weak and thready. The transfusion was stopped, but the temperature rose to 106 F. No urine was passed the next day, but on the following day a small amount of red urine containing much albumin and some erythrocytes was voided. The urinary output per day was 150, 350, 900, 600, 500, 700 and 2,100 cc. There was considerable stupor, the pulse was rapid and the patient showed every evidence of being critically ill. The nonprotein nitrogen level rose to 180 mg. and the creatinine level to 7.5 mg. per hundred cubic centimeters. After injection of large quantities of hypertonic dextrose intravenously, diuresis occurred, with rapid improvement in the patient's condition. The nonprotein nitrogen level fell to 38 mg. per hundred cubic centimeters, and the patient recovered.

A recheck of the blood of donor and recipient showed it to be type IV (Moss). On cross matching, the donor's cells were

considerably hemolyzed by the recipient's serum at the end of one hour.

CASE 7.—C. D., a white woman aged 48, admitted to Garfield Hospital on Dec. 1, 1937, complained of metrorrhagia. The hemoglobin content was 56 per cent and the erythrocytes numbered 3,900,000. The urine contained a large amount of albumin. To control the metrorrhagia a supravaginal hysterectomy was performed on December 3 for a fibroid uterus. Postoperatively she was given 400 cc. of citrated blood without a reaction. The blood of the patient and of the donor were both type IV (Moss), and the cross matching was satisfactory. On December 5 a second transfusion of citrated blood was given from a donor whose blood matched the patient's type. After receiving 100 cc. she complained of pain in the head, abdomen and precordium. The rate of flow was diminished, but the pains became so intense that the transfusion was stopped at 250 cc. A rigor followed. Six hours later she voided 100 cc. of urine, the specimen being discarded without comment by the nurse. The total output of urine for December 6 was a single specimen of 15 cc. obtained by catheter. It was black and contained a large amount of albumin and numerous dark brown casts. Subsequent specimens showed only large amounts of albumin and at times large numbers of white blood cells. After the transfusion there was persistent nausea and vomiting. Large intravenous injections of dextrose and saline solution were given daily. Additional transfusions of citrated blood were given from donors whose bloods were properly typed and matched, without reactions, on December 7, 9, 10, 11 and 12. After the reaction to the transfusion the urinary output per day was 15, 150, 300, 90, 0, 150, 532, 500, 960 and 1,536 cc. On the ninth day after the hemolytic reaction, the nonprotein nitrogen level was 190 mg. per hundred cubic centimeters, the combining power of carbon dioxide 22 per cent by volume and the leukocyte count 12,500 with 76 per cent polymorphonuclears. Coma and anasarca were extreme. Thereafter tremendous quantities of urine were passed, and with the diuresis the edema vanished and the patient improved. By the thirty-fifth day the nonprotein nitrogen level had fallen to 45 mg. per hundred cubic centimeters. The systolic blood pressure never exceeded 162, the diastolic, 100 mm. of mercury.

Convalescence was complicated by a severe infection of the abdominal wound, profuse purulent vaginal drainage, pyelitis and large vaginal hemorrhages necessitating a further transfusion of 500 cc. of citrated blood. To this transfusion there was a reaction with urticaria and chilly sensations. The patient was discharged on Jan. 28, 1938, fifty-four days after the causative transfusion. On subsequent observations, the last on April 1, 1940, the patient has been found to be in excellent condition; the examinations of urine gave negative results; the blood pressure readings were within normal range and the phenolsulfonphthalein excretion was normal. The blood of the donor and patient was rechecked. The blood of the donor was found to be type II and that of the recipient type IV (Moss). On cross matching there was agglutination and hemolysis of the donor's cells.

CASE 8.—J. E., a white woman aged 61, was admitted to Garfield Hospital on June 7, 1938 for splenectomy for Banti's disease. There was extreme anemia. The urine showed a large amount of albumin and a few granular casts. The nonprotein nitrogen level was 37 mg. per hundred cubic centimeters. The blood pressure was 150 systolic and 84 diastolic. Repeated transfusions were given. On July 12 before reacting from anesthesia, she was given a transfusion of 250 cc. of citrated blood. The patient's blood was type IV (Moss), as was the donor's. Cross matching showed no incompatibility. During the transfusion the patient became restless and tossed about in bed. The daily intake for six days after the transfusion was 2,610, 3,540, 3,330, 3,600, 4,350 and 2,230 cc. with a daily output of 525, 585, 630, 930, 1,620 and 2,535. The character of the urine was not remarked on. Listlessness developed three days after the transfusion, and gradually the patient became stuporous, disoriented and incontinent. The leukocyte count was 22,800, with 81 per cent polymorphonuclears. Two weeks later, though the urinary output had become satisfactory, the nonprotein nitrogen level rose to 112 and soon afterward

to 150 mg. per hundred cubic centimeters. There it remained for several days. Gradually with symptomatic improvement the nitrogen level returned to normal. No recheck of the blood grouping or cross matching was done.

CASE 9.—A. L. C., a white woman aged 35, admitted to Emergency Hospital on Sept. 1, 1938, complained of chronic glomerular nephritis and purpura. During a previous admission to the hospital she had had three transfusions with a pronounced reaction consisting of chill, fever and persistent nausea with vomiting following one of them. The blood pressure was 170 systolic and 98 diastolic. The urine was of low, fixed specific gravity and contained albumin. The nonprotein nitrogen level was 76 mg. per hundred cubic centimeters. On September 16, though her condition was improved and she was ready for discharge, she was given a transfusion of 500 cc. of citrated blood from the same donor whose blood had produced a reaction during the previous admission. The patient's blood was type IV (Moss), as was the donor's. Cross matching showed no incompatibility. Fifteen minutes after completion of the transfusion lumbar and precordial pain, rapid pulse, a chill, fever, nausea

sinuses were found and roentgenograms showed extensive osteomyelitis. Multiple drainage was instituted and he received during a three months period ten transfusions of stored blood without a reaction. On Aug. 13, 1938 he was given 500 cc. of warmed stored blood which was 8 days old and partially hemolyzed. Thirty minutes after the transfusion he had a severe, shaking chill and gradually became drowsy and irrational. That evening he voided a small amount of mahogany-colored urine containing albumin, hemoglobin and some erythrocytes. A smaller amount of urine of the same character was passed the day after the transfusion, but no further urine was voided. Jaundice was noted, and the van den Bergh test gave an immediate direct reaction. On the third day after the transfusion stupor was more pronounced and the nonprotein nitrogen level was 85 mg. per hundred cubic centimeters. The patient died on August 16, three days after the transfusion, in spite of large amounts of fluids and alkalis administered parenterally. Permission for autopsy was not obtained. A reexamination of the donor's and of the patient's blood showed no incompatibility.

TABLE 1.—Summary of Clinical Data

Case	Age and Sex	Diagnosis	Blood Type (Moss)		Amount of Blood, Cc., and Method	Immediate Reaction	Leuko-cytes	Poly-mor-phonu-clears, per Cent	Non-Protein Nitro-gen	Carbon Dioxide Com-bining Power	Outcome and Day of Death or Climax	Reecheck	Proved Incom-patible	Proved Com-patible	Comment
			Patient's	Donor's											
1	63 ♀	Pernicious anemia	Not typed		500 citrate	Yes	30,850	75	160	33	Died 5 days	No	....	....	Autopsy
2	28 ♀	Abortion	IV	IV	500 citrate	?	19,100	89	100	..	Died 8 days	Yes	....	Yes	Autopsy
3	50 ♀	Fractured hip	IV	IV	500 whole 500 citrate	?	30,000	90	90	31	Died 13 days	Yes	Yes	....	Autopsy
4	28 ♀	Postpartum bleeding	IV	IV	500 citrate	No	19,750	..	112	24	Died 4 days	No	....	....	Autopsy
5	43 ♀	Abortion	III	III	500 citrate	Yes	23,900	91	100	26	Recovery 7 days	Yes	Yes		
6	35 ♀	Undetermined	IV	IV	350 citrate	Yes	17,600	86	180	..	Recovery 3 days	Yes	Yes		
7	48 ♀	Uterine bleed-ing	IV	IV	250 citrate	Yes	12,500	76	190	22	Recovery 6 days	Yes	Yes		
8	61 ♀	Banti's disease	IV	IV	250 citrate	Yes	22,800	81	150	..	Recovery 3 days	No			
9	35 ♀	Chronic nephritis	IV	IV	500 citrate	No	.....	..	120	..	Recovery 7 days	No			
10	19 ♂	Osteomyelitis	I	I	500 citrate	No	.....	..	85	..	Died 2 days	Yes	....	Yes	Hemolyzed blood bank
11	25 ♀	Abortion	Not typed		500 citrate	No	18,200	75	...	..	Died 9 days	No			
12	32 ♀	Abortion	II	IV	500 citrate	No	74,000	95	...	..	Died 6 days	No			
13	35 ♀	Banti's disease	II	II	500 citrate	Yes	10,300	90	100	..	Recovery 7 days	No			

Cross matching was satisfactory in all cases.

and vomiting developed. The following morning the patient passed 160 cc. of red urine which contained a large amount of albumin and many erythrocytes and gave a strongly positive reaction to benizidine. The blood pressure fell to 104 systolic and 70 diastolic, and depletion was marked. Jaundice was not noted. Stupor with oliguria was accompanied by a rise of the nonprotein nitrogen level to 112 mg. and of creatinine to 5 mg. per hundred cubic centimeters. There was no leukocytosis. Large amounts of 10 per cent dextrose in physiologic solution of sodium chloride were administered by vein. After a week of pronounced oliguria, diuresis occurred and the patient's condition returned to what it had been before transfusion. The nonprotein nitrogen had returned to its previous level when she was discharged from the hospital. Fourteen months later she was readmitted to the hospital with anasarca and uremia, dying soon after admission. Autopsy showed small, contracted kidneys with the usual microscopic appearance of chronic glomerular nephritis. There was no recheck of the blood grouping or cross matching.

CASE 10.—M. F., a white man aged 19, admitted to Gallinger Hospital on April 6, 1939, had fractures of the left forearm and left femur. These extremities were in casts. The patient was ill with fever. On removal of the casts multiple draining

Case 10 is thought to represent a death due to the use of hemolyzed stored blood which was probably warmed to an excessive temperature.

CASE 11.—I. F., a white woman aged 25, admitted to Garfield Hospital July 13, 1932, had a hemorrhage from a spontaneous abortion. She was acutely ill, with a temperature of 103 F. The hemoglobin content of the blood was 29 per cent. The erythrocyte count was 2,200,000 and the leukocyte count 10,300. The urine showed a slight amount of albumin. After manual removal of the retained placenta her condition was improved. A transfusion of 500 cc. of citrated blood was given. Cross matching was satisfactory, but no blood typing was done. The transfusion was followed by a thermal reaction. On July 22 a second transfusion of 500 cc. of citrated blood was given. There was no typing, but cross matching was satisfactory. One half hour later there were a severe chill, involuntary defecation and a temperature of 105.6 F., and vomiting began. The following morning there was definite jaundice and 500 cc. of urine was voided, the character not being recorded. On the second day, the urinary output was 390 cc. and the fluid intake 2,000 cc. On the third day after the transfusion 450 cc. of dark brown urine was voided. This contained a large amount

of albumin and numerous leukocytes. The leukocyte count was 18,200. During the next six days the patient's condition grew gradually worse with increasing stupor. The daily output of urine totaled 90, 210, 200, 200 and 60 cc. Death occurred on July 31, nine days after the second transfusion. No blood typing or recheck of the cross matching was done.

CASE 12.—C. D., a white woman aged 32, entered Sibley Hospital June 1, 1939 with profuse bleeding from a spontaneous abortion. On this day she received 500 cc. of citrated blood by transfusion. The donor's blood was type IV (Moss) and the patient's type II (Moss). Cross matching was reported as satisfactory. Shortly after the transfusion a severe chill occurred, and the temperature rose to 103.2 F. During the chill there was involuntary defecation and vomiting, and the patient complained of severe pains throughout the body. The following day jaundice was noted, and 550 cc. of urine was voided. No note was made of the character of the urine. The second day after the transfusion the patient's condition was much worse. There were drowsiness and inability to take food. Rales developed at the bases of both lungs. Only 60 cc. of dark brown urine was voided. This contained albumin (4 plus), many granular casts and a few leukocytes and erythrocytes. The leukocyte count was 74,000, with 95 per cent polymorphonuclears. During the subsequent three days the daily urinary output was 100, 210 and 240 cc., despite a daily intake of 3,000 cc. of fluid. On the fourth and fifth days she received transfusions of 300 cc. of citrated blood from type II

TABLE 2.—Incidence of Various Findings

Number of cases.....	13	Edema.....	6
Immediate reaction.....	6	Retinal hemorrhages.....	2
Nausea and vomiting.....	11	Leukocytosis.....	11
		(of 11 recorded)	
Hemoglobinuria.....	11	Proved incompatible.....	4
		(of 6 rechecked)	
Jaundice.....	8	Proved compatible.....	2
		(of 6 rechecked)	
Stupor.....	11	Deaths.....	7
Oliguria.....	13	Recovery.....	6
Hypertension.....	4	Mortality.....	54%
(of 7 in which blood pressure was recorded)			

(Moss) donors without reaction. Death occurred on June 7, six days after the initial transfusion. Permission for autopsy was not obtained. No recheck of the typing or cross matching was done.

CASE 13.—F. S., a white woman aged 35, admitted to Providence Hospital Jan. 6, 1940, had Banti's disease. There were anemia, splenomegaly and leukopenia. On the day she was admitted a transfusion of 500 cc. of citrated blood was given. The blood of both donor and recipient was type II (Moss), and cross matching was reported satisfactory. After 150 cc. of blood had been given she experienced sharp pain in the upper part of the left side of the abdomen and in the left lumbar region. There was a sense of suffocation, and nausea developed. In spite of the severe reaction the operator gave the rest of the 500 cc. of blood. One-half hour later there were pronounced restlessness, weeping, general malaise and a temperature of 101 F. The following day jaundice was noted and vomiting was pronounced. No urine was voided. The second day after the transfusion 90 cc. of dark urine was voided after an intake of 2,000 cc. of fluid. The urine contained albumin (4 plus), occasional granular casts, many erythrocytes and leukocytes. The leukocyte count was 10,300 with 90 per cent granulocytes. The daily output of urine for the next five days was 60, 45, 180, 180 and 520 cc., with a daily intake of approximately 2,000 cc. of fluid. Vomiting continued. Rales appeared at the bases of the lungs. The blood pressure rose to 180 systolic and 70 diastolic, and on the sixth day after the transfusion the nonprotein nitrogen level of the blood was 109 mg. and the creatinine level 6 mg. per hundred cubic centimeters. On the eighth day after the transfusion, gradual diuresis began, associated with definite improvement in the patient's condition. The daily urinary output was 825, 930, 1,150, 1,890, 2,400 and

2,600 cc. The nonprotein nitrogen level fell to 33 mg. per hundred cubic centimeters nineteen days after the transfusion. Five weeks after the transfusion a successful splenectomy was performed before which four transfusions of 500 cc. of citrated blood were given without a reaction. There was no recheck of the blood typing or cross matching.

COMMENT

The accompanying tables summarize the observations on our 13 cases. The blood of 7 of the patients was type IV (Moss). In 2 of the cases no blood grouping was done, but in all 13 cross agglutination tests between the recipient and the donor were reported as satisfactory prior to the transfusion. Reexaminations of the blood grouping and cross matching were obtained in 6 patients after the reaction to the transfusion. We are personally satisfied as to the thoroughness of the recheck in 4 of these cases. The blood of donor and recipient in these were all incompatible. In the 2 other cases there was no evidence of incompatibility. One of these patients was given warmed, hemolyzed blood which had remained in the bank for eight days. Baker¹² has reported an instance of renal insufficiency probably due to overheating blood with resultant hemolysis. DeGowin's¹³ recent work seems to indicate that the warming of blood prior to administration adds a hazard to the procedure. He finds that cold blood can be given with complete safety. In case 2, 24 hour old stored blood was used, but careful cross matching and retyping by two different laboratories failed to furnish any evidence of incompatibility. We did not have an opportunity personally to recheck this blood.

Moss⁴ in 1910 said: "Isoagglutination may occur independently of isohemolysis but isohemolysis is probably always preceded or accompanied by isoagglutination." Cases 5 and 6 of our series indicate that this generalization is not tenable, as in both these cases hemolysis of the donor's cells occurred without concomitant agglutination. Bernheim,¹⁴ Kolmer¹⁵ and DeGowin and Baldrige¹⁶ have found, too, that hemolysis of the donor's cells by the recipient's serum is not necessarily preceded or accompanied by agglutination. It seems apparent, therefore, that our present routine examinations for compatibility between the donor's cells and the recipient's serum is inadequate and therefore does not always prevent the use of incompatible blood. We feel that the usual cross matching preparations should be incubated for one hour at 37.5 C. and that tube preparations by the Landsteiner technic² should be employed.

It has been clearly shown by Strumia and others¹⁷ that citrated plasma is as valuable as whole blood in combating secondary shock. It is, therefore, unnecessary to give emergency transfusions if a plasma bank is maintained. The use of plasma will avoid the necessity of hurried typing by persons of little experience and thereby prevent serious or fatal reactions.

Experimental work with animals¹⁸ indicates that renal failure does not occur when hemoglobin is trans-

12. Baker, S. L.: Urinary Suppression Following Blood Transfusion, with Report on a Case Probably Due to Overheating the Blood, *Lancet* 1: 1390 (June 12) 1937.

13. DeGowin, E. L.; Hardin, R. C., and Swanson, L. W.: Transfusion of Cold Blood in Man, *J. A. M. A.* 114: 859 (March 9) 1940.

14. Bernheim, B. M.: Blood Transfusion, Philadelphia, J. B. Lippincott Company, 1917, p. 54.

15. Kolmer, J. A.: Isohemolysis in the Blood Without Isoagglutinins, *J. A. M. A.* 73: 1459 (Nov. 8) 1919.

16. DeGowin, E. L., and Baldrige, C. W.: Fatal Anuria Following Transfusion: Inadequacy of Present Tests for Compatibility, *Am. J. M. Sc.* 188: 555 (Oct.) 1934.

17. Strumia, M. M.; Wagner, J. A., and Monaghan, J. F.: The Use of Citrated Plasma in the Treatment of Secondary Shock, *J. A. M. A.* 114: 1337 (April 6) 1940.

18. Baker and Dodds.⁸ DeGowin, Osterhagen and Andersch.⁹

fused if the urine of the recipient animal is alkaline. It therefore seems desirable to give alkalis to all patients prior to transfusion.

Immediate reactions occurred in 6 of our cases, but in only 2 of these was the operator wise enough to stop the transfusion before the intended amount of blood had been given. One patient received 350 cc. and the other 250 cc. of blood. Both recovered, as did the 1 other patient who received less than 350 cc. of blood. This seems to indicate that there is a correlation between the outcome and the amount of blood given.

We have been impressed by the frequency and persistence of nausea and vomiting. In 2 patients these symptoms occurred as an immediate reaction. Involuntary defecation occurred in 3 of the 6 patients experiencing an immediate reaction. Hemoglobinuria developed in 11 patients, jaundice in 8, stupor in 11, edema in 6 and oliguria in all 13 patients. Retinal hemorrhages were found in 2 instances though there is no record of examination of the fundus in the majority of the cases. Of the 7 patients on whom observations of blood pressure were recorded after the reaction, 4 had hypertension. Azotemia and acidosis existed in all the cases studied. No correlation could be found between these and the ultimate outcome.

The frequency of leukocytosis has not been previously emphasized. It was present in all 11 cases in which the leukocytes were counted after the reaction. The leukocyte counts ranged from 10,000 to 74,000 per cubic millimeter, with an average of 25,000. In the great majority of instances there was a significant increase in the polymorphonuclear leukocytes with a shift to the left in the Schilling index. The striking leukocytosis is not unlike that seen in poisoning with mercury bichloride, in which there is also extreme damage to the renal tubules. We find no prognostic value in the level of the leukocyte count.

There were 7 deaths among the 13 patients, a mortality of 54 per cent. The duration of life after onset of the condition in the fatal cases ranged from three to thirteen days. In the nonfatal group diuresis began in from three to nine days after the transfusion.

Permission for autopsy was obtained in 4 of the 7 fatal cases. In all instances the kidneys were large, swollen and congested. The sections all showed interstitial edema, leukocytic infiltration, dilatation of the tubules and degenerative changes of the tubular epithelium. In 2 cases the tubules were filled with enormous quantities of reddish brown, granular pigment, probably acid hematin. The microscopic picture in those 2 cases strikingly resembles the change produced experimentally in dogs by DeGowin.¹⁰ In the other two there was some deposition of granular and hyalinized material in some of the tubules. In only 1 instance was there necrosis of the liver cells about the central veins. The liver showed considerable congestion in the remaining 3 cases. The pathologic examinations confirm the observations of Bordley, DeGowin and others but add nothing to our knowledge of the pathogenesis of the lesions.

CONCLUSIONS

Among 13 patients with renal insufficiency following transfusion 6 recovered and 7 died.

An immediate or delayed reaction occurred as a result of the transfusion and was followed by nausea, vomiting, hemoglobinuria, jaundice, oliguria, stupor and uremia.

Leukocytosis was present in all cases in which the leukocytes were counted.

Of 6 cases in which the blood grouping and cross matching were rechecked the blood in 4 was shown to be definitely incompatible. Of the remaining 2, in 1 warmed, hemolyzed, stored blood 8 days old was given.

Isohemolysis unaccompanied by isoagglutination was found in 2 cases. This accounted for the error in cross matching and caused the hemolytic reaction.

More careful cross matching of the blood of donor and recipient by the use of tube preparations incubated at 37.5 C. for one hour will prevent some of the errors and save lives.

Citrated plasma should probably replace whole blood in the treatment of secondary shock and hemorrhage.

Alkalis should be administered to all patients prior to transfusion.

The pathologic changes in the kidneys in 4 fatal cases consisted of interstitial edema, leukocytic infiltration, degeneration and necrosis of the tubular epithelium and the deposition in the renal tubules of granular pigment derived from hemoglobin. One case showed central, focal necrosis of the liver cells.

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Clinical Notes, Suggestions and New Instruments

TRAUMATIC IMPLANTATION OF EPITHELIAL CYST IN A PHALANX

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The occurrence of an epithelial cyst enclosed within the bony structure of a phalanx of a finger is a rare condition, for such a case has not been reported in the medical literature of this country. Neither can it be found mentioned in the recent textbooks of general and orthopedic surgery, of tumors and also of bone diseases. So to present a case in which it was found should be of interest. An explanation of its origin embraces two possibilities: first, that of congenital malformation with inclusion of aberrant epithelial cells, comparable to the formation of a simple dermoid cyst; second, that of traumatic implantation.

CASES REPORTED

Five cases have been found recorded in the European medical literature; this presentation makes a sixth case, the first in America.

The first recorded was one by Sonntag¹ in 1923: A young female injured the left hand in a machine, crushing the terminal phalanx and the distal part of the middle phalanx, which necessitated an amputation at the distal end of the middle phalanx. Twenty-four years later, after several minor injuries, there developed a swelling in the end of the stump, which was thought to be, clinically and by roentgen examination, a sarcoma. Histologically, however, it proved to be an epithelial cyst, supposedly of traumatic origin.

Burrows' case,² reported in 1926, was that of a man aged 47. When only 11 years old he ran a piece of wire deeply into the left thumb, but he did not know whether the wire went into the bone or not. In 1925, thirty-five years after the injury, he noticed that the end of this thumb was swollen. Then six months later a piece of metal fell on his thumb, which became tender and painful. On examination the thumb

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Mr. George Mollo of the Research Department of the Forstmann Woolen Company, Garfield, N. J., assisted in the preparation of the photomicrographs.

Epithelzysten im Knochenende an einem
München. med. Wchnschr. 70: 1055-1056.

2. Burrows, H.: Implantation Dermoid of Terminal Phalanx of Thumb. Brit. J. Surg. 13: 761-762 (April) 1926 (illustrated).

was swollen, reddened, tender and hot to the touch. Roentgen examination showed the terminal phalanx occupied almost completely by a ramifying cyst. At the operation a lateral incision was made, and immediately under the skin there was found a mass of white material resembling hydrous wool fat, which was pure white. This mass almost completely surrounded the phalanx and was not enclosed by a cyst wall. The terminal phalanx was amputated. Examination of the specimen showed that the bone was occupied by a single ramifying cyst with a white glistening lining. The wall was formed by a dense, almost acellular, fibrous tissue lined by stratified epithelium, which showed a prickle cell layer and stratum granulosum, and no papillae. The tissues showed no evidence of inflammation. The diagnosis was an implantation dermoid cyst which had been ruptured by a direct injury, thus becoming diffused.

Friedländer's case,³ reported in 1930, was that of a boy aged 13 years who had injured his left index finger one year previously on the spokes of a bicycle wheel. Several months later the finger began to swell, but there was little pain. Roentgen examination revealed a transparent cyst occupying two thirds of the distal phalanx with a very thin covering of unbroken cortical bone. Amputation was performed at the distal joint. The specimen showed a smooth cyst with a clear lining and contents of a yellowish flaked material. The inner lining of the cyst was that of a keratinized epidermis which lacked continuity in one place where there was intermingling granulation tissue, giant cells and some squamous epithelial cells.

Hammann's cases,⁴ reported in 1930, was that of a man aged 31 who had injured his right hand sixteen years before. The right index finger had been struck with a hammer. The skin was lacerated and the nail bed was injured. At that time the nail was removed and the wound healed without infection. Later the nail regrew. One year previously, the finger began to swell and hurt whenever it was struck. The roentgenogram showed the following: In the anteroposterior



Fig. 1.—Epithelial cyst within the terminal phalanx: A, anteroposterior view; B, lateral view.

view of the terminal phalanx there appeared a small cystic homogeneous transparent mass destroying the bone on the radial side. On the ulnar side there was normal bone from 2 to 3 mm. in thickness. In the lateral view the cyst occupied

the bone completely under the nail bed, while on the volar surface there was a 3 mm. thickness of normal bone. At operation a lateral incision was made, the cyst dissected out, the bone curetted and the wound closed. The specimen was that of a small white round tumor distinctly encapsulated and forming a cyst lined with epithelium and having its contents partly encrusted with calcium. About one fourth of the epi-

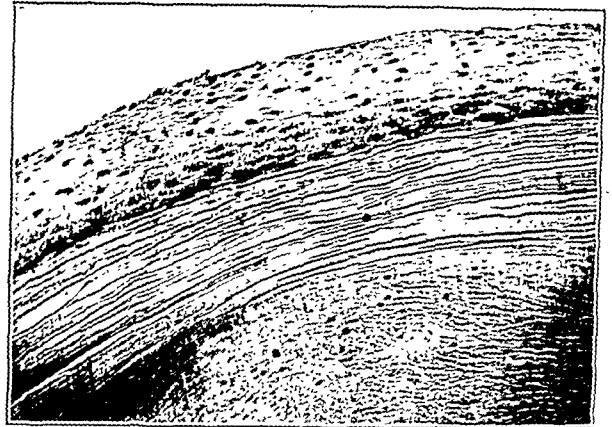


Fig. 2.—Section of epithelial cyst from phalanx showing stratified layers and dense keratinized contents.

thelial lining was thickened and showed a typical stratified structure.

Behrens⁵ in 1931 reported the examination of a specimen sent to him by Valentin. This had been removed from the terminal phalanx of the right fifth finger of a man. In 1918 he had had a slight injury to the finger by a shell splinter. In 1923 he had again injured it, this time splitting the nail bed. In 1929 it became painful and swollen, and the terminal phalanx was amputated. On examination the specimen showed an epithelial cyst in the phalanx underneath the nail bed with a granuloma protruding from the bone underneath the nail.

REPORT OF CASE

History.—A woman aged 39, seen in January 1940, had two years previously injured the terminal phalanx of her right fourth finger by catching it in an orange juice mixer. There was a laceration, and the nail was almost completely avulsed. She was treated at that time in the dispensary. The nail

Summary of Five Cases in Literature

Name	Previous Injury, Finger Years Affected	Phalanx Affected	Pain	Swelling	Cyst	Cortex Broken
Sonntag.....	24 4th	Middle	+	+	+	..
Burrows.....	36 1st	Distal	..	+	+	+
Friedländer.....	1 2d	Distal	+	+	+	+
Hammann.....	16 2d	Distal	+	+	+	+
Behrens.....	13 5th	Distal	+	+	..	..

was removed and the finger was dressed. There was no complication by infection. The finger healed completely and the nail regenerated. She noticed a slight swelling of the end of the finger for several months. For the past three weeks there had been moderate pain, especially when the finger was struck.

Examination and Treatment.—Examination revealed diffuse swelling of the soft tissue at the terminal phalanx of the right fourth finger. Deep pressure was painful but superficial pressure on the soft tissues caused no pain. There was no redness and no local heat. Motion was normal. A roentgenogram (fig. 1), taken January 8, revealed the following: In the anteroposterior view there was a circular area of destruction of the cortex of the terminal phalanx of the right fourth finger, well localized and transparent. The lateral view showed that the destructive process had penetrated the periosteum on the radial side of the phalanx and that there was some swelling

3. Friedländer, C.: Tumors, Dermoid: Traumatic Epithelial Cyst in Terminal Phalanx of Forefinger; Case, *Zentralbl. f. Chir.* 57: 209-212 (Jan. 25) 1930.

4. Hammann: Tumors, Dermoid: Traumatic Epithelial Cysts of Phalanges of Hand, *Deutsche Ztschr. f. Chir.* 223: 308-317, 1930.

5. Behrens, A.: Traumatic Epithelial (Dermoid) Cysts: Three Cases, *Virchows Arch. f. path. Anat.* 280: 145-151, 1931.

of the soft tissues. At operation, January 11, under ethylene anesthesia, an incision was made on the lateral surface of the terminal phalanx curving over the tip. The incision was carried down to the bone, which was easily entered with a fine chisel. When a fine curet was inserted into the cavity of the bone a small white mass popped out. There was no pus present. A culture was taken of material from the wound and the cavity in the bone was curetted gently and thoroughly. A small petrolatum pack was inserted into the bone cavity and the wound was closed. Five days later the petrolatum drain was removed, and the wound healed subsequently without any discharge. The culture taken from the finger showed no growth.

Pathologic Report.—The specimen consisted of a small mass of soft tissue from the distal phalanx of the fourth finger of the right hand. It measured 0.5 cm. in diameter, and the external surface gave the appearance of distinct encapsulation.

Microscopic examination (fig. 2) showed a thin wall formed by stratified squamous epithelium surrounding a nest of keratin debris, in the formation of which there was no parakeratosis. The stratum granulosum and rete mucosum were thick. The basal layer did not accompany these except in one place, where only a minute fragment was attached.

Postoperative Course.—The end of the finger remained slightly enlarged but was not tender. The patient was discharged, to return to the outpatient department. Roentgen examination at the time of discharge was the same as the first except that it demonstrated a fracture line through the external wall of the phalanx which was the point of entry of the curet at the operation.

SECOND ADMISSION

In June, five months later, the patient returned complaining that there had been gradually increasing tenderness of the finger but no increase in swelling. Roentgen examination (fig. 3) revealed that the fracture line showed no evidence of callus formation, and the general appearance of the lesion was similar to that found originally. Accordingly it was decided to excise the distal half of the phalanx. Under gas-ether anesthesia a U-shaped incision was made over the tip of the finger, and the distal half of the phalanx was excised. The pathologic specimen presented a piece of osseous tissue measuring 9 by 7

the vascular net of bone marrow, and around the circumference of the cystic opening there was a mild degree of osteitis.

The wound healed without any trouble. The swelling of the finger gradually decreased. Roentgen examination (fig. 4) at the time of the discharge two months later showed an amputation of the distal half of the phalanx and no evidence of pathologic changes in the remaining portion of the bone.

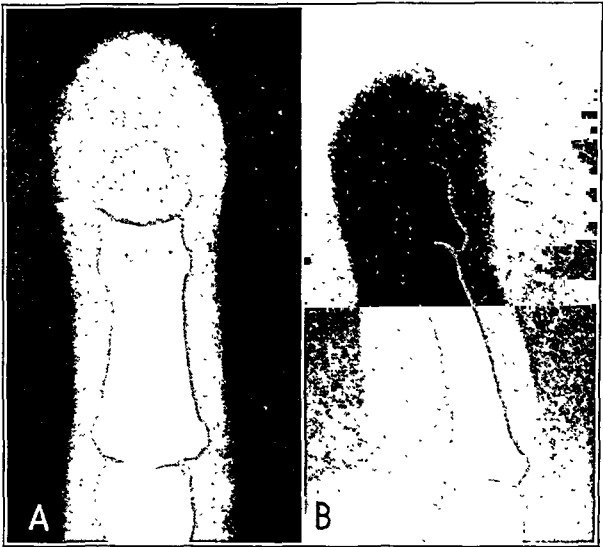


Fig. 4.—Amputation of the distal half of the phalanx: A, anteroposterior view; B, lateral view.

COMMENT

Every case, including the one reported here, presented a history of trauma, and it was either a penetrating one or a crushing one, damaging the nail bed. In 2 cases subsequent injuries caused rupture of the bone tumor and encroachment by it into the soft tissues.

These cysts, although within the bone, were like the implantation cysts that have been found in the soft tissues of the palmar surfaces of the fingers and hand, especially in tailors and seamstresses, as noted by Long.⁶ So a discussion of the means of implantation of the subcutaneous cysts would be applicable to these bone cysts. There are presented two different theories concerning their etiology: Friedländer claims that there is a congenital maldevelopment with embryonal misplacement of epithelial cells into the bone and that these are stimulated to growth by the injury. Franke⁷ agrees that the cysts are of congenital origin but holds that trauma is not essential as an exciting stimulus. On the other hand, Reverdin⁸ and Garré⁹ emphasize the presence of trauma in every case and believe that the epithelial cells are implanted at the time of the injury. This view is supported by the experimental work of Schweningen¹⁰ and Kaufmann,¹¹ who succeeded in growing epithelial cysts after transmitting epithelial tissue into the cock's comb. Wörz¹² presents a case in which an epithelial cyst developed subcutaneously from a Thiersch skin graft around an injured ulnar nerve. Pels-Leusden¹³ and Hesse¹⁴ also disagree with Franke concerning the idea of

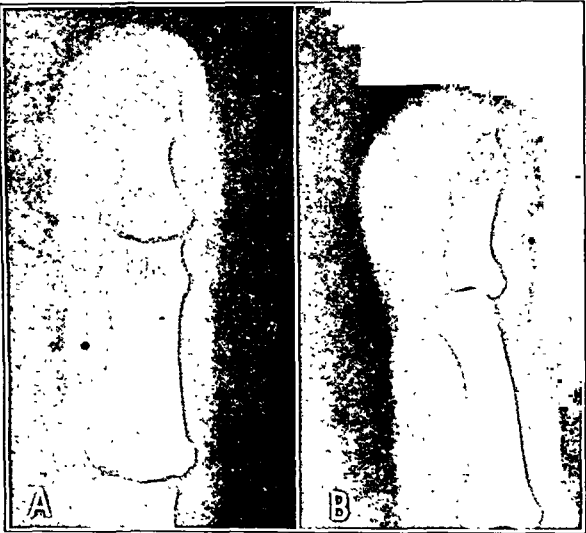


Fig. 3.—A, anteroposterior view, and B, lateral view, showing no evidence of callus formation of the fracture line after the first excision.

by 4 mm. which had the consistency of normal bone. Lying within a cavity in this portion of bone was a piece of whitish hairlike tissue which had the consistency of a heavy rubber ball, and it measured 4 mm. in diameter. This was easily shelled out of the phalanx. Microscopically the cyst presented exactly the same picture as the previous one. The portion of the phalanx, microscopically, presented marked congestion of

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8. Reverdin, J. L., and Mayor, A.: Des kystes epidermiques des doigts, *Rev. med. de la Suisse Rom.* 7: 121-139, 1887.
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11. Kaufmann: Ueber Enkatarrhapie von Epithel, *Virchows Arch. f. path. Anat.* 97, 1884; Ueber experimentelle Erzeugung von Atheromen, *ibid.* 107, 1887.
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13. Pels-Leusden: Ueber abnorme Epithelisierung und traumatische Epithelcysten, *Deutsche med. Wchnschr.* 31: 1340-1342, 1905.
14. Hesse, F. A.: Die Entstehung der traumatischen Epithelcysten, zugleich eine kritische Studie über die Atheromliteratur, *Beitr. z. klin. Chir.* 80: 494-545, 1912.

congenital origin. They demonstrated by experiments that injury to the deep appendages of the skin, even without breaking the continuity of the skin, can cause epithelial cysts to form in the subcutaneous tissue. Hammann, on reviewing the literature, also emphasizes his belief in the traumatic origin. He stated that there had never been observed congenital cysts of the hand and fingers and that therefore it is a misnomer to consider them as genuine dermoids, such as those found in the region of the eye and frontal bone. Behrens, discussing his case of epithelial bone cyst, also thinks that trauma had caused a transplantation of the epithelium and reasons that a fracture must have taken place.

In the face of all the evidence, it is difficult to accept the view of congenital origin, for trauma was a constant finding. Since in all cases it was considered relatively slight, no roentgenograms were taken at the time of the original injury to show whether a fracture was present or not. In Sonntag's case the bone was definitely injured, presenting a clearcut channel for the implantation of the epithelium. It is known that the epithelial cell is a hardy one and an actively growing one. It has a remarkable ability to regenerate under conditions that would be unfavorable for growth of other more specialized tissues, as exemplified by the comparative ease of surface wound healing and grafting of skin. It is also significant that none of these tumors presented evidence of sweat and sebaceous glands or hair follicles. It is well known that surface epithelium, when it does regenerate, produces a smooth layer of cells without reformation of any specialized epidermal structure. We feel, therefore, that these tumors are caused by the implantation of epithelial cells into the bone as a result of the injury. This could take place through the smallest kind of a fracture or even by transmission along the vascular channels. It is further significant that in all cases the lack of infection is noted. If infection had taken place at the time of the original injury, the epidermal cells could not have survived. They would have been destroyed by the infectious process and extruded in the process of repair.

In all the cases the tumor grew from within the bone, destroying and thinning the cortex by pressure necrosis. In 2 cases, following a second injury, the cortex was broken through and the tumor encroached on the soft tissues of the finger. The rate of growth of the tumor appears to be quite slow. In 4 cases the injury was sustained from thirteen to fourteen years before the appearance of symptoms, while in Friedländer's case the interval was one year and in our case two years. The pathologic picture was the same in all cases. Grossly the tumors consisted of a whitish, well circumscribed, encapsulated mass of soft tissue not adherent to and easily separated from the bone. Microscopically it showed well defined stratified squamous epithelium.

It is felt that this tumor has a benign character, although it may recur locally if it is not completely removed, which happened in this case. In respect to the treatment, it is felt that amputation is not necessary, because of the benign character of the tumor, unless it has grown to such a size that it has destroyed a considerable part of the phalanx. Otherwise, simple excision should suffice for a cure. The gross appearance of the tumor is so typical that the character of the growth can be readily recognized at the time it is removed.

SUMMARY AND CONCLUSIONS

1. The occurrence of a stratified squamous epithelial cyst within a phalanx has been recognized in 6 cases.
2. Trauma was present in all the cases.
3. There was no infection complicating the effect of the trauma in any of the cases.
4. The interval between the time of injury and the onset of symptoms was relatively long.
5. The tumor evidently grew from within the bone outward.
6. The macroscopic and microscopic pictures had a marked uniformity in all the cases.
7. No recurrence has been reported following treatment by amputation.

34 Grove Street.

SPERMATIC CORD TUMORS REPORT OF A FIBROMYXOLIPOMA

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AND

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Reports of neoplasm of the spermatic cord and tunics of the testicle are few, only 247 being on record June 10, 1939, and the current textbooks rarely more than mention it. The accompanying table, a compilation from the literature by Schulte, McDonald and Priestley,¹ shows their number and distribution as to type and malignancy. Since that study was published the *Quarterly Cumulative Index Medicus* has, up to April 1940, listed three other cases of spermatic cord tumor. The present report then brings the total of such tumors to at least 251.

Quinby² and a small number of other authors have reported lipofibromyxomas, but the summary table by Schulte and his associates¹ does not list this tumor as such, though it is referred to in the text of their article. Of the spermatic cord tumors, lipomas constitute 36.4 per cent, while those composed of fibrous tissue, the fibromas and fibrosarcomas, make up 19.8 per cent. Some authors list and describe certain growths under the term "mesodermal tumors." Rubaschow³ in 1926 listed

Tumors of the Spermatic Cord Reported in the Literature

Benign		Malignant	
Lipoma	90	Fibrosarcoma	15
Fibroma	34	Leiomyosarcoma	2
Leiomyoma	3	Rhabdomyosarcoma	2
Myoma	4	Sarcoma	39
Dermoid	14	Reticulosarcoma	1
Teratoma	1	Lymphosarcoma	1
Lymphangioma	5	Myxochondrosarcoma ..	2
Hemangioma	4	Carcinoma	3
Myxoma	1		
Myxofibroma (possibly neurogenic)	1		65
Neurofibroma	1	Unclassified	6
Cystadenoma	1	Other mesodermal tumors	17
	159	Total tumors	247
Benign tumors, approximately.....		71 per cent	
Malignant tumors, approximately.....		29 per cent	

Compiled by Schulte, McDonald and Priestley.

twenty-seven such tumors in the literature. Other authors divide them into myxolipomas, myxofibromas, myxolipofibromas, myxofibrosarcomas, myxochondrosarcomas and so on. Essentially, the tumors of the spermatic cord are derived from tissues of mesodermal origin. The exceptions are the single case of cystadenoma and the three cases of carcinoma. One may properly ask whether these did not originate from or in a teratoma or some less definite embryonal displacement. Some authors do not give to neoplasms terms that are inclusive of all elements and are content to list a given tumor under its most dominant cell type. This is an especially common procedure when the two or more cell types are derived from the same embryonic layer and are as closely related as fibrous and myxomatous elements.

From a review of the literature, and in reporting forty-one cases of tumors of the spermatic cord, epididymis and testicular tunics, Thompson⁴ concluded that approximately 70 per cent of all tumors of the spermatic cord, 40 per cent of tumors of the epididymis and 60 per cent of tumors of the testicular tunics are benign, while tumors of the testis almost without

1. Schulte, T. L.; McDonald, J. R., and Priestley, J. T.: Tumors of the Spermatic Cord: Report of a Case of Neurofibroma, *J. A. M. A.* **112**: 2405-2406 (June 10) 1939.

2. Quinby, W. C.: Tumors of the Spermatic Cord and Testicular Tunics, *Tr. Am. A. Genito-Urin. Surgeons* **30**: 385-391, 1937.

3. Rubaschow, S.: Die soliden Geschwülste des Nebenhodens, *Ztschr. f. Urol.* **20**: 290-297, 1926.

4. Thompson, G. J.: Tumors of the Spermatic Cord, Epididymis and Testicular Tunics: Review of Literature and Report of Forty-One Additional Cases, *Surg., Gynec. & Obst.* **62**: 712-728 (April) 1936.

exception are highly malignant. Schulte and his associates¹ record essentially the same conclusions for spermatic cord tumors, 71 per cent being benign.

The tumors or tumor-like swellings within the scrotum call for more consideration. The differentiation of tumors of the cord, the epididymis, the testicular tunics and the testicle from developmental defects, traumatic swellings, simple inflammatory lesions (as pyocele or orchitis), tuberculosis, leprosy or syphilis (taking the form of granulomas, spermatoceles, hydroceles, hematoceles and extravaginal hematomas) and hernias is an important one from the standpoint of treatment and prognosis and for the conservation of a masculinization organ, the one source for spermatozoa and certain sex differentiating and activating hormones. A carefully taken clinical history is very important and often leads to the diagnosis. Transillumination is essential, while aspiration of contents followed by physical, cytologic and bacteriologic examinations is commonly the source of a diagnostic finding. The biologic test for gonadotropic substance is necessary for the differentiation of certain testicular tumors and tumors of the spermatic cord. Biopsy, or preferably frozen section diagnosis, is desirable in many cases, and certainly when doubt exists.

REPORT OF CASE

W. G. D., aged 85 and well preserved, has been an outdoor man all his life, active, a farmer accustomed to horseback riding; he still spends several hours weekly in the saddle. He had mumps when he was a boy but there was no associated orchitis; he has never used tobacco or alcoholic beverages in any form. The family history has no bearing on his present condition. He has had no serious illness and has not lost any weight during the last ten years.

Pursuant to fence and tree climbing habits of boyhood days and horseback riding, he recalls many painful experiences of traumatic injury or crushing of the testicles. In the late 1920's a hydrocele or "water seed" of the right side developed. Numerous aspirations resulted in the withdrawal of clear amber colored "beerlike" fluid, and eventually this ceased to form.

During the year 1929 he noticed a swelling of the left side of the scrotum which was not painful. He consulted several physicians from time to time and by aspiration some obtained small quantities of clear fluid, but there has been no permanent benefit. When seen by one of us (J. F. J.) six years ago there was a movable, nontender, painless, firm but compressible tumor, opaque to transillumination beneath the scrotal skin of the left side to which it was not adherent. It appeared to be attached to but not a part of the testicle. At one pole there was a softer area, but on aspiration no fluid was obtained. Surgical removal was advised but the patient withheld consent. Failing to obtain medical relief, the patient resorted to efforts at self aspiration or he had a farmer son introduce a large needle from time to time, and occasionally a little fluid was removed.

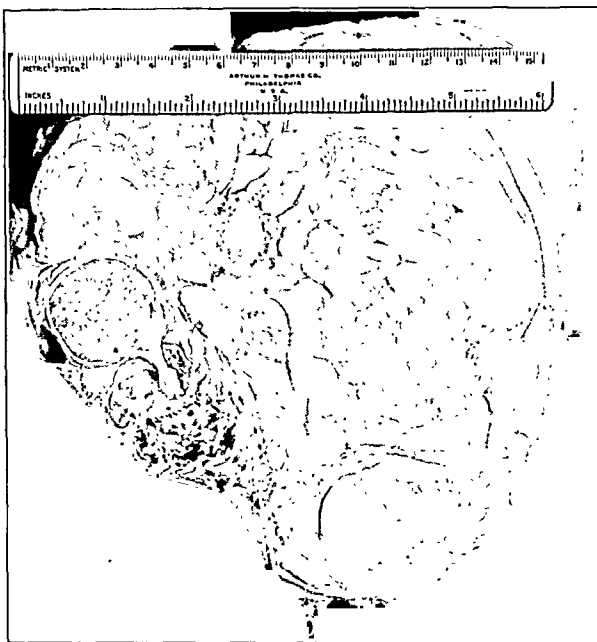
The growth slowly increased in size and without pain. With this development the penis became retracted to such a degree that a dimple in the skin represented its opening, and the urinary stream could not be controlled as to direction.

The patient returned to J. F. J. May 22, 1939, following amateur attempts at aspiration, with the tumor in the left side of the scrotum much increased in size, painful and now adherent over an area roughly 4 by 5 cm. to the covering skin, which was a purplish red, thickened, indurated and glistening. He stated that for several days he had had a fever, with soreness, tenderness and pain in the left side of the scrotum. Through the adherent skin slight fluctuation was elicited. The inguinal lymph nodes were not enlarged. The temperature was then 103 F. and the patient was complaining of chilliness and considerable local pain. He was hospitalized and given a pain relieving drug with local applications of alternate cold and heat. For several days there was a septic temperature and the patient appeared quite ill. On June 3 the temperature was 99 F. and under a general anesthetic the tumor mass, surrounded by the tunica vaginalis communis with the attached left testicle and the now adherent portion of inflamed scrotum, was removed in toto. The tumor was continuous upward along

the course of the spermatic cord as high as the external inguinal ring. During the preoperative period in the hospital the temperature at one time reached 104.6 F., though on several days the highest recorded was 102.

Other preoperative manifestations were moderate prostatic enlargement, varicosities of the external hemorrhoidal veins, a blood pressure of 150 systolic, 90 diastolic, and negative reactions to the Kahn and Kline tests. The blood picture twenty-four hours prior to operation was erythrocytes 4,950,000, hemoglobin 87 per cent (Sahli) and leukocytes 14,300, with 80 per cent neutrophils and 20 per cent lymphocytes. The urine contained a trace of albumin, an occasional red blood cell and numerous leukocytes, with a rare hyaline cast.

At operation the inguinal canal was not opened and it was found not to be encroached on by the tumor. The entire left scrotal content covered by the tunica vaginalis communis unopened was removed with the portion of scrotum that was adherent to the tumor. The tunica contained some clear, colorless, slightly viscid fluid. The surgical wound was closed except for a space at the lower portion of the scrotum, through which a rubber dam drain was inserted.



A fibromyxolipoma of the spermatic cord. Marginal to the uninvolved testicle is an abscess resulting from self or amateur attempts at aspiration.

Postoperative convalescence was uneventful. The patient left the hospital "on foot" June 16, still showing evidence of a mild infection of the urinary tract.

PATHOLOGIC REPORT

The specimen, M-39-156, weighed 1,425 Gm. and was composed of testicle, tunics and tumor as a mass, measuring 20 by 14 by 8 cm. The tumor, shown in the illustration, was smooth surfaced, well encapsulated and of firm but somewhat rubbery consistency. On surface by section the specimen, which was solid, was composed largely of adipose tissue. The cut surfaces showed strands of connective tissue coursing across the fat, and several small islands of softer, pale, opalescent white, moist, gelatinous structure. At one side was a well circumscribed, encapsulated, grossly normal appearing testicle, and marginal to it but within the tumor was a 4 cm. area of liquefaction necrosis and an accumulation of grayish yellow purulent exudate.

Microscopically the tumor was composed of adipose, fibrous and myxomatous tissues, each of adult appearing well differentiated cellular elements and bearing scant vascular channels. Neither mitotic figures nor areas of marked cellularity could be found. Sections of the testicle showed a slight atrophy of

the acini and a moderate hyperplasia of the interstitial cells of Leydig. The tissue surrounding the abscess was composed of a very heavy cellular wall infiltrated by endothelial leukocytes, many of which contained engulfed fat globules and droplets and some cellular debris. In the central portion of the abscess complete dissolution of normal tissue structure had occurred and there was an invasion by myriads of polymorphonuclear neutrophils.

The diagnosis was fibromyxolipoma of the spermatic cord with an area of necrosis and suppurative inflammation (abscess) and simple atrophy of the testicle with hyperplasia of interstitial cells of mild degree.

The patient when seen on June 18, 1940, appeared to be in good health, but there was urinary retention of from 40 to 50 cc.; urinalysis revealed pyuria of minimal degree, an occasional caudate epithelial cell, a few red blood cells and a trace of albumin but no casts. There was nocturia (three or four times). The prostate was moderately enlarged, compressible and not indurated or fixed, as determined by rectal examination. The blood pressure was 140 systolic, 90 diastolic, and the hemoglobin content and erythrocyte and leukocyte values were within the range of normal.

SUMMARY

A report of a fibromyxolipoma or "mesodermal tumor" of the spermatic cord is added to the twenty-seven reports of such tumors listed by Rubaschow³ in 1926. There appears to be a need for greater study of the diseases of the testicle, its tunics and the spermatic cord and a more rigid adherence to terminology.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING ARTICLE.

HOWARD A. CARTER, Secretary.

EXPLOSION HAZARD IN ANESTHESIA

Preliminary Statement

Explosion may be caused by anything which can ignite explosive mixtures. They have been caused by hot wire cautery, cutting diathermy knife, x-ray equipment, discharge of static charges with sparking. At least one ether fire was caused by an arc when a plug connector was pulled from its socket while carrying current. The American Society of Anesthetists has assembled over two hundred cases and there are probably other causes, but the aforementioned indicate the more common causes and serve to indicate the nature of reasonable precautions.

Static charges can accumulate only on insulators or insulated conductors, and they may be avoided by the use of shoes with conductive soles and by floors which are conductive and by not insulating operating tables and other fixtures such as the anesthesia apparatus. It has been common practice to wear shoes with soles and heels of rubber or artificial substitutes, all of which insulate the wearer. The use of rubber casters, rubber tired wheels and rubber crutch tips on operating room furniture insulates it. Floors of tile are relatively poor conductors unless specially treated. Floors of linoleum, especially when waxed as usual, are not only insulators but excellent generators of electric charges by friction. Rubber tubing, face masks and breathing bags of anesthesia apparatus are a distinct hazard.

Floors of plain unpainted and unwaxed concrete are usually fairly good conductors from the point of view of this discussion and in modern iron frame buildings give adequate ground connection to leak electricity away so that there will be little likelihood of spark discharge. Most terrazzo floors are sufficiently conductive. Wood floors are entirely unsafe. Experiments indicate that a resistance of a megohm or less to ground for the total circuit will prevent sparks. Tile floors become good conductors when mopped with 4 per cent solution of calcium chloride. No soap should be used on such floors until the calcium chloride has been removed with water; otherwise an

insoluble lime soap is formed. The treatment must be given every time the floor is washed. The floor appears to dry, but it retains surface moisture. If the tile floor is washed with water it will usually be a good insulator in an hour. A tile floor requires treatment each time it is washed. Terrazzo floors may be treated similarly if found not sufficiently conductive and are especially advisable in winter in cold climates. Floors of "magnesite" appear to be highly conductive. This material is being investigated.

Ordinary leather shoes are usually sufficiently conductive if the soles are frequently dampened. When worn outdoors in rainy weather they are highly conductive. In dry weather they may become dangerously nonconductive. Instruments of a simple and relatively inexpensive character have been designed and should be available for testing resistance of shoes and floors. Tests should be made daily, and shoes and floors treated if not found in proper condition.

Conductive rubber which is flexible and resilient has recently been developed by several makers. It should be used for the parts of the anesthesia apparatus but must be tested frequently. As at present available it will retain its conductivity long enough to be most useful and it is not too expensive. However, this rubber deteriorates especially when repeatedly flexed or stretched excessively. *Shoe soles made of it are conductive. One pair examined lost its conductivity after four months when purposely abused.* Investigations are now in progress looking to improvement of this conductive rubber. Since no other way is known to insure safety of the anesthesia apparatus, this conductive rubber should be adopted at once until a better product is available. Leather shoes may be used pending improvement of the lasting qualities of the conductivity.

All electrical equipment to be used in operating rooms should be of approved design and construction and should be examined and tested at stated intervals to determine its continued fitness. Routine examinations of insulation resistance should be made at frequent intervals.

Motors used in operating rooms to drive bone saws, suction apparatus and ether anesthetic apparatus should be of approved explosion proof design or enclosed in approved explosion proof cases. These should bear a label or plate stating that the device has been passed by proper authority as explosion proof.

Electric outlets should be of such design and construction that plugs cannot be inserted when the current is on nor removed when it is on. All switches should be of approved explosion proof construction, especially foot switches when ether is used.

X-ray equipment to be employed in operating rooms should be especially designed and constructed to eliminate danger of sparks igniting combustible gases or vapors. Existing equipment can sometimes be modified to accomplish this. No woolen or silk outer garments should be worn in operating rooms by any person (including visitors); also no garments of such synthetics as rayon and shark skin. Woolen blankets should not be used. Conductive rubberized cloth should be employed for operating table mattress covers and pillow covers as soon as available. It is available now but should not be adopted in quantity until the question of durability is answered.

Treatment of linen used on operating table and stretchers on which anesthetized patients are moved may be given to increase its electrical leakage. If dipped in 1 per cent calcium chloride solution and then centrifuged in the manner usual in laundries, it dries so that it cannot be distinguished from ordinary linen by touch, but it is much more conductive. It may be desirable to do this in winter, especially in sections where very low winter temperatures prevail. It will probably not be necessary in summer. Care should always be exercised not to place or remove sheets and blankets with unnecessary suddenness of movement from anesthetized patients. It may not be practical to put linen thus treated through a mangle.

The explosion hazard has been distinctly increased by mixing oxygen with ether vapor and with such gases as ethylene and cyclopropane, all of which are distinctly desirable except for the explosion danger.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

OFFICE OF THE COUNCIL.

SUSPENSION OF EPINEPHRINE IN OIL, 1:500-N. N. R.—Suspension of epinephrine base 1:500-N. N. R. A 0.2 per cent suspension, containing 1 part of epinephrine U. S. P. to 500 parts of vegetable oil.

Actions and Uses.—Injections of solutions of epinephrine salts (1:1,000) are known to provide prompt but transient relief in the treatment of severe attacks of bronchial asthma by relaxation of the bronchial muscles. Recent evidence indicates that injections of vegetable oil suspensions of epinephrine base (1:500) delay but prolong the action of the alkaloid and thus provide more sustained symptomatic relief in this condition as well as in certain cases of hay fever, urticaria, angioneurotic edema and serum sickness. The usual contraindications to epinephrine must be kept in mind. The preparation should not be given to the aged or to patients with hypertension, because of its prolonged pressor effects. Its sustained action may also prolong disagreeable side effects as well as serious reactions due to overdosage in less tolerant individuals. Local reactions due to irritation by the oil, especially when injected subcutaneously, have also been reported. For this reason it is recommended that it be administered intramuscularly and that particular attention be paid to the possibility of scar formation (fibrosis) at the sites of injection. Reactions from the epinephrine itself may be partially avoided by adequate resuspension (shaking) of any precipitate in the oil, the use of a dry syringe and needle, and precaution to prevent injecting directly into the blood stream by withdrawal of the syringe plunger to determine the location of the needle point in relation to a vessel before each injection and caution in the selection of the initial dose. The use of a small caliber needle to minimize trauma to blood vessels is also recommended. Intravenous injection is, of course, contraindicated.

Dosage.—Intramuscularly from 0.2 cc. to 1.5 cc. (0.4 mg. to 3.0 mg. epinephrine base) administered every eight to sixteen hours. The initial dose for adults should never exceed 0.5 cc. (1 mg. epinephrine base) and caution is necessary when subsequent doses larger than 1.0 cc. are employed because of the unusually large amount of active material introduced (1 cc. of the oil suspension 1:500 is the equivalent of 2 cc. of an epinephrine solution 1:1,000) and its more prolonged action. Doses in excess of 1.5 cc. are not recommended.

Epinephrine in oil occurs as a pale yellow to white milky suspension from which a white solid settles out on standing. Centrifugate an ampule of epinephrine in oil until the crystals have collected in the bottom, open the ampule, decant the clear oil, and wash the residue with two 1 cc. portions of acetone by decantation: the residue, dried at 75 C., melts above 215 C., when heated at a rate of 8 degrees per minute.

Transfer an accurately measured volume of epinephrine in oil, containing approximately 8 mg. of epinephrine to a centrifuge tube. Centrifuge, wash and dry as described above. Dissolve the residue in 0.40 cc. of normal hydrochloric acid, filter and polarize in a micro-polariscope tube. The specific rotation $[\alpha]_D^{25}$ is between -50.0 and -53.5 degrees.

Shake 1.0 cc. of epinephrine in oil with 5.0 cc. of hundredth-normal hydrochloric acid, add 20.0 cc. of distilled water, shake, filter through a paper previously moistened with water. Discard the first 5 cc. and save the remainder for the test. To 20.0 cc. of 1 per cent potassium iodate solution contained in a 50 cc. flask add 0.50 cc. of normal hydrochloric acid, warm to 38 C., and add 10.0 cc. of the filtrate. At the same time, prepare a standard by the method described above, after adding 5.0 cc. of solution containing 8.0 mg. of U. S. P. epinephrine in 20.0 cc. of hundredth-normal hydrochloric acid to 1.0 cc. of peanut oil. Warm the standard and sample solution for fifteen minutes at 38 C., cool to room temperature, and compare in a colorimeter. The epinephrine content is not more than 2.15 nor less than 1.85 mg. per cc.

Epinephrine in Oil, 1:500-Squibb.—A brand of suspension of epinephrine in oil 1:500-N. N. R.

Manufactured by E. R. Squibb & Sons, New York. No U. S. patent or trademark.

Ampules Epinephrine in Oil 1:500-Squibb, 1 cc.—A suspension of 2 mg. powdered epinephrine crystals in 1 cc. of peanut oil.

LIVER EXTRACT U. S. P. ORAL (STEARNS).—

An aqueous concentrate of the anti-pernicious anemia factor from fresh, edible mammalian (equine) livers, to which has been added alcohol 18 per cent as a preservative. The daily oral administration of 60 cc. (2 fluidounces) has been found to produce the standard reticulocyte response defined as 1 U. S. P. unit (oral) when assayed in cases of pernicious anemia as required by the Council.

Actions and Uses.—Liver extract U. S. P. oral (Stearns) is used in the treatment of pernicious anemia during relapse and for the maintenance of normal health in patients with pernicious anemia. See general article Liver and Stomach Preparations, New and Nonofficial Remedies, 1940, p. 320.

Dosage.—For the average adult patient in relapse, 1 or more oral units daily. The maintenance dose should not be less than 60 cc. (1 U. S. P. oral unit) daily.

Manufactured by Frederick Stearns & Co., Detroit. No U. S. patent or trademark.

Liver Extract U. S. P. oral (Stearns) is prepared from livers selected from healthy animals, U. S. government inspected, and as free from fat as possible. The livers are finely ground and extracted several times with water. After precipitation of the protein by heat, the volume of liquid is reduced in vacuo at a low temperature, alcohol added to bring the alcoholic strength to 60 per cent, the precipitate filtered out, and the filtrate again evaporated. The residue is dissolved in water, and alcohol is added to give a final extract containing 18 per cent of alcohol by volume.

LIVER EXTRACT-ENDO.—A dried, powdered, nitrogenous fat-free, water soluble extract, prepared from fresh mammalian livers. The daily oral dose of approximately 25 Gm. (fifty capsules) has been found to produce the standard reticulocyte response defined as 1 U. S. P. unit (oral) when assayed in cases of pernicious anemia as required by the Council.

Actions and Uses.—Liver extract-Endo is used in the treatment of pernicious anemia. See the general article Liver and Stomach Preparations, New and Nonofficial Remedies, 1940, p. 320.

Dosage.—Initial dose, fifty capsules (approximately 25 Gm.) daily until examination shows a satisfactory blood cell count.

The dosage is then kept at a level which will maintain remission.

Distributed by Endo Products, Inc., Richmond Hill, N. Y. No U. S. patent or trademark.

Liver Extract-Endo, Capsules: Fifty capsules represent 1 oral unit.

Liver extract-Endo is prepared as follows: Fresh edible liver is extracted with water at 170 F. for thirty minutes and filtered. The filtrate is concentrated in vacuo and then dried in vacuo. The dried material is powdered and filled into capsules. Each capsule contains the extract from 10 Gm. of fresh liver.

ANTIPNEUMOCOCCIC SERUM, TYPE II (See New and Nonofficial Remedies, 1940, p. 431).

Mulford Biological Laboratories, Sharp & Dohme, Inc., Philadelphia.

Antipneumococcic Serum Type II, Refined and Concentrated-Mulford.—(See New and Nonofficial Remedies, 1940, p. 432): It is marketed in packages of one ampule-vial containing 20,000 units and packages of one ampule-vial containing 50,000 units accompanied by a vial containing a 1:10 dilution of serum for the sensitivity test.

SULFATHIAZOLE (See THE JOURNAL, Jan. 25, 1941, p. 308).

Sulfathiazole-Parke, Davis.—A brand of sulfathiazole-N. N. R.

Manufactured by Parke, Davis & Co., Detroit. No U. S. patent or trademark.

Tablets Sulfathiazole-Parke, Davis, 0.5 Gm. (7.7 grains).

Tablets Sulfathiazole-Parke, Davis, 0.25 Gm. (3.85 grains).

PHYSIOLOGICAL SOLUTION OF SODIUM CHLORIDE (See New and Nonofficial Remedies, 1940, p. 379).

The following dosage forms have been accepted:

Ampules of Physiological Solution of Sodium Chloride, 10 cc.

Ampules of Physiological Solution of Sodium Chloride, 20 cc.

Prepared by Endo Products, Inc., Richmond Hill, N. Y.

MANDELIC ACID (See New and Nonofficial Remedies, 1940, p. 332).

Mandelic Acid-Gane.—A brand of mandelic acid-N. N. R. Manufactured by Gane's Chemical Works, Inc., New York (Gane & Ingram, Inc., New York, distributor). No U. S. patent or trademark.

BENZEDRINE SULFATE (See New and Nonofficial Remedies, 1940, p. 233).

The following additional dosage form has been accepted:

Benzedrine Sulfate Tablets, 5 mg.

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SATURDAY, MARCH 22, 1941

"ACUTE PNEUMONITIS" VIRUS

Apparently Weir and Horsfall¹ of the International Health Laboratories, New York, have been able to isolate and identify the specific virus of the disease variously known as "acute pneumonitis,"² "acute diffuse bronchiolitis"³ or "capillary pneumonia." Five years ago Bowen⁴ described this disease, which he termed "acute influenza pneumonitis." Since then, epidemics have been reported with increasing frequency in a half dozen American states as well as in England and France, from which it is apparent that the disease can assume pandemic proportions. "Acute pneumonitis" is characterized by a remarkably high morbidity and in some institutions or localities over 50 per cent of all persons have contracted the disease. Primarily it is an inflammation of the mucous membranes of the respiratory tract, usually limited to the nose, pharynx and larynx but occasionally extending to the trachea and bronchi and in a few cases to the bronchioles and lungs. Constitutional symptoms are usually in proportion to the extent and intensity of the mucosal inflammation. Patients with the milder form of the disease usually complain of coryza, obstruction of the nose, malaise, frontal headache, weakness, dizziness, muscular pains, sweating and anorexia, with fever lasting on an average for two and a half days.⁵ Patients with lung involvement may have fever for from four to eight days. Convalescence is usually rapid, without deaths thus far in uncomplicated cases.

Earlier attempts to determine the etiologic factor of this influenza-like disease were unsuccessful. Routine blood cultures were invariably negative. Bacteriologic studies of nasopharyngeal exudates failed to reveal

organisms that could be considered of etiologic significance. *Haemophilus influenzae*, for example, was never found, and there was a remarkable scarcity of pneumococci. Intranasal instillation of nasopharyngeal secretions into ferrets gave transient toxic symptoms,⁶ with failure in attempted passive transfer. Aside from demonstrating the absence of the usual influenza virus, these inoculation tests were inconclusive.

The apparent recent increase in the frequency of this disease and its tendency to become pandemic have rendered it of sufficient importance to warrant vigorous attempts to determine the causative agent. Accordingly, about a year ago Weir and Horsfall attempted to infect all the usual laboratory animals by intranasal instillation of throat washings from clinically typical cases. Among the animals tested were ferrets, mice, guinea pigs, rabbits, monkeys, opossums, skunks, woodchucks, voles, deer mice and Syrian hamsters, all of which proved insusceptible to the presumptive pneumonitis virus. The inoculated animals did not develop symptoms of infection, and at necropsy demonstrable lesions were not found in the respiratory tract.

In the hope of finding a susceptible animal, it was finally decided to try the mongoose, an animal available in abundance in the Caribbean islands but whose importation into the United States is prohibited. By modern methods of transportation and communication, however, it was found feasible to divide the work between the New York laboratory and the British Tuberculosis Research Station at Kingston, Jamaica. Frozen or glycerinated throat washings, filtrates and experimental necropsy material were readily transported back and forth between the two laboratories.

Frozen and vacuum dried throat washings from New York patients or glycerinated filtrates of clinical washings were injected intranasally into mongooses, with control injections of sterile 0.85 per cent sodium chloride solution. The inoculated mongooses were observed for abnormalities in temperature, respiration and appetite and for the presence or absence of diarrhea for ten to twelve days, at the end of which time they were anesthetized, bled by cardiac puncture and killed. Of the 90 mongooses inoculated with the first series of four throat washings, 64 per cent developed pulmonary lesions, one third of them showing generalized deep red pulmonary hyperemia without consolidation and two thirds a similar hyperemia surrounding plum colored consolidations. The consolidated areas varied from a single large lesion in one lobe to multiple lesions in several lobes. Examinations of the pulmonary lesions by both microscopic and cultural methods almost invariably showed the lungs to be bacteriologically sterile.

From the infected lungs, however, serial passage was possible to normal mongooses, control tests with emul-

1. Weir, J. M., and Horsfall, F. L.: *J. Exper. Med.* **72**: 595 (Nov.) 1940.

2. Smiley, D. F.; Showacre, E. D.; Lee, W. F., and Ferris, A. W.: *Acute Interstitial Pneumonitis: New Disease Entity*, *J. A. M. A.* **112**: 1901 (May 13) 1939.

3. McKinley, C. A.: *Journal-Lancet* **59**: 90 (March) 1939.

4. Bowen, A.: *Am. J. Roentgenol.* **34**: 168 (Aug.) 1935.

5. Reimann, H. A., and Havens, W. P.: *Epidemic Disease of Respiratory Tract*, *Arch. Int. Med.* **65**: 138 (Jan.) 1940.

6. Stokes, J., Jr.; Kenney, A. S., and Shaw, D. R.: *Tr. & Stud. Coll. Physicians, Philadelphia* **6**: 329 (Feb.) 1939.

sions of normal mongoose lungs giving negative results. Filtration tests with both the human nasal washings and emulsions of mongoose lungs showed that the etiologic factor readily passes through the pores of a Berkefeld V or N filter. The virus is readily propagated on the chorioallantoic membrane of the developing chick embryo, thirty serial egg passages having been effected without apparent loss of virulence or specificity.

Normal mongoose serum and serums of infected mongooses during the early stages of the disease failed to demonstrate neutralizing antibodies. Late convalescent mongoose serum, however, is specifically virucidal. Patients with acute pneumonitis also show negative acute phase serums, with neutralizing antibodies appearing only during convalescence. Cross neutralizing tests showed that the newly discovered virus has no antigenic component common with the influenza virus or with any other virus thus far available for cross immunization tests. Viruses from different patients and from different geographic areas were apparently identical qualitatively though slightly different in virulence. Studies of natural methods of infection have shown that the experimental virus disease in the mongoose is readily spread by contact. The evidence therefore seems complete that the mongoose infecting virus is the cause of the current incipient pandemic of acute pneumonitis.

Aside from its epidemiologic importance the work of Weir and Horsfall is noteworthy and may long serve as a model of speed and effectiveness in international medical research, an inspiring example of preparedness for future epidemiologic emergencies.

PHYSICAL FITNESS FROM TWO TO TWENTY

For more than a century countless workers in medical and allied fields have been actively engaged in the study of human growth, development and physical condition. Attention has already been drawn¹ to a series of papers on growth by Wetzel, of Western Reserve University, in Cleveland. This work, and a more extensive analysis² published since then, are the foundations for the most recent report by the same investigator on a method for evaluating physical fitness, which appears in this issue of *THE JOURNAL*.³ Up to now, by far the greatest advances in the field have pertained to infancy and have formed the basis for the theory and practice of pediatrics. But for the group of persons beyond infancy there has been less formal and less certain guidance, notwithstanding the fact that millions have already been spent on innumerable surveys con-

ducted among preschool, school and college populations. The search for suitable methods of assessing physical fitness has resulted in the proposal of many indexes based on a great variety of body measurements, as well as in an enormous amount of reduplicated effort.

The literature on physical fitness is one of the most voluminous in the entire domain of medicine, as attested by the compilation of 2,500 abstracts made in 1927 at the request of the Children's Bureau.⁴ On the question of physical fitness among children the committee in charge expressed the view that "no single factor is of greater importance in dealing with the health of nations." In the past fifteen years, however, it has been realized that large scale surveys have proved to be, if not wholly fruitless, at least much less productive of useful results than had been hoped for. A recent commentator⁵ has summarized this situation and has suggested that "research workers concentrate on the construction of valid methods of determining nutritional status rather than making surveys which are of doubtful significance because of the inaccuracies of the estimates upon which their findings are based." Thus the great obstacle to progress in this field has been the lack of a suitable, uniform and practical method for the detection of the physically unfit.

Wetzel has approached the problem from the point of view that physical fitness implies "normal" growth and development, whereas physical unfitness is associated with disturbances of growth and nutrition. His former inquiries into the nature of growth have enabled him to set out a simple graphic chart for following up past, and for predicting future, progress in physical development. In brief, his present contribution seems to provide a simple method for the quick, practical and wholly objective evaluation of the physical condition of any person up to and including maturity. This is of vital importance to more than forty million persons⁶ in this country alone who are under 20 years of age. The method, as Wetzel is careful to point out, does not supplant the physician; instead its direct purpose is to aid the physician in judging the nutritional state with greater certainty, rapidity and efficiency than before, since nothing beyond the usual measurements of height, weight and age is required for a rating.

The clue to the new use of heights and weights is undoubtedly to be found in what Wetzel calls the "grid" or "channel system" in which those data are to be plotted. By so doing, one obtains an immediate graphic estimate of physique or body build, development, nutritional grade, physical status, age advancement and maturation. What these attributes have signified in the

1. The Motion of Growth, editorial, *J. A. M. A.* 103: 2030 (Dec. 29) 1934; Retarded Growth and Longevity, *ibid.* 104: 1826 (May 18) 1935.

2. On the Motion of Growth: XVII. Theoretical Foundations, *Growth* 1: 6 (April) 1937.

3. Wetzel, N. C.: Physical Fitness in Terms of Physique, Development and Basal Metabolism, this issue, p. 1187.

4. References on the Physical Growth and Development of the Normal Child, Pub. 179, Children's Bureau, U. S. Dept. of Labor, 1927, iii.

5. Estimates of Nutritional States, editorial, *Am. J. Pub. Health* 28: 871 (July) 1938.

6. White House Conference Addresses and Abstracts, New York, Century Company, 1931, p. vii.

past has always been left largely to individual interpretation. Wetzel's approach, however, has resulted for the first time in a unique, precise, yet simple definition of each of these terms. Other factors, such as basal heat production and daily caloric intake, may also be read from the chart for every level between infancy and maturity. Successive heights and weights taken at annual or semiannual intervals establish an invaluable record of progress that may be compared directly with the standards contained in the chart, which themselves offer guidance in the way of prognosis. For example, Wetzel has shown that healthy children tend to develop along given channels "as though these were preferred paths," without undergoing significant alteration in their physique or showing much departure from their own age schedules. "Cross channel progress," on the other hand, indicates either "overnutrition" or "undernutrition," depending on the direction of advance.

While the results cited contribute to the anthropology and genetics of human development and especially to the problem of somatotyping, they are of more immediate concern to the medical examiner. He is now enabled to recognize at a glance whether a child is safely situated in a channel where its nutrition cannot be seriously questioned or whether it belongs to the abnormal groups. The grid, like a screen, is thus intended to separate subjects who are in need of special attention from those whose progress is unsatisfactory. In tests on several thousand Cleveland school children the method has already shown a 94 per cent degree of reliability in picking out the subjects whom experienced examiners call "poorly nourished" or "borderline." Administrators, actuaries and others who carry the great responsibility of directing community and school health work can hardly fail to recognize in the "grid technic" a means of rapidly extracting the vast amount of information which is otherwise buried in existing records and of putting this to good use. The subjectivity of the present day "quick" inspection may well give way to the objective ratings offered by the grid method of analysis. The child who, by methods in current use, is examined but two or three times in his entire school career will be brought up at once, if necessary, and incipient disease will no longer gain a start. The plea of all medicine has been prevention. To this end the grid method is clearly directed. Wetzel's contribution has broken fresh ground in its field; but it has also provided a workable scheme that will recreate interest in existing data and in associated problems, the solution of which should be nearer because the avowed objective of so many undertakings in the past—a reliable method of assessing physical condition—is now at hand.

Workers and all agencies of child welfare will be able with this technic to check the population for defi-

ciency and to render aid. Not the least of the advantages of this method will be the uniformity with which the situation in one locality may be more truly compared with others. The results of remedial programs will likewise have a uniform basis of comparison, and the effects of organized efforts to deal with local problems will soon distinguish which measures are worth while and which are not. A nation engaged in national defense cannot afford to overlook the sound advice of Francis Galton⁷ "to rightly appraise the effects of external conditions upon development." For this task Wetzel's method of appraising physical fitness comes forward at an opportune time.

Current Comment

FREQUENCY OF EXCRETION OF POLIO-MYELITIS VIRUS IN HUMAN STOOLS

According to the improved technic recently introduced by Howe and Bodian,¹ of Johns Hopkins University, poliomyelitis virus can be demonstrated in infectious concentration in 70 per cent of the human stools voided during the first five days of the disease. This is nearly three times the frequency demonstrable by classic methods of intracerebral or intraperitoneal inoculation.² In the new technic untreated stools are emulsified in a small volume of distilled water and the emulsion frozen in a solid carbon dioxide bath. One cc. of the thawed emulsion is repeatedly introduced into the nostrils of a rhesus monkey, and the mucous membrane gently rubbed with a pipe cleaner. Although such emulsions contain a rich bacterial flora, bacterial infection apparently never takes place. During the recent Baltimore epidemic the Johns Hopkins investigators applied this simplified technic to stool specimens taken from 14 different paralytic patients. Ten were found to contain sufficient poliomyelitis virus to produce typical paralysis and central nervous system lesions in monkeys. The average incubation period after massive intranasal instillation was about two weeks. Cord to cord passage to a second generation monkey was successful in all cases tested. The simplicity and effectiveness of the new technic, which can be applied without recourse to elaborate means for sterilization and concentration of the inoculum, renders it a promising supplement to routine technical methods. In the opinion of the Baltimore investigators, fecal excretion of poliomyelitis virus in 70 per cent of the cases is epidemiologically significant during the first five days of the disease.

7. Galton, F. P.: *Inquiries into the Human Faculty and Its Development*, London, J. M. Dent & Sons, 1907, p. 28.
1. Howe, H. A., and Bodian, David: *Portals of Entry of Poliomyelitis Virus in the Chimpanzee*, J. Infect. Dis. **66**: 198 (May-June) 1940.
2. Paul, J. R.; Trask, J. D., and Culotta, C. S.: *Poliomyelitis Virus in Sewage*, Science **90**: 258 (Sept. 15) 1939. Kramer, S. D.; Gillian, A. G., and Molner, J. G.: *Recovery of Virus of Poliomyelitis from Stools of Healthy Contacts in an Institutional Outbreak*, Pub. Health Rep. **54**: 1914 (Oct. 27) 1939.

MEDICAL PREPAREDNESS

In this section of The Journal each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY FOURTH CORPS AREA

The following additional medical reserve officers have been ordered to active duty by the Commanding General, Fourth Corps Area, which comprises the states of Tennessee, North Carolina, South Carolina, Alabama, Georgia, Mississippi, Florida and Louisiana:

ALBRIGHT, Samuel L., 1st Lieut., Belmont, N. C., Fort Benning, Ga.
ANDERSON, Charles A., 1st Lieut., Clinton, S. C., Orlando, Fla.
ANDERSON, Clyde O., 1st Lieut., St. Petersburg, Fla., Fort Benning, Ga.
ANDERSON, William E., 1st Lieut., Dyersburg, Tenn., Fort Benning, Ga.
BARHAM, Berlin F., 1st Lieut., Mayoden, N. C., Camp Stewart, Ga.
BAXLEY, Harry B., Captain, Blakely, Ga., Fort Bragg, N. C.
BAXLEY, Warren C., 1st Lieut., Macon, Ga., Fort Benning, Ga.
BLAND, Charles A., 1st Lieut., Forest City, N. C., Fort Bragg, N. C.
BLUMBERG, Alfred, Major, Oteen, N. C., Camp Shelby, Miss.
BRINT, Douglas L., 1st Lieut., Bolivar, Tenn., Camp Stewart, Ga.
BROWN, Alton G., 1st Lieut., Rock Hill, S. C., Fort Bragg, N. C.
BROWN, Cecil H., 1st Lieut., Jackson, Tenn., Camp Stewart, Ga.
BROWN, William E., 1st Lieut., Summerville, Ga., Orlando, Fla.
BRUNSON, Joseph W., 1st Lieut., Camden, S. C., Fort Benning, Ga.
BUGG, Everett I., Jr., 1st Lieut., Durham, N. C., Fort Bragg, N. C.
BURN, Edward M., 1st Lieut., Charleston, S. C., Fort Jackson, S. C.
BUSSABARGER, Robert A., 1st Lieut., Memphis, Tenn., Fort Benning, Ga.
CARROLL, Bruce D., 1st Lieut., Miami, Fla., Fort Benning, Ga.
CHAMBLEE, John S., 1st Lieut., Windsor, N. C., Fort McClellan, Ala.
CLAVERIE, Eugene H., 1st Lieut., Lafayette, La., Orlando, Fla.
COE, Isaac S., 1st Lieut., Memphis, Tenn., Fort Bragg, N. C.
COFFEY, James C., 1st Lieut., Cliffside, N. C., Camp Stewart, Ga.
ELDRIDGE, Jesse C., Lieut. Col., Chattanooga, Tenn., Knoxville, Tenn.
FAISON, Thomas G., Captain, Winton, N. C., Fort Jackson, S. C.
FULLER, William A., Jr., 1st Lieut., Atlanta, Ga., Fort McPherson, Ga.
GARRISON, Ralph B., 1st Lieut., Hamlet, N. C., Fort Benning, Ga.
HOLLOWELL, Claude V., 1st Lieut., Corapeake, N. C., Fort Bragg, N. C.
HULSEY, John M., Jr., Captain, Gainesville, Ga., Orlando, Fla.
LITTON, James H., 1st Lieut., Milledgeville, Ga., Camp Blanding, Ga.
LOYD, Preston C., 1st Lieut., Kinston, N. C., Fort Devens, Mass.
MARTIN, David W., 1st Lieut., West Palm Beach, Fla., Fort Benning, Ga.
MARTIN, Marion T., 1st Lieut., Memphis, Tenn., Camp Polk, La.
MASSEY, James L., 1st Lieut., Quincy, Fla., Fort Jackson, S. C.
MCALL, Robert E., Jr., 1st Lieut., Marion, N. C., Fort Jackson, S. C.
RAMEY, Daniel R., Jr., 1st Lieut., Holt, Ala., Camp Polk, La.
RAWLS, Jack L., 1st Lieut., Bastrop, La., Fort Bragg, N. C.
ROGERS, Howard M., Captain, St. Petersburg, Fla., Camp Polk, La.
SNELLING, William R., 1st Lieut., Fernandina, Fla., Camp Lee, Va.
STANFIELD, William W., 1st Lieut., Leaksville, N. C., Camp Polk, La.
STEPHENSON, Samuel Logan, Jr., 1st Lieut., Savannah, Tenn., Fort Jackson, S. C.

TAKACY, Theodore L., 1st Lieut., Slater, S. C., Fort Benning, Ga.
TERHUNE, Samuel R., Captain, Birmingham, Ala., Camp Polk, La.
TIPTON, William M., 1st Lieut., Knoxville, Tenn., Camp Shelby, Miss.
WATSON, Walter H., 1st Lieut., Charleston, S. C., Camp Polk, La.
WILSON, Frank E., 1st Lieut., Tarboro, N. C., Camp Forrest, Tenn.
WOODALL, Paul S., Captain, Birmingham, Ala., Orlando, Fla.

Orders Revoked

AKERS, Noel M., 1st Lieut., McIntyre, Ga.
ANDERSON, Clyde O., 1st Lieut., St. Petersburg, Fla.
AUSTIN, Frederick D., Jr., 1st Lieut., Charlotte, N. C.
BARHAM, Berlin F., 1st Lieut., Mayoden, N. C.
BIRD, Donald P., 1st Lieut., Lakeland, Fla.
BOOKER, John P., 1st Lieut., Walhalla, S. C.
BROWN, Ralph E., 1st Lieut., Barnwell, S. C.
BROWN, Randall G., 1st Lieut., Graymont, Ga.
BURNS, Cornelius B., 1st Lieut., New Orleans.
CHASTAIN, Joseph R., 1st Lieut., Buford, Ga.
CLAVERIE, Eugene H., Jr., 1st Lieut., Lafayette, La.
COFFEY, James C., 1st Lieut., Cliffside, N. C.
CRANE, Wesley T., 1st Lieut., Auburn, Ala.
DAWSON, George R., Captain, Charleston, S. C.
FILLINGIM, David B., 1st Lieut., Savannah, Ga.
FOGEL, Julius M., 1st Lieut., Fort Benning, Ga.
FULLER, William A., 1st Lieut., Atlanta, Ga.
GARRISON, Ralph B., 1st Lieut., Hamlet, N. C.
GIBBONS, George E., 1st Lieut., Hampshire, Tenn.
GLENN, Francis W., 1st Lieut., Miami, Fla.
HEWES, Archibald C., 1st Lieut., Gulfport, Miss.
HOLT, Howard P., 1st Lieut., Rodessa, La.
HOWDON, William M., 1st Lieut., Miami, Fla.
HOWELL, Robert S., 1st Lieut., Coral Gables, Fla.
JERNIGAN, Henry C., 1st Lieut., Black Mountain, N. C.
JOYNER, Rayburn N., 1st Lieut., Marianna, Fla.
KING, Ralph E., 1st Lieut., Winnsboro, La.
LAMAR, Carlos P., 1st Lieut., Miami, Fla.
LAMB, Roland D., 1st Lieut., Columbus, Miss.
LANCE, Vernal L., 1st Lieut., Blairsville, Ga.
MARTIN, David W., 1st Lieut., West Palm Beach, Fla.
MARTIN, Robert B., III, 1st Lieut., Shellman, Ga.
MICKAL, Abe, 1st Lieut., New Orleans.
MILLER, Cecil E., 1st Lieut., Sarasota, Fla.
MOULEDOUS, Shelley J., 1st Lieut., Abbeville, La.
PHILLIPS, Stonewall J., Captain, Oakdale, La.
ROGERS, Hunter B., Captain, Miami, Fla.
SPRUELL, William H., 1st Lieut., Russellville, Ala.
TAKACY, Theodore L., 1st Lieut., Slater, S. C.
TAYLOR, Guy F., 1st Lieut., Laurel Springs, N. C.
VAUDRY, James W., 1st Lieut., New Orleans.
WAGNER, Rudolph T., 1st Lieut., Miami Beach, Fla.
WILSON, Richard A., 1st Lieut., Wilmington, N. C.

SIXTH CORPS AREA

The following additional medical reserve officers have been ordered to extended active duty by the Commanding General, Sixth Corps Area, which comprises the states of Wisconsin, Illinois and Michigan:

ADLER, Samuel, 1st Lieut., Oregon, Ill., Replacement Center, Camp Grant, Ill.
ALTMAN, Harris P., 1st Lieut., Marengo, Ill., Station Hospital, Fort Bliss, Texas.
BACKER, Meyer, 1st Lieut., Chicago, Station Hospital, Fort Sill, Okla.
BAILIS, Jack M., 1st Lieut., Pittsfield, Ill., 2d Med. Lab., Fort Sam Houston, Texas.
BAKER, Alonzo N., 1st Lieut., Marion, Ill., 30th Division, Fort Jackson, S. C.
BALLIN, Michael, 1st Lieut., Chicago, Station Hospital, Fort Sam Houston, Texas.
BALLOU, John W., 1st Lieut., Rushville, Ill., Station Hospital, Fort Bliss, Texas.
BARBER, Kent W., 1st Lieut., Quincy, Ill., Station Hospital, Fort Bliss, Texas.
BARD, Eli, 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
BARNETT, Andrew F., 1st Lieut., West Frankfort, Ill., Station Hospital, Fort Bliss, Texas.
BERARDI, James B., 1st Lieut., Dwight, Ill., Station Hospital, Fort Sam Houston, Texas.

BIELINSKI, Brunon, 1st Lieut., Manteno, Ill., Station Hospital, Fort Sam Houston, Texas.
BITTER, Reuben, Captain, Oshkosh, Wis., 12th Cavalry, Fort Brown, Texas.
BLADES, James E., 1st Lieut., Sidney, Ill., 4th Medical Supply Depot, Fort Sam Houston.
BOLLES, Carlton S., 1st Lieut., DePere, Wis., Station Hospital, Fort Sam Houston, Texas.
BOYER, Richard C., 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
BOYNTON, Melbourne W., 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
BRAZE, Alexander, Captain, Rockford, Ill., Station Hospital, Camp Grant, Ill.
BROWN, David Joseph, 1st Lieut., Manteno, Ill., Station Hospital, Fort Sill, Okla.
BROWN, Wilbert O., 1st Lieut., Chicago, Station Hospital, Fort Sill, Okla.
BUCHHOLZ, Alexander M., 1st Lieut., Chicago, Station Hospital, Fort Sam Houston, Texas.
BURLEY, Robert D., 1st Lieut., Beardstown, Ill., Station Hospital, Fort Bliss, Texas.
BUSHNELL, Lowell F., 1st Lieut., Highland Park, Ill., Station Hospital, Fort Sheridan, Ill.
BUTT, Arthur J., Jr., 1st Lieut., Chicago, 30th Division, Fort Jackson, S. C.

- CARLIN, George W., 1st Lieut., Wilmington, Ill., Station Hospital, Fort Sill, Okla.
- CARTER, Kenneth L., 1st Lieut., St. Louis, Station Hospital, Fort Bliss, Texas.
- CARY, John F., 1st Lieut., Sheboygan, Wis., 1st Medical Squadron, Fort Bliss, Texas.
- CHABNER, Louis, 1st Lieut., Shelbyville, Ill., Station Hospital, Fort Sam Houston, Texas.
- CHYNOWETH, William R., Major, Battle Creek, Mich., Station Hospital, Fort Sam Houston, Texas.
- COHEN, Jacob, 1st Lieut., Granite City, Ill., 27th Division, Fort McClellan, Ala.
- COHLER, Bernard E., 1st Lieut., Chicago, 30th Division, Fort Jackson, S. C.
- COHRS, Clarence C., 1st Lieut., Harvey, Ill., Station Hospital, Fort Sam Houston, Texas.
- COLLINS, Harold J., 1st Lieut., LaHarpe, Ill., Replacement Center, Camp Grant, Ill.
- CROTTY, John P., 1st Lieut., East St. Louis, Ill., 30th Division, Fort Jackson, S. C.
- CZERWINSKI, Anthony, Captain, Springfield, Ill., 107 Obs. Squadron, Camp Beauregard, La.
- DAVIS, John L., 1st Lieut., Quincy, Ill., Station Hospital, Fort Sill, Okla.
- DeFRANCOIS, Walter, 1st Lieut., Oak Park, Ill., Station Hospital, Fort Sill, Okla.
- DeJONGH, Edwin, 1st Lieut., Detroit, 12th Cavalry, Fort Bliss, Texas.
- DEW, W. A., Lieut. Col., Belleville, Ill., Station Hospital, Fort Sill, Okla.
- DEWHIRST, Ernest M., Captain, Danville, Ill., Station Hospital, Camp Grant, Ill.
- DICKERSON, Donald L., 1st Lieut., Danville, Ill., Station Hospital, Fort Bliss, Texas.
- DICKEY, Marvin M., 1st Lieut., Richmond, Ill., Station Hospital, Fort Sill, Okla.
- DIETRICH, Edwin, 1st Lieut., Fithian, Ill., Station Hospital, Fort Bliss, Texas.
- DOBIN, Norman B., 1st Lieut., Chicago, Station Hospital, Fort Sill, Okla.
- DUBIEL, Charles R., 1st Lieut., Chicago, 27th Division, Fort McClellan, Ala.
- EASLEY, John H., 1st Lieut., Wayne, Mich., Replacement Center, Camp Grant, Ill.
- FEIN, Harry S., 1st Lieut., Chicago, Fitzsimons General Hospital, Denver.
- FEINHANDLER, Harold S., 1st Lieut., Chicago, Station Hospital, Fort Custer, Mich.
- FISHER, Robert E., 1st Lieut., Mayville, Mich., 38th Infantry, Fort Sam Houston, Texas.
- FORD, Walter A., Lieut. Col., Sheboygan, Wis., Station Hospital, Fort Sill, Okla.
- FORTNER, Roscoe J., Captain, Three Rivers, Mich., 30th Division, Fort Jackson, S. C.
- FRIEDMAN, Isadore E., 1st Lieut., Chicago, Station Hospital, Fort Sam Houston, Texas.
- GAFF, John H., Lieut. Col., Chicago, Station Hospital, Fort Sam Houston, Texas.
- GOFF, Marcellus H., Captain, Chicago, 366th Infantry, Fort Devens, Mass.
- GOLDSTEIN, Robert M., 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
- GOODMAN, Louis, 1st Lieut., Monroe, Mich., Station Hospital, Fort Sam Houston, Texas.
- GORELICK, Martin J., 1st Lieut., Dearborn, Mich., Station Hospital, Fort Sill, Okla.
- GOURLEY, Eugene V., 1st Lieut., Detroit, Station Hospital, Fort Sill, Okla.
- GRAHAM, Charles M., 1st Lieut., Altona, Ill., 27th Division, Fort McClellan, Ala.
- GUELDER, Louis H., 1st Lieut., Fort Atkinson, Wis., Station Hospital, Fort Sill, Okla.
- GUTOV, Benjamin R., 1st Lieut., Detroit, 27th Division, Fort McClellan, Ala.
- HAEREM, Alf T., 1st Lieut., Chicago, Station Hospital, Fort Sill, Okla.
- HALPERIN, Isadore, 1st Lieut., Chicago, 27th Division, Fort McClellan, Ala.
- HARTFORD, William S., Lieut. Col., Champaign, Ill., Station Hospital, Fort Sam Houston, Texas.
- HEIDENREICH, John R., 1st Lieut., Daggett, Mich., Station Hospital, Fort Sam Houston, Texas.
- HIRSCH, Donald A., 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
- HOFFENBERG, Nathan L., 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
- HOHMAN, Roy Max, 1st Lieut., Chicago, 27th Division, Fort McClellan, Ala.
- JACOBS, Maurice B., 1st Lieut., Chicago, Station Hospital, Fort Sam Houston, Texas.
- JAMES, William D., 1st Lieut., Oconomowoc, Wis., Station Hospital, Fort Sill, Okla.
- KINZEL, Robert J., 1st Lieut., Litchfield, Mich., Station Hospital, Fort Sill, Okla.
- KNAUS, William E., 1st Lieut., East St. Louis, Ill., 30th Division, Fort Jackson, S. C.
- KOVACH, Emery P., 1st Lieut., Detroit, 30th Division, Fort Jackson, S. C.
- KWINN, Frank C., 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
- LeFEVRE, George L., Major, North Muskegon, Mich., Station Hospital, Camp McCoy, Sparta, Wis.
- LERNER, Louis S., Captain, Chicago, Medical Supply Depot, Fort Sam Houston, Texas.
- LINN, Herman J., 1st Lieut., Chicago, Station Hospital, Fort Custer, Mich.
- LOWELL, Vivion F., 1st Lieut., Ypsilanti, Mich., 30th Division, Fort Jackson, S. C.
- MARCHMONT-ROBINSON, Harry, 1st Lieut., Chicago, Station Hospital, Fort Sam Houston, Texas.
- MARTIN, Robert E., 1st Lieut., Chicago, Station Hospital, Fort Sam Houston, Texas.
- MATEJKA, James J., 1st Lieut., Chicago, 94th Engineer Battalion, Fort Custer, Mich.
- McBAIN, Louis B., Captain, Appleton, Wis., 30th Division, Fort Jackson, S. C.
- McCAULEY, Maurice D., 1st Lieut., Detroit, Station Hospital, Fort Sam Houston, Texas.
- MILLER, Donald S., 1st Lieut., Chicago, Station Hospital, Fort Custer, Mich.
- MOLAND, Oscar G., 1st Lieut., Augusta, Wis., Station Hospital, Fort Sam Houston, Texas.
- MONTGOMERY, Alvin Samuel, 1st Lieut., LaCrosse, Wis., Station Hospital, Fort Sam Houston, Texas.
- MOORE, Donald F., 1st Lieut., Ypsilanti, Mich., Station Hospital, Fort Sam Houston, Texas.
- MORTON, David G., 1st Lieut., Detroit, Station Hospital, Fort Sam Houston, Texas.
- MUNSLow, Ralph A., 1st Lieut., Detroit, Station Hospital, Fort Sam Houston, Texas.
- MURFIN, Maurice D., 1st Lieut., Decatur, Ill., Station Hospital, Fort Sam Houston, Texas.
- MURPHY, Thomas J., 1st Lieut., Decatur, Ill., Station Hospital, Fort Sam Houston, Texas.
- MURRAY, Charles A., 1st Lieut., Chicago, Station Hospital, Fort Sam Houston, Texas.
- NELSON, Lorenzo R., 1st Lieut., Chicago, 366th Infantry, Fort Devens, Mass.
- NELSON, Tell, Captain, Chicago, Station Hospital, Fort Sill, Okla.
- NIEDER, Samuel, 1st Lieut., Gilman, Ill., Station Hospital, Fort Sam Houston, Texas.
- O'DONNELL, Steven P., 1st Lieut., Kiel, Wis., Station Hospital, Fort Sill, Okla.
- PAGEL, H. F., 1st Lieut., Ladysmith, Wis., Station Hospital, Fort Sill, Okla.
- PEARSON, John B., 1st Lieut., Mayville, Wis., Station Hospital, Fort Sam Houston, Texas.
- PELTZER, Wesley E., 1st Lieut., Oak Park, Ill., 30th Division, Fort Jackson, S. C.
- PICKETT, William J., Lieut. Col., Chicago, Station Hospital, Fort Sam Houston, Texas.
- POWER, Frank H., 1st Lieut., Ann Arbor, Mich., 30th Division, Fort Jackson, S. C.
- PRICE, Harold, 1st Lieut., Chicago, Station Hospital, Fort Custer, Mich.
- PSOULOS, George D., Captain, Chicago, Station Hospital, Fort Custer, Mich.
- RAU, Gerald A., 1st Lieut., Two Rivers, Wis., Station Hospital, Fort Sam Houston, Texas.
- REED, Harry, Captain, Detroit, 94th Engineer Battalion, Fort Custer, Mich.
- RESKE, Alven A., 1st Lieut., Dearborn, Mich., Station Hospital, Fort Sam Houston, Texas.
- RESTARSKI, Alvin F., 1st Lieut., Chicago, Fifth Division, Fort Custer, Mich.
- ROBIN, Milton, 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
- ROKITA, Adam W., 1st Lieut., Barry, Ill., Station Hospital, Fort Sam Houston, Texas.
- ROSENBERG, Samuel W., 1st Lieut., Milwaukee, Station Hospital, Fort Sam Houston, Texas.
- SARMA, Pashupati J., Lieut. Col., Chicago, Station Hospital, Fort Sam Houston, Texas.
- SAWYER, Preston W., 1st Lieut., Fairmount, Ill., Station Hospital, Fort Sam Houston, Texas.
- SCHACH, Arthur C., 1st Lieut., Rockford, Ill., Station Hospital, Fort Bliss, Texas.
- SCHROTH, George J., 1st Lieut., Chicago, Station Hospital, Fort Sam Houston, Texas.
- SEID, Benjamin, 1st Lieut., Chicago, Station Hospital, Fort Sill, Okla.
- SEIFERT, Edward H., Lieut. Col., Galesburg, Ill., Station Hospital, Fort Bliss, Texas.
- SHAPIRO, Louis B., 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
- SIMPSON, Reed M., 1st Lieut., Hardin, Ill., Station Hospital, Fort Sill, Okla.
- SLOAN, Fred R., 1st Lieut., Wauwatosa, Wis., Station Hospital, Fort Sam Houston, Texas.
- SLUSSER, Gerald A., 1st Lieut., Villa Grove, Ill., Station Hospital, Fort Bliss, Texas.
- SPECTOR, Maurice J., 1st Lieut., Detroit, Station Hospital, Fort Sill, Okla.
- SULLIVAN, James M., 1st Lieut., Milwaukee, Station Hospital, Fort Sam Houston, Texas.
- TEASLEY, Benager C., 1st Lieut., Robinson, Ill., Station Hospital, Fort Sill, Okla.
- TERWILLIGER, Edwin, 1st Lieut., South Haven, Mich., Station Hospital, Fort Sam Houston, Texas.
- TOUSIGNANT, Albert N., Captain, Oconto, Wis., Station Hospital, Fort Sill, Okla.
- TROTTER, Jay D., 1st Lieut., Carthage, Ill., Station Hospital, Fort Sill, Okla.
- WILSON, Clyde S., Lieut. Col., Belleville, Ill., Station Hospital, Camp Grant, Ill.
- WINER, Allen E., 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.

SEVENTH CORPS AREA

The following additional medical reserve officers have been ordered to extended active duty by the Commanding General, Seventh Corps Area, which comprises the states of North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri, Arkansas and Wyoming.

ALDRICH, Herrick John, 1st Lieut., Sheridan, Wyo., William Beaumont General Hospital, El Paso, Texas.
ALMER, Lennart Emmanuel, 1st Lieut., Moorhead, Iowa, Fort Knox, Ky.
ANDERSEN, Elmer John Tiemeyer, 1st Lieut., Montgomery City, Mo., Fort Francis E. Warren, Wyo.
BEBER, Meyer, Captain, Omaha, Fort Leonard Wood, Mo.
BENESH, Louis Alfred, 1st Lieut., Minneapolis, Fort Francis E. Warren, Wyo.
BENJAMIN, Harold Garner, 1st Lieut., Minneapolis, Fort Knox, Ky.
BOILER, William F., Major, Iowa City, Fort Leonard Wood, Mo.
BRICKER, Eugene Myron, 1st Lieut., Columbia, Mo., Fort Leonard Wood, Mo.
CHRISTIANSEN, Charles Clifford, Dixon, Iowa, 1st Lieut., Fort Francis E. Warren, Wyo.
COHEN, Harold David, Lieut. Col., Des Moines, Iowa, Fort Leavenworth, Kan.
DRIVER, Donn Raymond, 1st Lieut., Bismarck, N. D., Fort Riley, Kan.
EGGLESTON, Donald Edwin, 1st Lieut., Kingman, Kan., Camp Murray, Wash.
FLESCH, Bernard Alton, 1st Lieut., Lake City, Minn., William Beaumont General Hospital, El Paso, Texas.
FLYNN, Joseph Eugene, 1st Lieut., Iowa City, Army and Navy General Hospital, Hot Springs, Ark.
FRIEDMAN, Burt, 1st Lieut., St. Louis, Fort Ord, Calif.
GRIMM, Benjamin Hayes, 1st Lieut., Sidney, Neb., Fort Riley, Kan.
HAMILTON, Benjamin Charles, Major, Jefferson, Iowa, Camp Murray, Wash.
HAYMOND, Harold Everest, Captain, Perry, Iowa, Fort Meade, S. D.
HOLLAND, Frank Flynn, 1st Lieut., St. Joseph, Mo., Fort Leavenworth, Kan.
HOSKINS, James Howard, Major, Wahpeton, N. D., Fort Leonard Wood, Mo.
IVERS, George Urban, 1st Lieut., Fargo, N. D., Fort Leonard Wood, Mo.
JANSONIUS, John Willard, 1st Lieut., Eldora, Iowa, Fort Knox, Ky.
JOFFE, Harold Herman, 1st Lieut., Duluth, Minn., Fort Riley, Kan.
KATZOVITZ, Hyman, 1st Lieut., St. Paul, Fort Francis E. Warren, Wyo.
KING, Richard Sidney, 1st Lieut., Cass Lake, Minn., Fort Francis E. Warren, Wyo.
KITCHEN, William Meyer, 1st Lieut., Moberly, Mo., William Beaumont General Hospital, El Paso, Texas.
KLINGNER, George Malcolm, 1st Lieut., Springfield, Mo., Fort Francis E. Warren, Wyo.

EIGHTH CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Eighth Corps Area, which comprises the states of Colorado, Arizona, New Mexico, Oklahoma and Texas:

AKINS, Jack Odie, 1st Lieut., Tulsa, Okla., Fort Sam Houston, Texas.
ALLEN, George Scott, 1st Lieut., Burnet, Texas, Fort Bliss, Texas, Station Hospital.
ANDERSON, Robert E., 1st Lieut., Woodmen, Colo., Fort Bliss, Texas.
ANTHONY, William Dodd, 1st Lieut., Gallup, N. M., 25th Infantry, Fort Huachuca, Ariz.
BARTHELD, Floyd T., 1st Lieut., McAlester, Okla., Camp Bowie, Texas.
BATE, Thomas H., 1st Lieut., Phoenix, Ariz., Station Hospital, Fort Bliss, Texas.
BECK, Harold J., 1st Lieut., Jersey City, N. J., Station Hospital, Fort Sam Houston, Texas.
BERGENER, Karl L., 1st Lieut., Tulsa, Okla., 25th Infantry, Fort Huachuca, Ariz.
BICKEL, Robert David, 1st Lieut., Gallup, N. Mex., Fort Bliss, Texas, Station Hospital.
BLAIR, William M., 1st Lieut., Wharton, Texas, Camp Bowie, Texas.
BROWN, Jesse Benjamin, 1st Lieut., Belton, Texas, Camp Barkley, Texas.
BUNKLEY, Thomas A., 1st Lieut., Stamford, Texas, 25th Infantry, Fort Huachuca, Ariz.
BURGESS, George, 1st Lieut., Dallas, Texas, Camp Bowie, Texas.
CALONGE, Guy E., 1st Lieut., La Junta, Colo., Station Hospital, Fort Bliss, Texas.
CARSON, John M., 1st Lieut., Shawnee, Okla., 36th Division, Camp Bowie, Texas.
CASH, Aentus Peter, 1st Lieut., La Junta, Colo., Camp Barkley, Texas.
COCHRAN, John Robert, 1st Lieut., Fort Worth, Texas, San Angelo, Texas, Basic Flying School.
CONDELL, Lyle A., 1st Lieut., Safford, Ariz., 25th Infantry, Fort Huachuca, Ariz.
CRAWFORD, John M., Captain, Carrizo Springs, Texas, 36th Division, Camp Bowie, Texas.
CURRY, John Russell, 1st Lieut., Blackwell, Okla., Camp Barkley, Texas.
DANIELL, Alfred H., 1st Lieut., Brownfield, Texas, San Angelo, Texas, Basic Flying School.
DIVINE, James B., 1st Lieut., Graham, Texas, 25th Infantry, Fort Huachuca, Ariz.
EDENS, Clarence, 1st Lieut., San Antonio, Texas, Camp Bowie, Texas.

KRAUSE, Richard Alfred, 1st Lieut., West Point, Neb., Fort Riley, Kan.
LEIFER, William Warren, 1st Lieut., Kansas City, Mo., Fort Leonard Wood, Mo.
LEVERENZ, Carleton Walter, 1st Lieut., St. Paul, Fort Francis E. Warren, Wyo.
LIEBERMAN, B. Albert, Jr., Captain, Kansas City, Mo., Fort Leonard Wood, Mo.
LINDGREN, Russell Cyrus, 1st Lieut., Minneapolis, Army & Navy General Hospital, Hot Springs, Ark.
LUPPENS, Albert Franklin, Captain, Kansas City, Mo., Fort Leonard Wood, Mo.
MANGIAMELI, Carl L., 1st Lieut., Omaha, Fort Leonard Wood, Mo.
MARKER, John Israel, Lieut. Col., Davenport, Iowa, Fitzsimons General Hospital, Denver.
McADAM, Charles Rush, 1st Lieut., St. Louis, Fort Leonard Wood, Mo.
McCLAIN, Monroe Dixon, 1st Lieut., Little Rock, Ark., Camp Joseph T. Robinson, Ark.
MORROW, James Joseph, Major, Austin, Minn., Fort Leavenworth, Kan.
NEAS, Ingall Howard, 1st Lieut., Kansas City, Kan., Fort Leonard Wood, Mo.
PUDLEINER, Harold Grant, 1st Lieut., Canton, Mo., Fort Riley, Kan.
REAGAN, Charles Henry, Captain, Marked Tree, Ark., Fort Bliss, Texas.
RETTENMAIER, Albert Joseph, 1st Lieut., Kansas City, Kan., Fort Francis E. Warren, Wyo.
ROGERS, Earl Elvin, 1st Lieut., Lincoln, Neb., Fort Leonard Wood, Mo.
RUSH, Weaver Aldus, Major, Beatrice, Neb., Fort Leonard Wood, Mo.
SCHWYZER, Hanns Carl, 1st Lieut., St. Paul, Fort Leonard Wood, Mo.
SILSBY, Harry Dozier, 1st Lieut., Springfield, Mo., Fort Ord, Calif.
SINCLAIR, Richard Clyde, 1st Lieut., St. Louis, Fort Ord, Calif.
SPIELHAGEN, Guenther F., 1st Lieut., Iowa City, Jefferson Barracks, Mo.
SQUIBB, Joseph William, 1st Lieut., Springfield, Mo., Fort Francis E. Warren, Wyo.
WAKEMAN, Don Conklin, 1st Lieut., Topeka, Kan., Fort Leonard Wood, Mo.
WANNER, Jay George, Captain, Rock Springs, Wyo., Fort Francis E. Warren, Wyo.
WHITE, Charles Herbert, 1st Lieut., Kansas City, Mo., Fort Leonard Wood, Mo.

Orders Revoked

COHEN, Harold David, Lieut. Col., Des Moines, Iowa, Fort Leavenworth, Kan.
GLAZE, Kenneth Franklin, 1st Lieut., St. Louis, Fort Lewis, Wash.
HAGEBUSCH, Omer Ernst, 1st Lieut., University City, Mo., William Beaumont General Hospital, El Paso, Texas.
HAWKINSON, Raymond Paul, Captain, Robbinsdale, Minn., Fort Des Moines, Iowa.
HENDERSON, Richard Gray, 1st Lieut., St. Louis, William Beaumont General Hospital, El Paso, Texas.
LEVIN, Abraham Jacob, 1st Lieut., St. Louis, Fort Lewis, Wash.
SINCLAIR, Richard Clyde, 1st Lieut., St. Louis, Fort Ord, Calif.

EVANS, Alfred, 1st Lieut., Perry, Okla., Camp Barkley, Texas.
FORTNEY, Paul N., 1st Lieut., Beaumont, Texas, Fort Bliss, Texas, Station Hospital.
FRANK, Charles H., Captain, Texarkana, Texas, Station Hospital, Fort Sill, Okla.
GOETH, Carl F., 1st Lieut., San Antonio, Texas, Camp Bowie, Texas.
GOSSETT, Robert Francis, 1st Lieut., San Antonio, Texas, Fort Bliss, Texas, Station Hospital.
GRAMMER, James Henry, 1st Lieut., Fort Worth, Texas, Camp Barkley, Texas.
GRAY, Paul Milton, 1st Lieut., Corpus Christi, Texas, Lowry Field, Colo.
GUTHRIE, Aubrey E., 1st Lieut., Floydada, Texas, 349th Field Artillery, Fort Sill, Okla.
HARTWICK, Fred Walter, 1st Lieut., Victoria, Texas, San Angelo, Texas, Basic Flying School.
HENDERSON, Walter T., 1st Lieut., Dallas, Texas, 36th Division, Camp Bowie, Texas.
HEWATT, John W., Captain, Fort Worth, Texas, Lowry Field, Colo.
HULSEY, Simeon H., Captain, Fort Worth, Texas, Station Hospital, Sam Houston, Texas.
HYDER, Prentiss L., 1st Lieut., Corpus Christi, Texas, 36 Division, Camp Bowie, Texas.
JOHNSTON, Leonidas A. S., 1st Lieut., Holdenville, Okla., Station Hospital, Fort Sam Houston, Texas.
JONES, Edmund Dennis, Captain, Beaumont, Texas, 20th Coast Artillery, Fort Crockett, Texas.
KATZ, Solomon M., 1st Lieut., Dallas, Texas, Camp Barkley, Texas.
KENT, Melvin Lloyd, 1st Lieut., Mesa, Ariz., Station Hospital, Fort Sill, Okla.
KILMAN, P. T., Captain, Malakoff, Texas, Camp Bowie, Texas.
KING, Thomas C., 1st Lieut., Electra, Texas, Station Hospital, Fort Sam Houston, Texas.
KUPKA, John F., 1st Lieut., Haskell, Okla., Camp Barkley, Texas.
LAWRENCE, Buell A., 1st Lieut., Houston, Texas, Station Hospital, Fort Sill, Okla.
LIPSCOMB, Cuvier P., 1st Lieut., Denison, Texas, Lowry Field, Colo.
MAGLIOLO, Andrew J., Jr., 1st Lieut., Galveston, Texas, Fort Sam Houston, Texas.
MAGNESS, William H., Captain, Denton, Texas, 45th Division, Camp Barkley, Texas.
MARCHMAN, Oscar M., Jr., 1st Lieut., Longview, Texas, Kelly Field, Texas.
MARSHALL, Reagan M., 1st Lieut., Houston, Texas, Lowry Field, Colo.
MARTIN, Claud A., 1st Lieut., Austin, Texas, Camp Barkley, Texas.
McCLURE, Harold M., 1st Lieut., Chickasha, Okla., Camp Barkley, Texas.

McMULLEN, James Wallace, Major, Denver, Colo., Fort Bliss, Texas, Station Hospital.
McVEIGH, Joseph Fieldings, Captain, Fort Worth, Texas, Fort Sam Houston, Texas, Station Hospital.
MILBURN, Kennedy A., Captain, San Antonio, Texas, Lowry Field, Colo.
MILLER, John Burr, Jr., 1st Lieut., San Antonio, Texas, Camp Bowie, Texas.
NEWLIN, William H., 1st Lieut., Sallisaw, Okla., Camp Barkley, Texas.
OATES, L. S., 1st Lieut., Center, Texas, Station Hospital, Fort Sill, Okla.
OXMAN, Bertram Sidney, 1st Lieut., Wetumka, Okla., Fort Bliss, Texas.

Orders Revoked

APPEL, Myron Henry, 1st Lieut., Alice, Texas.
BAZE, Roy Ellis, 1st Lieut., Chickasha, Okla.
BLAIR, William M., 1st Lieut., Wharton, Texas.
CASH, Aeneas Peter, 1st Lieut., La Junta, Colo.
CAUSEY, Paul Spencer, 1st Lieut., Douglas, Ariz.

COWART, O. H., 1st Lieut., Bristow, Okla.
ETTER, Edward F., Captain, Sherman, Texas.
GALLAHER, Paul C., 1st Lieut., Shawnee, Okla.
GARCIA, Robert E., 1st Lieut., Parker, Ariz.
GOSSETT, Robert Francis, 1st Lieut., San Antonio, Texas.
HAMPTON, Dan E., 1st Lieut., Denver.
HAMRA, Henry, M., 1st Lieut., Phillips, Texas.
HERNDON, James H., 1st Lieut., Dallas, Texas.
JERMSTAD, Robert J., 1st Lieut., Fort Worth, Texas.
KING, Everett G., 1st Lieut., Duncan, Okla.
McCLURE, Harold M., 1st Lieut., Chickasha, Okla.
MILLER, Hubert Wainwright, 1st Lieut., Artesia, N. Mex.
NEWMAN, M. H., 1st Lieut., Shattuck, Okla.
SHERE, Norbert L., 1st Lieut., Denver.
SHUPE, Reed Dalton, Captain, Phoenix, Ariz.
WATERS, Floyd Leo, 1st Lieut., Hugo, Okla.
WHEELER, Norman O., 1st Lieut., Globe, Ariz.
WOODALL, John B., 1st Lieut., Kerrville, Texas.
WOODARD, Thad L., 1st Lieut., Dallas, Texas.

SURGICAL HOSPITALS IN THE FIELD

Three surgical hospitals for use in the field are to be activated in June: the 61st Surgical Hospital, Fort Meade, Md., the 63d Surgical Hospital, Fort Oglethorpe, Ga., and the 74th Surgical Hospital, Fort Warren, Wyo. The Army Medical Corps is now carefully studying two types of surgical hospitals at the Medical Field Service School, Carlisle Barracks, Pa. Consideration is now being given to housing surgical hospitals in bus-type ambulances, each of which will operate its own power unit. Originally these hospitals were designed to be housed in trailers. The ambulance types, however, are said to have several advantages, as they can be built closer to the ground and, by having their own power unit, will be able to leave a dangerous zone quickly. All the foregoing three surgical hospitals will be training units, each with three officers and one hundred and ten enlisted men, most of whom will be given a thirteen weeks basic training course at the replacement centers at either Camp Lee, Va., or Camp Grant, Ill., before being sent into further unit training in operation of the surgical hospitals. These hospitals are to be completely equipped with every facility found in base hospitals.

APPOINTMENT IN RESERVE CORPS OF GRADUATES OF APPROVED SCHOOLS

The War Department announced, February 18, that Corps Area commanders are authorized to waive the requirements for recommendation of an examining board contained in the third column of paragraph 19 b (8) AR 140-5, and so much of paragraph 20 c of the same regulation as requires reference of application to examining boards, in the case of applicants for appointment in the Medical Corps Reserve from American schools approved by the Council on Medical Education and Hospitals of the American Medical Association, at the time of successful completion of the required four year course of medical instruction, whether the degree of doctor of medicine is conferred at that time or withheld until after an additional period of practical experience. Recommendations under this authority for the appointment in the Medical Corps Reserve of prospective graduates of approved medical schools will be made on a special form which will be forwarded by the adjutant general's office and must be signed by the president or dean of the institution and by the corps area surgeon. Application should not be submitted unless appointment is desired by the prospective graduate, and it appears probable that he will when graduated be eligible and qualified professionally and physically. The papers should be carefully checked to insure that they are completely and correctly prepared. Recommendation sheets and W. D., A. G. O. form numbers 170 and 63 should be assembled for each applicant and all papers for graduates of the same institution should be forwarded to this office under one cover on or before April 15, accompanied by a list of those recommended for appointment, arranged alphabetically. It is essential that every effort practicable be made to avoid delay in submitting recommendations and applications. Applications for appointment in the Medical Corps Reserve from prospective graduates of approved schools at universities or colleges where R. O. T. C. training for other arms and services is conducted should be forwarded separately from applications from prospective R. O. T. C. graduates.

NEW YORK INDUCTION BOARDS PASS 76 PER CENT FOR MILITARY SERVICE

More than 76 per cent of the men examined by physicians of the local induction boards in New York City during three induction periods were found physically fit for military service, according to a report by Col. Samuel J. Kopetzky, chief of the medical division of Selective Service for the city.

Of 17,540 men examined, 13,422 were qualified for full or limited military service. There were 9,925, or 56.6 per cent, available for full service and 3,497, or 19.93 per cent, classified as available for limited service.

The report showed that of the 9,925 passed by the local boards 8,883 were finally accepted by the Army for service. Of the 1,042 rejected when they reached Army induction stations 487 were classified as qualified for limited service and the remaining 555 as unqualified for any service. The study noted two important differences in procedure by the local physicians and those of the Army: local boards are not able to make a roentgenogram of every chest nor are the neuropsychiatric examinations as extensive as they are at the induction stations. Some men were temporarily deferred because they were suffering from transient illnesses but were or will be subsequently inducted.

Defects of teeth or vision led all other reasons for rejection. There were 1,995, or 11.37 per cent, rejections for defects of teeth and gums, while deficient vision accounted for 1,959, or 11.7 per cent. The third largest category was diseases of the heart or blood vessels, 10.75 per cent of all disqualifications.

In addition to the three principal causes for rejection, there were fifteen other groups of defects prevalent in the following order: extremities 7.94 per cent, abdominal organs and wall 5.63 per cent, mental and nervous disorders 4.24 per cent, height-weight 3.97 per cent, ears 3.75 per cent, genitourinary organs and venereal diseases 3.60 per cent, lungs and chest wall 2.70 per cent, mouth, nose and throat 1.67 per cent, spinal 1.39 per cent, endocrine and metabolic disorders 1.39 per cent, skin 0.41 per cent, general and miscellaneous 0.29 per cent, diseases of blood and blood-forming organs 0.11 per cent, head 0.08 per cent, and neck 0.06 per cent.

Commenting on the approximately 10 per cent of rejections by Army physicians of men previously qualified by local board physicians, the report pointed out that local board examinations are not carried out under ideal conditions. The local boards do not have full equipment nor do they have specialists as readily available as is the case at Army headquarters. The rate of rejections declined to about 15 per cent at the end of the period from 25 per cent at first. The city's 280 local boards now have an average of two or three physicians each, compared with an original allotment of one each.

This patriotic contribution is carried on by these New York physicians gratis after their usual day's work in the private practice of medicine.

NAVY MONTHLY MEETING

Lieut. Albert R. Behnke Jr. discussed "Physiological Effects of Variations in Barometric Pressure on Naval Personnel with Relation to Aviation, Deep Sea Diving and Internal Medicine" before a meeting of the medical and dental officers of the Navy on duty in the District of Columbia and vicinity, February 3.

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA
VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGEONS, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOE, ROSCO GENUNG LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MCGOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 1169)

FEBRUARY 27—MORNING
TESTIMONY OF BENJAMIN BRENT SANDIDGE
(CONTINUED)

(The witness identified further documents.)

Mr. Allen:—I wish to read U. S. Exhibit 473, copy of letter on the letterhead of the Central Dispensary and Emergency Hospital, dated Nov. 1, 1937, from B. B. Sandidge, superintendent of the Emergency Hospital, to Dr. Allen E. Lee:

"Dear Dr. Lee:

"Your name has been withdrawn from the list of those to whom the Courtesy Privileges of treating patients at Emergency Hospital is extended, due to the fact that we are advised you are not a member of the Medical Society of the District of Columbia."

I will now read Exhibit 474, which is a carbon copy of a letter dated Nov. 10, 1937, from B. B. Sandidge to Dr. Allen E. Lee:

"Dear Dr. Lee:

"On Nov. 1, 1937, we wrote you to the effect that your name had been withdrawn from the list of those to whom the courtesy privilege of treating patients at Emergency Hospital is extended, due to the fact that you were no longer a member of the Medical Society of the District of Columbia.

"We have since learned that this information was not correct and that your name is still on the membership roster of the District Medical Society, and I am writing to apologize for this error on our part.

"As you are aware, one of the requirements at our Institution for a doctor to be extended the privilege of treating patients at this hospital is that he be a member of the District Medical Society, and in view of the fact that your status is still such, and until we are officially notified to the contrary, you are extended courtesy privileges as was your status heretofore.

"We wish to assure you that no personal element entered into this action, and again apologizing for this misunderstanding, we beg to remain,

"Very truly yours,

"EMERGENCY HOSPITAL.
"B. B. Sandidge, Superintendent."

CROSS EXAMINATION

By Mr. Leahy:

The witness named various members of the executive staff of Emergency Hospital.

By Mr. Leahy:

Q.—Tell us how many were on the Executive Staff of Emergency Hospital.

A.—Eleven.

Q.—What portion of the minutes to which your attention was directed refers to the fact that Major Blair was discussing the fact that some hospitals were granting privileges to Dr. Selders while Emergency had not; is that right?

A.—Yes.

Q.—And the minutes say there was a good deal of discussion about it, discussion at great length; is that right?

A.—Yes.

Q.—Is it not true that at that time, on Feb. 18, 1938, there was a rule of the Emergency Hospital that only members of the District Medical Society could be on the staff of that hospital?

A.—Yes.

Q.—And that rule had been in force some years, had it not?
A.—Yes.

Q.—Do you recall now what year it was that Emergency Hospital adopted the regulation that only members of the District Medical Society could be on the staff of the hospital?

A.—In 1936.

Q.—April, 1936. That was long before you ever heard of Group Health?

A.—It was prior to that.

Q.—Do you remember whether there was any particular incident which was the cause of that discussion?

A.—No definite incident that I can recall; no, sir.

By Mr. Leahy:

Q.—After you have looked over the letter, Exhibit 473, dated Jan. 27, 1938, is not that the subject of discussion which is mentioned in this minute, the permission of Dr. Selders to take Miss Abbott in Garfield when, under your rule, he could not be admitted in your hospital?

Mr. Lewin:—We object to that. The substance of the minute is in the minute.

THE COURT:—He may state whether or not that was the subject that brought about the minute which is recorded there. He may state that.

A.—Might I, in getting my dates correct, ask if this meeting was held after the letter was written to Mr. Aspinwall?

Mr. Lewin:—Obviously the witness is not testifying from his independent recollection.

THE COURT:—I do not know. I will wait and see.

Mr. Lewin:—It is perfectly obvious from that request.

THE COURT:—He may be refreshing his recollection about it.

The Witness:—Well—

Mr. Lewin:—I object to this unless the witness has an independent recollection.

THE COURT:—Do you recall what brought about that minute?

The Witness:—I believe—it is my recollection that this had some bearing on the case being transferred to Garfield and treated after it left Emergency. That was one reason for the discussion in the minutes.

THE COURT:—The next question.

By Mr. Leahy:

Q.—Is it not a fact, Mr. Sandidge, that at that time the regulation which you stated—

Mr. Lewin:—I object to that. The question is leading, and there is no necessity for it.

Mr. Burke:—This is cross examination.

Mr. Lewin:—I don't care if it is. There is no hostility from this gentleman, and there is no reason for leading an argumentative question.

THE COURT:—Cross examination always permits leading questions.

Mr. Lewin:—Not in every case, your Honor. It depends on the attitude of the witness.

THE COURT:—The rule against leading questions applies to direct examination; and it may be permitted in direct examination under certain circumstances.

Proceed.

By Mr. Leahy:

Q.—Mr. Sandidge, when the minute states that the Board of Emergency expressed its appreciation of Major Blair's support of their Courtesy Staff, does not that refer to the fact that Major Blair had supported the rule and regulation which you said had been in effect since April, 1936, that only members of the District Medical Society could practice in the hospital?

A.—That is right.

Q.—That rule did not refer, however, to emergency cases, did it?

A.—No, sir.

Q.—Because in your report, which is United States Exhibit 480, the annual report for the year ending Dec. 31, 1938, you state on one of the pages to which your attention has been directed, page 7:

"No patient is ever turned away from Emergency Hospital without treatment and advice."

Is that statement true?

A.—Yes, sir.

Q.—So that the rule referred to in the minutes and about which appreciation was expressed is the rule that a doctor cannot habitually practice his profession in your hospital until he has been admitted to courtesy privilege; is that right?

Mr. Lewin:—We object to that. The documents are in and they speak for themselves.

THE COURT:—I think it is argumentative. Objection sustained.

By Mr. Leahy:

Q.—Showing you, also, a letter which you wrote to Dr. Lee—and that letter is dated Nov. 1, 1937—when you wrote that letter to Dr. Lee did you write that letter also because of the rule which had been enforced since April 1936?

A.—Yes, sir.

Q.—And that is the only reason you wrote it, is it not?

A.—Yes.

Q.—There was not anything personal against Dr. Lee, was there?

A.—Not to my knowledge.

Q.—You did not write it to Dr. Lee because he was on G. H. A. staff, did you?

A.—I wrote it because we thought he had not been extended courtesy privileges, that he was not a member of the District Medical Society.

Q.—It was not because he was connected with Group Health Association in any way that you wrote the letter?

A.—No.

Q.—In other words, whether he was or was not connected made no difference; the fact was that if he was not on the staff that would bring forth that letter?

A.—That is correct.

Q.—When you found you were mistaken and he was still a member of the District Medical Society, you wrote him the next letter, did you not?

A.—Yes.

Q.—In which you apologized for the fact that you had been mistaken, and wrote and told him that his courtesy privileges were continued; is that right?

A.—That is true.

Q.—With reference to these other documents which were shown you, one as far back as July 29, 1937, and the other Dec. 2, 1937, we will not take time to read them over. You recall them when you see them, do you not, Mr. Sandidge?

A.—Yes.

Q.—Do you know whether you ever saw those in the Emergency Hospital or not?

A.—Whether I ever saw them?

Q.—Yes; either one or both of them.

A.—Yes; they came over my desk.

Q.—Do you recall what you did with them after they came over your desk?

Mr. Lewin:—Objected to. It is beyond the scope of the direct examination, perfectly plainly so. He can prove all those letters in his case.

THE COURT:—What would make that question germane to the direct examination?

Mr. Leahy:—I think the statement was made that they came out of the files of Emergency Hospital—

Mr. Lewin:—There is no doubt about that. This witness testified they went over his desk. Now you go further and want to know what he did with them.

Mr. Leahy:—They could have gone over his desk and then into the wastebasket.

Mr. Lewin:—Maybe they did, but this is not the way to prove it.

By Mr. Leahy:

Q.—I will ask this question. Was any action of any kind taken, if you know, with reference to these by which—

Mr. Lewin:—We object to that.

Mr. Leahy:—Pardon me—by which they were ordered to be kept in the files of the hospital?

Mr. Lewin:—Do not answer that until his Honor rules.

THE COURT:—He may answer that.

The Witness:—Will you put that question again?

By Mr. Leahy:

Q.—Was any action taken by your hospital under which you were directed to preserve these in the files of the hospital?

A.—None other than routine. All such matters are filed.

Q.—And you followed the routine and put them in the files?

A.—Yes.

Q.—Has your attention been directed to pages 6, 7 and 8 of this report before, Mr. Sandidge?

Mr. Kelleher:—By whom?

Mr. Lewin:—He prepared it. Is it not his report?

Mr. Leahy:—I don't know.

Mr. Lewin:—It is the report of the Superintendent. It says so.

The Witness:—Yes.

Mr. Lewin:—We object to the question.

THE COURT:—It is just preliminary, Mr. Lewin.

By Mr. Leahy:

Q.—This report would be made up each year in the ordinary course of your business as Superintendent; is that true?

A.—That is true.

Q.—And it is a report to whom?

A.—To the Board of Directors.

Q.—And it is a report about what?

Mr. Lewin:—Objected to. It speaks for itself.

THE COURT:—Of course it does.

Mr. Lewin:—Why should he characterize it then?

THE COURT:—When I agree with you there is no use arguing.

Mr. Lewin:—I beg your pardon, your Honor. I did not know you were agreeing with me.

Mr. Leahy:—I do not want all the details of it; but generally we have a book introduced and probably five or six hours later, on another day, something will be read from it.

THE COURT:—The title of the book shows what it is.

Mr. Leahy:—But I do not know what the book contains. It says, "Annual Report." I do not know what it is an annual report of.

Mr. Kelleher:—Why don't you read it?

Mr. Leahy:—All right; I will, if that is what you want.

THE COURT:—I want this bickering to stop. That does not get us anywhere on either side.

By Mr. Leahy:

Q.—Let us look this over together. In the first paragraph you state, on page 6, to which your attention has been drawn:

"ANNUAL REPORT OF THE SUPERINTENDENT"

"In this period of changes, new systems being adopted and the general rapid pace of experimentation, in plans for the health needs and hospitalization of our people who are in need of same, it would seem appropriate at this time to take a few minutes for retrospection.

"The great need in our city, for an institution of the character of the Central Dispensary and Emergency Hospital, was manifested as far back as the year 1871, for at that time the majority of supposed-to-be trivial accidents were taken to the police stations where the police surgeon was summoned. In case he could not be located, a doctor was sent for. Much unnecessary suffering was caused by this, and the consequences of neglect (often unavoidable) were sometimes disastrous.

"Public spirited citizens quickly recognized this inadequate condition of caring for the unfortunate, and this need resulted in the establishment of the present Emergency Hospital. The Charter of Incorporation (1882) reads as follows:

THE COURT:—Pardon me. What is the purpose of reading that?

Mr. Leahy:—Because I want to get in, if I can at this time, the connection of this document with Mr. Sandidge.

Mr. Lewin:—I will tell you the connection. He wrote it.

Mr. Richardson:—We did not ask you to tell us.

THE COURT:—I have no objection, if you are reading it to the jury.

Mr. Leahy:—So that the jury will know what it is all about:

"The Charter of Incorporation (1882) reads as follows: 'That the particular object of the Association or Society is to provide a suitable building in the city of Washington, D. C., for a dispensary where all needy persons without distinction may be provided gratuitously with medical and surgical service and treatment and with medicine.'

"In the following paragraphs I will endeavor to describe briefly how well the hospital has kept faith with the public throughout these many years.

"For the first year's operation \$150 was subscribed, and this, together with \$278 appropriated by the Legislature of the District, was the sum total for the treatment of 511 patients.

"For the year of 1938, there was a money turn-over in the amount of \$568,658.75. The greater part of this money was spent in the city of Washington, and employment was furnished to a daily average of some 344 persons on the hospital payroll, in addition to more than 100 special nurses daily engaged by the patients and other personnel in departments financed independently of the hospital proper.

"Therefore, as it stands today, from the standpoint of a financial enterprise alone, Emergency Hospital takes its place as one of the important business organizations of our city.

"The number of hospital days furnished patients for the year was 85,109.

"The number of dispensary visits furnished patients for the year was 25,110.

"The number of emergency room visits furnished patients for the year was 14,569.

"The number of ambulance trips furnished patients for the year was 3,313.

"No patient is ever turned away from Emergency Hospital without treatment and advice. If the nature of the patient's illness is a type as to make it dangerous for those patients already hospitalized, such first aid as is needed is given, and arrangements made for proper transfer.

"In living up to its charter and meeting the many demands for charity and part-charity during the year that this report covers, the hospital had to donate more than \$75,000 from its own resources, with a consequent deficit for the year of \$22,940.34, despite the most careful and economical management consistent with the high type of service which has been characteristic through its career.

"The hospital management is indeed grateful for the patronage of those patients who paid more than the cost of care, for this addition to cost was a direct contribution to public charity (the hospital being organized NOT FOR PROFIT). However, this type of patient was not sufficient in number at prevailing rates established in the hospital to carry all of this additional load, and philanthropic support was not as generous as in some former years. Nevertheless, the hospital authorities have followed the practice that if the hospital continues to maintain a deep regard for the health of the community as a whole, pay and free alike, the public as well as the Government will appreciate this humanitarian and necessary foresight, and will respond in due course to its financial needs.

"Aside from this great humanitarian work, which the hospital is doing, the great numbers of fine and splendidly trained young doctors and nurses who receive all or a part of their professional training here should not be overlooked. It is really inspiring to have them return, from all sections of the country, to pay a visit and speak in grateful appreciation of the excellent training they received here.

"Notwithstanding this great volume of work carried on year after year, the hospital has kept pace with modern methods and equipment. The physical plant has not been allowed to depreciate, new additions have been added. Modern equipment has been installed, such as air-conditioning units, devices for more direct communication, and many such improvements for the comfort of and service to patients and doctors."

Then follow some additions to the equipment, some of the more important highlights of 1938, such as the establishment of a blood transfusion fund, the purchase of a Bell fracture table, laboratories, and so forth, and then it says:

"The Ladies Auxiliary Board, as usual, has been active throughout the year, and we are indebted to this Board of fine women for their deep interest in the hospital and the splendid assistance they render. Their secretary's report is submitted separately, as well as reports from the various department heads."

Then "I record here with sorrow and a feeling of great loss the passing during the year" of certain people interested and closely identified with the hospital, and he signs it as his 19th Annual Report.

By Mr. Leahy:

Q.—Now, Mr. Sandidge, with respect to Emergency Hospital, is there any expense incurred in the maintenance and operation of that hospital which is not incurred for the maintenance and operation of that not-for-profit institution in the care of the sick?

A.—All funds are used for hospital purposes.

Q.—Where your report, without going into details, marks out the number of people on the payroll, the number of nurses, and so forth, those are necessary attendants required by you in the operation and maintenance of the hospital for the care of the sick; is that right?

A.—Yes, sir.

Mr. Lewin:—We will concede that.

By Mr. Leahy:

Q.—In other words, there is no business venture in Emergency, is there?

Mr. Lewin:—Just a moment. We object to that. It is written in the report that "as it stands today, from the standpoint of a financial enterprise alone, Emergency Hospital takes its place as one of the important business organizations of our city."

Mr. Leahy:—May I have the question answered? I certainly can cross examine him about his report.

Mr. Kelleher:—Further objection, on the ground that it calls for a conclusion, your Honor.

THE COURT:—He has already stated it, I think.

By Mr. Leahy:

Q.—There is no commercial enterprise, however, in the conduct of your hospital, is there?

Mr. Lewin:—We object to that. It is a matter of opinion.

THE COURT:—It appears quite clearly that the institution is a non-profit institution. It carries on its business along that line, and all of its funds are directed to that particular purpose.

Mr. Leahy:—If it is not disputed, we will not go any further on that.

Mr. Lewin:—We have not attempted to dispute it.

Mr. Leahy:—You are going to dispute it; otherwise you would not have introduced that word "business."

By Mr. Leahy:

Q.—Did you have a rule in your hospital, Mr. Sandidge, that each year the courtesy list is checked and that each year the members on the courtesy list are elected to privileges under that list?

A.—I would not say that it is a rule that it be checked each year. Automatically it is kept up to date, and each year each member of the courtesy list is notified that privileges for the ensuing year are extended.

Q.—Was there anything unusual in checking the courtesy list?

A.—Just to bring it up to date, to go over it and see that it was in correct order.

RE-DIRECT EXAMINATION

By Mr. Allen:

Q.—Mr. Sandidge, can you testify that it is a fact that every physician that used the courtesy privileges of Emergency Hospital during the year of 1937 was a member of the District Medical Society or one of the two adjoining societies?

A.—No; I could not testify that there were no exceptions.

Q.—Do you know it to be a fact that there were exceptions to that?

A.—During 1937 I could not answer that definitely, because I do not recall.

Q.—If we could show you otherwise or prove to the court otherwise, that there were other members, you would agree that that would be correct?

Mr. Leahy:—That is argumentative, of course.

THE COURT:—Yes.

By Mr. Allen:

Q.—Is it not true that as late as June 1, 1938, the staff found it expedient to make a recheck to further enforce that rule and regulation which you adopted?

A.—I think that is true; yes.

Q.—And it had not been completely enforced up to that date, which caused the staff to go ahead and attempt to enforce it strictly?

A.—When the courtesy staff file was originally made up the ruling that they had to be members of the District Medical Society was not in force, and naturally there were some doctors who were not members, and they were not automatically dropped. Some of them I feel quite sure were carried on. I mean, the courtesy list was not brought right up to date so that it would coincide with the membership of the District Medical Society.

Q.—Was it brought completely up to date as the result of this meeting of June 1, 1938?

A.—There may have been some exceptions. I do not recall the names, however.

Q.—At that late date there still might have been some exceptions, to your knowledge?

A.—Yes.

Mr. Allen:—I wish to read one paragraph from the minutes of June 1, 1938:

"A special meeting of the Executive Staff was held in Emergency Hospital. The recommendations of the courtesy committee in regard to approval or disapproval of applications for the courtesy staff were approved by the staff. It was directed that the courtesy committee carefully check the list of the doctors who had been given courtesy privileges in Emergency and who are not members of the Medical Society or their local medical societies in the case of physicians who are non-residents of the District, and that these members be notified that they must join the Medical Society, or the hospital will be obliged to revoke their privileges.

Mr. Kelleher:

Exhibit 446-A is a carbon copy of a letter written by Dr. Fishback to "Dear John," on the letterhead of the Washington Academy of Surgery, dated Dec. 9, 1937. The witness testified that the "John" referred to was Dr. John Lyons:

"I have transmitted your report to George Washington University Hospital."

The next paragraph is not important and I shall not read it, but the next paragraph is as follows:

"I am anxious to talk to you before you reach any decision on Dr. Selders, especially if there is feeling that he will be disapproved purely because of his connection here in Washington. As a matter of

policy and tact, and I believe for the good of general public attitude toward the profession, the question of his relationship to the Group Health Association, Inc., should not be permitted to enter the discussion."

Exhibit 444 is the original minutes of the defendant Washington Academy of Surgery of a meeting held on Friday, Dec. 10, 1937. I shall read only the paragraph appearing on page 2 of the minutes:

"Discussion concerning the Group Health Association ensued. It was suggested that the professional qualifications of the surgeon of that organization alone be considered, as a matter of public policy. However a motion of Dr. Sager's was passed requesting the Hospital Privilege Committee to consider the ethics of any applicant as well as his strictly surgical training and experience. Ethics were understood to be as defined by the American Medical Association. It was emphasized that investigation should include knowledge of an applicant's earlier behavior in other communities before coming to this locality."

It is signed by Dr. F. C. Fishback.

Exhibit 445 is a letter from the secretary of the defendant Washington Academy of Surgery to the Superintendent of George Washington University Hospital, Washington, D. C., dated Dec. 8, 1937, and it reads as follows:

"Sir:

"The Committee on Hospital Privileges recommends:—

1. Approval of Dr. Howard H. Strine for general surgery.
2. Approval of Dr. Carolyn S. Pincock for minor surgery.
3. Disapproval of Dr. Allen E. Lee to do general surgery.
4. Disapproval of Dr. Paul Harnet to do surgery.
5. Application of Dr. Ross Taggart is for privileges in normal obstetrics and therefore is returned without action.
6. The committee is attempting to obtain further information on Dr. Raymond E. Selders, and is not yet able to act on his application.

"Very sincerely yours,

"Secretary,"

"Washington Academy of Surgery".

Exhibit 447 is a carbon copy of a letter from the secretary of the Washington Academy of Surgery, F. C. Fishback, to Col. P. M. Ashburn, Columbia Hospital for Women, Washington, D. C., dated Jan. 31, 1938, reading as follows:

"Dear Colonel Ashburn:

"I have today been informed by the Committee on Hospital Privilege that they recommend the disapproval of the application of Dr. Raymond Selders to do general surgery.

"Very sincerely yours,

"F. C. Fishback,

"Secretary, Washington
Academy of Surgery."

Exhibits 448, 449 and 450 are letters from the secretary of the defendant Washington Academy of Surgery to Providence Hospital, Georgetown University Hospital, and Garfield Memorial Hospital, all of which are dated Jan. 31, 1938, in which it is stated that:

"The committee recommends disapproval of the application of Dr. Selders."

TESTIMONY OF FRANCIS J. EISENMAN

DIRECT EXAMINATION

Francis J. Eisenman said he is superintendent, Garfield Hospital, and was in 1937 and 1938. He identified the annual report, lists of committees and correspondence.

He listed also surgeons on the staff.

He also identified minutes of the committees.

Q.—And when extracted they would have the markings that appear here?

A.—They appear to be the proper minutes.

Q.—Is it customary for minutes to be kept of the Executive Committee?

A.—Yes.

Q.—Whose duty is it to keep the minutes of the Executive Committee?

A.—The Secretary of the Advisory Committee.

Q.—Who was he?

A.—Dr. McGovern.

Q.—Does his name appear at the end of the minutes?

A.—It does.

Q.—So, in view of that, can you say that they are the minutes of the Executive Committee called for by the subpoena?

A.—As far as I know, they are the minutes.

Q.—Have you any reason to doubt it?

A.—No reason other than—

Q.—Other than what?

A.—Well, I don't know.

Q.—Do you think I brought some fake minutes to you?

A.—No; I mean I can't remember what transpired.

Q.—No; I know that. But read them over and see if they are the minutes.

THE COURT:—He says he has no reason to doubt it. Why cross examine him on it?

Mr. Lewin:—If your Honor is satisfied, all right. I have had trouble with this sort of thing before. If I do not ask enough questions I am not successful, and if I do I still seem to be not successful.

Mr. Richardson:—Nothing from nothing is still nothing. Here the witness identified correspondence.

CROSS EXAMINATION

By Mr. Leahy:

Q.—I want to show you Exhibit 486. Is there any signature on that paper at all?

A.—No, sir.

Q.—Exhibit 483 was shown you, which is a carbon copy. Do you recall having seen the original of which this is a carbon?

A.—Yes.

Q.—And on the date which is mentioned there?

A.—I could not verify the date, except from the record.

Mr. Leahy:—Has this been offered?

Mr. Lewin:—No.

Mr. Leahy:—May I ask you if you plan to offer this in evidence?

Mr. Lewin:—I do not see what that has to do with it. You can cross examine on the authenticity of these documents.

Mr. Leahy:—The point is this, if your Honor please. He has simply handed up some documents and asked the witness to identify signatures thereon, and then, after the witness is excused, they are going to offer them all in evidence.

THE COURT:—I cannot control that, Mr. Leahy. I cannot compel the Government to offer documents.

Mr. Lewin:—If you have doubts as to their authenticity you can cross examine.

Mr. Leahy:—I know what I can do. I don't need your instructions.

Mr. Lewin:—I am sorry.

TESTIMONY OF FLORA HITCH

DIRECT EXAMINATION

By Mr. Kelleher:

Mrs. Flora Hitch said she was employed by Dr. William B. Marbury as nurse-secretary. She identified his signature.

Mr. Kelleher:—I will only read a part of it. Exhibit 295-A is the questionnaire which the witness has testified bears the signature of Dr. William B. Marbury who, as the evidence shows, was a member of the Hospital Committee of the District Medical Society representing Emergency Hospital.

"1. What communication has your hospital had from Group Health Association, Inc.?

"There has been some communication, the exact nature of which is not known.

"2. What reply has your hospital made to Group Health Association, Inc.?

"In effect that patients would be accepted, but could only be treated by doctors on staff, and courtesy lists.

"3. Which, if any of the following Doctors are now members of your Medical Staff in any capacity or have privileges to practice in your hospital?"

Mr. Kelleher:—There is a checkmark opposite the name of Dr. Allen E. Lee.

"4. Is your hospital in sympathy with the policies of the Medical Soc. of D. C.?

"Yes.

"5. Is the entire Medical Staff of your hospital reappointed annually?

"Yes.

"6. Are appointments to The Medical Staff of your hospital approved by The Medical Staff?

"Yes.

"7. What governing body of your hospital finally makes appointments to The Medical Staff?

"The Executive Staff.

"8. Does your hospital require membership in the Medical Society of D. C. as a qualification for appointments to its Medical Staff?

"Yes.

"9. What percentage of the entire Medical Staff of your hospital are members of the Medical Society of D. C.?

"Supposedly 100 per cent. Not checked.

"10. Does your hospital require membership in the A. M. A. as a qualification for appointment to its Medical Staff?

"Yes.

"11. What percentage of the entire medical staff of your hospital are members of the A. M. A.?

"Supposedly 100 per cent. Not checked.

"12. Is your hospital a beneficiary of Community Chest Funds?

"Yes.

"13. Will you kindly make any other inquiry that you think might be pertinent at this time?

"William B. Marbury."

THE COURT:—What hospital is that?

Mr. Kelleher:—That is Emergency, your Honor.

TESTIMONY OF CAROLINE REECE EPPERLEY

DIRECT EXAMINATION

By Mr. Allen:

Caroline Reece Epperley was formerly Caroline Sinclair Reece. From Jan. 1, 1937, to Dec. 20, 1938, she was Executive Assistant to the President, Dr. Louis H. Taylor of Sibley Memorial Hospital.

She identified letters, minutes, roster of the staff, etc.

TESTIMONY OF BEULAH C. MUMFORD

DIRECT EXAMINATION

Mrs. Beulah C. Mumford said she was admitting nurse at Sibley Memorial from Jan. 1, 1937 to Dec. 30, 1938.

Q.—And as admitting nurse, what were your duties?

A.—To make all reservations for incoming patients from doctors as they called in, and assign the room; schedule operations; write preoperative orders, and admit the patients.

Q.—As part of your duties, if some physician called up that didn't have privileges, it was your duty to determine whether to admit him from instructions previously had by you from Dr. Taylor?

A.—Yes.

Q.—I show you a Government Exhibit, No. 496, and ask you to tell the jury what that document is.

A.—Well, that is a little memorandum for our own personal use, which we kept just as a reminder.

Q.—Did you write that?

A.—I did.

Q.—And you did it to conform with instructions given to you by—

Mr. Leahy:—Objected to; you are leading the witness.

By Mr. Allen:

Q.—How did you come to write this?

A.—Well, there were so many different people relieving in our office and we were told verbally that these particular people should not have reservations if calling, and the memorandum was written so that anyone coming in would be able to find it, because it is very hard to carry everything in your head. That is why I say it was a personal memorandum.

Q.—At whose instructions was it made?

A.—No one.

Q.—At whose instructions were you told to admit these persons?

Mr. Leahy:—She said no one told her.

Mr. Lewin:—She said some one told her not to let these people in.

THE COURT:—Who told you that?

The Witness:—The president of the hospital.

Mr. Allen:—That is all.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Mrs. Mumford, you have seen this before?

A.—Yes.

Q.—Is that all in your handwriting?

A.—No, sir; the signatures are not in my handwriting.

Q.—Would you tell us what part of that you refer to as containing the signatures?

A.—It is my handwriting down to here (indicating).

Q.—Down to the—

A.—Signature.

Q.—And whose signatures are those?

Q.—And were those people in the hospital at the time, Mrs. Mumford?

A.—Yes.

Q.—Did you pass this around to them for their signatures?

A.—We kept it in our office and asked them to read and sign it.

Q.—When you say "we," you mean those of you in the office?

A.—Yes.

Q.—And you wrote this up as your own personal memorandum?

A.—Yes.

Q.—And this language is your language?

A.—Yes.

Q.—Do you recall the date you wrote this?

A.—No, sir.

RE-DIRECT EXAMINATION

By Mr. Allen:

Q.—Who were these members and what were their duties?

A.—They were staff members and they do relieving in the admitting office at times.

Q.—Do similar work as you?

A.—Yes, sir.

(Counsel for both sides approached the bench.)

Exhibit 482, gives the names of the Advisory Committee of the medical staff as of Jan. 1, 1936. They are:

"Dr. H. C. Macatee chairman, Dr. J. W. Lindsay secretary, Dr. B. F. Weems, Dr. H. H. Kerr, Dr. F. J. Eisenman superintendent."

THE COURT:—I don't think you mentioned the hospital.

Mr. Lewin:—Garfield Memorial, and "the same Committee" with the exception of the Secretary—Dr. F. X. McGovern elected Secretary in place of Dr. Lindsay:

"On Jan. 1, 1938, Dr. H. C. Macatee chairman, Dr. F. X. McGovern secretary, Dr. A. B. Bennett, Dr. T. E. Neill, Dr. L. C. Ecker, Dr. R. L. Silvester, Dr. F. J. Eisenman superintendent.

"In October 1938 Dr. R. L. Silvester was elected as secretary of the Advisory Committee in place of Dr. McGovern."

Mr. Lewin:—Exhibit 483 is a carbon copy of a letter dated Nov. 15, 1937, from Francis J. Eisenman, Superintendent to Dr. Raymond E. Selders, 1328 Eye Street, Northwest, Washington, D. C.:

U. S. EXHIBIT 483

"My dear Dr. Selders:

"Acknowledge receipt of a request for Surgical Privileges at Garfield Memorial Hospital. Your application has been referred to the Advisory Committee for action at their next meeting.

"You, no doubt, are cognizant with the routine procedure for courtesy privileges in all Class A hospitals. We have required for the past twelve years or more that all such requests be referred to the Medical Advisory Committee of the Board of Directors for recommendation.

"This Committee is expected to meet on or about Nov. 29, 1937.

"Sincerely yours,

"Francis J. Eisenman, M.D.,
"Superintendent."

Mr. Lewin:—Exhibit 500 is the letter which the evidence shows was sent by Dr. Conklin to all the local private hospitals in Washington, and Exhibit 500 is the one to the Garfield Memorial Hospital, enclosing the so-called white list.

Exhibit 498 is another letter from Dr. Conklin to the Chief of Staff, Garfield Memorial Hospital, dated Dec. 2, 1937:

U. S. EXHIBIT 498

"Dear Doctor:

"Pursuant to formal action of the Medical Society of the District of Columbia, in session on the evening of Dec. 1, 1937, the attached resolution is sent you.

"Very truly yours,

"C. B. Conklin, M.D.,
"Secretary."

Mr. Lewin:—Enclosed is the resolution.

"THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

1718 M Street
Washington

"Resolution adopted by the Society, in session on the evening of Dec. 1, 1937:

"Resolved, That as a matter of educational policy the Medical Society of the District of Columbia strongly recommends that all hospitals engaged in the teaching and training of residents, interns, and nurses, where possible, follow the recommendation of the American Medical Association regarding the constitution of their entire Medical Staffs, namely, that each appointee be a member of the Medical Society of the District of Columbia or a local medical society in this immediate neighborhood and a member of the American Medical Association."

Mr. Lewin:—Exhibit 486 is the minutes of the Advisory Committee, Medical Staff, Garfield Memorial Hospital, held Dec. 6, 1937, with the typewritten signature of the secretary, F. X. McGovern, M.D. From those minutes I read:

U. S. EXHIBIT 486

"The Secretary was requested to reply to the Medical Society of the District of Columbia in regard to a Resolution passed by the Medical Society on Dec. 1, 1937."

Mr. Lewin:—The next is this reply of Dr. McGovern; it is Exhibit 484. It is signed by Dr. McGovern as Secretary, Advisory Committee, Garfield Memorial Hospital, and addressed to Dr. C. B. Conklin, Secretary, Medical Society of the District of Columbia.

U. S. EXHIBIT 484

"Dear Dr. Conklin:

"In reply to your letter of Dec. 2, 1937, enclosing the resolution of the Medical Society adopted Dec. 1, 1937, I have been requested to advise you that the present policy in force at Garfield Hospital is in conformity with the provisions of the above-mentioned resolution.

"Respectfully yours,

"F. N. McGovern,

"Secretary, Advisory Committee."

Mr. Lewin:—The next exhibit from Garfield which I would like to read is 485, and is a memorandum from Francis J. Eisenman, M.D., Superintendent, Garfield Memorial Hospital, to Surgical Service, Garfield Memorial Hospital, dated Dec. 3, 1937:

U. S. EXHIBIT 485

"Gentlemen:

"Refer for your consideration the application of Dr. Raymond E. Selders for Surgical Privileges. This is not a 'Run of Mine' case, and your action may be far reaching. Information shows him to have sufficient training for personal recognition, when compared with many now approved for courtesy privileges at Garfield Memorial Hospital. He is a member in good standing in A. M. A., County and State Medical Societies in Texas, and was returning from Massachusetts to Texas when offered the position with H. O. L. C.

"Should your recommendation be adverse, for other than personal qualifications, request they be stated, in order that the Board of Directors might have the benefit of your advice and counsel.

"Three applications sent the Academy of Surgeons, (two of which were returned the second time) on Sept. 24, 1937. They approved of Dr. DeBayle, made no comment on Dr. Carbo, and did not even return the papers on Dr. Taggart, both of whom are practicing here, awaiting action on their application.

"Application of Dr. Wm. Hollister for Jr. Associate in Surgery. No vacancy.

"Yours very truly,

"Francis J. Eisenman, M.D.,

"Superintendent."

Mr. Lewin:—Now, here comes the letter from Dr. McGovern, Secretary, Advisory Committee, Medical Staff, Garfield Memorial Hospital, addressed to Mr. C. A. Aspinwall, President, Board of Directors, Garfield Memorial Hospital. It is dated Dec. 17, 1937:

U. S. EXHIBIT 499

"My dear Mr. Aspinwall:

The following is recommendation of the Advisory Committee of the Medical Staff to the Board of Directors of Garfield Memorial Hospital:

"That pending the settlement of the question raised as to the ethical status of Group Health Association, Inc., and pending further study of the professional qualifications of Dr. Raymond E. Selders, that he be not granted Courtesy Privileges at Garfield Memorial Hospital, except of course in a real emergency."

"The reason prompting this recommendation is the fact that Group Health Association, Inc., a lay corporation, is considered unethical by the Medical Society of the District of Columbia, and its legality is being questioned. Dr. Selders has been hired by Group Health Association as its surgeon. It is the opinion of the Advisory Committee that if Garfield Hospital allows Dr. Selders courtesy privileges that it would be placed in the light of aiding and abetting Group Health Association, Inc.

"Yours very truly,

"F. N. McGovern, M.D.,

"Secretary, Advisory Committee, Medical Staff."

Mr. Lewin:—And the next I will read is Exhibit 487, a report which the Superintendent, Francis J. Eisenman, made to Mr. C. A. Aspinwall, on March 28, 1938. It reads:

U. S. EXHIBIT 487

"My dear Mr. Aspinwall:

"I went over the Minutes of the Executive Committee and Board of Directors for the past nine months and find the following:

"In February 10 Executive Committee meeting a letter from Mr. Kirkpatrick re Dr. Selders privileges was read. No action.

"Dec. 28, 1937, Executive Committee. The Committee considered the Resolution of the Medical Staff on application of Dr. Selders as follows:

"That pending the settlement of the question as to the ethical status of Group Health Association, Inc., and pending further study of the professional qualifications of Dr. Raymond E. Selders, that he be not granted Courtesy Privileges at Garfield Memorial Hospital, except, of course, in a real emergency."

Discussed, accepted, and referred to the Board of Directors, recommending approval.

"Meeting of the Board of Directors of March 22, 1938, the President in reviewing the proceedings stated our official connection with Group Health Association was the application of Dr. Selders for surgical privileges, the temporary privileges extended him awaiting action on the application, and the withdrawal of these privileges on recommendation of the Medical Staff. (As noted in Resolution Executive Committee meeting of Dec. 28, 1937), awaiting legality of Group Health Association. The actual disqualification of Dr. Selders application was by the Board of Directors at meeting on Jan. 25, 1938, in which the Minutes of the Executive Committee meeting of Dec. 28, 1937, were read.

"In approving these Minutes, the Board desired to state that in denying the privileges of the Courtesy Staff of the Hospital to Dr. Raymond E. Selders on the recommendation of the Medical Staff of the Hospital, the action was pending the legality of the Organization who employed Dr. Selders."

"Yours very truly,

"FRANCIS J. EISENMAN, M.D.,
Superintendent."

TESTIMONY OF CLAUDE C. CAYLOR

DIRECT EXAMINATION

By Mr. Allen:

Claude C. Caylor was Secretary, Providence Hospital. He identified the roster, minutes and correspondence.

Mr. Leahy:—I will now read Exhibit 501. It is on the stationery of the X-Ray Department, Providence Hospital, Washington, D. C. There is a hand-written notation in the right hand corner "Copy of letter sent by me to non-members of the D. C. Medical Society," signed "C. C. Caylor."

The letter reads:

"As a result of the recent inspection of Providence Hospital by the Council on Medical Education and Hospitals of the American Medical Association, we have been reminded that several of our Staff members are not members of the American Medical Association or any of its constituent societies. This is one of the requirements to be met in order to be acceptable for approval for intern training, and at a recent meeting of the Executive Staff it was voted to request all members of the Staff to cooperate in meeting this requirement.

"The Staff has instructed me to inquire if you will not cooperate with it in meeting this requirement?

"If you are now a member of the American Medical Association or any of its constituent societies, please let me have that information.

"Yours very truly,"

Mr. Allen:—Now I will read Exhibit 502:

"U. S. EXHIBIT 502.

"MINUTES OF THE EXECUTIVE STAFF

"Nov. 18, 1937.

"The meeting was called to order by the President Dr. Mundell, with Sisters Rosa and Gertrude, and Drs. Fadelley, Putzki, Cahill, Duchring, Sanderson, O'Donnell, Moody, Hess, Leibell, Caylor, Higgins and Argy present.

"The minutes of the October meeting were read and approved.

"The report of the intern committee was approved."

Mr. Allen:—I am going to omit the next paragraphs of the minutes, which deal with other matters, and go down to the last paragraph:

"Correspondence between the Group Hospital Association and the Hospital was read relative to the admission of beneficiaries of the Association to the hospital, and the care of such patients. It was brought out that such patients would be admitted in accordance with the regulations of the hospital, and that physicians in the employ of the Association should first obtain hospital privileges in the usual manner before they could attend such patients.

"The meeting then adjourned.

"C. C. Caylor,
Sec."

Mr. Allen:—I now read Exhibit 503, dated Feb. 17, 1938. It is from Dr. Caylor to Dr. Raymond E. Selders.

"U. S. EXHIBIT 503

"Dear Dr. Selders:

"I regret to inform you that your application for privileges to practice in Providence Hospital has been disapproved by the Staff.

"Yours truly,

"Claude C. Caylor, M.D.,
Secretary."

Mr. Allen:—Exhibit 504 is the Regular Staff for 1938, which I won't read at this time.

Government's Exhibit 506 is a letter from Dr. Conklin to the Chief of Staff, Providence Hospital, dated Dec. 2, 1937, and encloses the December 1st resolution, which has been read several times and which Mr. Lewin read just a few minutes ago.

TESTIMONY OF MARIAN DANIEL GODBOLD

DIRECT EXAMINATION

By Mr. Kelleher:

Mrs. Godbold was employed with the Columbia Hospital for Women during the years 1937 and 1938 as Secretary to the Superintendent of the Hospital, Colonel Ashburn.

She identified minutes and correspondence.

FEBRUARY 27—AFTER RECESS

(Counsel for the defendants presented a formal objection to the admission of evidence concerning the hospitals.)

TESTIMONY OF DR. FRED O. COE

DIRECT EXAMINATION

By Mr. Timberlake:

Fred O. Coe was a member of the Executive Staff of Georgetown Hospital during 1937 and 1938. He identified Dr. Dardinski's signature.

Dr. Dardinski was charged with taking the minutes of meetings of the executive staff.

TESTIMONY OF MATTIE M. GIBSON

DIRECT EXAMINATION

By Mr. Allen:

Mattie M. Gibson was superintendent of the Children's Hospital from Jan. 1, 1937, to Dec. 20, 1938. She identified minutes of the board of directors, minutes of the medical staff, the roster of the staff and correspondence with Drs. Conklin and Scandiffio.

Mr. Lewin:—I should like now to read to the jury from the correspondence pertaining to Sibley Memorial Hospital.

Exhibit 492 is a list of the medical staff of Sibley Hospital for 1937, and Exhibit 477 is a list of the medical staff for 1938, and I will not read them.

No. 494 is an old friend, which I will not read again. It is a letter from the District Medical Society, from Dr. Conklin, this time, to the Sibley Hospital, dated July 29, 1937, and its enclosure is the White List of approved persons which omits the name of Group Health Association, Inc.

Mr. Leahy:—You might omit calling it the White List. You objected so strenuously to the term "check-off."

Mr. Lewin:—You just want a little tit for tat. All right.

I will read to the jury the response from Dr. Lewis H. Taylor, president of Sibley Memorial Hospital, to that letter enclosing the approved list. It is Exhibit 493, dated Aug. 26, 1937, addressed to the Medical Society of the District of Columbia, Dr. Coursen B. Conklin, Secretary:

"I wish to acknowledge receipt of your communication of July 29, 1937, relative to the action of the Executive Committee of the Medical Society of the District of Columbia on July 12, 1937 in fulfillment of Chapter IX, Article IV, Section 5 of the Constitution.

"I have had this communication placed in the appropriate file of the Hospital and its provisions will be carried out by this institution.

"Very sincerely yours,

"Lewis H. Taylor, M.D.

"President."

The next one is an old friend. You don't mind my calling it that, do you, Mr. Leahy? It is Exhibit 495 and it is also a letter from Dr. Conklin, Secretary of the District Medical Society, to the Chief of Staff of Sibley Memorial Hospital, dated Dec. 2, 1937, and it encloses a resolution of the Society adopted on the evening of Dec. 1, 1937.

Here is the response of the president of Sibley Memorial Hospital to that communication. It is Exhibit 490, dated Dec. 6, 1937, and addressed to Dr. C. B. Conklin, Secretary, The Medical Society of the District of Columbia, and it reads as follows:

"My dear Doctor Conklin:

"I wish to acknowledge receipt of your letter of Dec. 2, 1937 referring to the action of the Medical Society on Dec. 1, 1937 and also the inclosed resolution. My impression is that membership in the Medical Council of this institution is already on the basis suggested in the resolution. There are no changes in the Council's personnel in contemplation at present, but should such contingency arise, you will know that proper regard will be paid to the wishes expressed in the aforementioned resolution.

"With kind personal regards to you, I am

"Very sincerely yours,

"Lewis H. Taylor, M.D.

"President."

Before continuing reading the documents of the Sibley Memorial Hospital I would like to turn to the minutes of the Executive Committee of the defendant District Medical Society for April 11, 1938, and I will read from page 3. I had better tell you who was present. The defendant Dr. William Mercer Sprigg presided, and there were present Drs. Borden, Chipman, Claud, Fowler, Holden, Hooe, Gill, McGovern, Murphy, Neill, Reed—John A. Reed and E. Hiram Reede—Lomax Wells and C. B. Conklin.

On page 3, after a lot of colloquy, I read the following:

"At this point Dr. F. X. McGovern asked to be heard. He stated that he had, he believed, the proper interests of the Medical profession at heart. He was of the opinion that frequent press releases would be playing into the hands of the Group Health Association. Furthermore, he had attended a luncheon at which Dr. William C. Woodward and Dr. Wright were present, and that Dr. McGovern's action relative to the press had been commended. It was apparent to Dr. McGovern that the Group Health Association, as such, was licked and that it was a very small affair com-

pared with the much larger, national in scope, movement that was now under way. He did believe that for these reasons certain proposals by Mr. Fulton Lewis Jr. were made without sufficient knowledge of the full implications."

Then, turning to page 6:

"Dr. McGovern was recognized and said it was plain that the questions that Dr. Hooe had propounded to Mr. Lewis came from Mr. Lewis and that he wanted to make it plain that he believed the Group Health Association was now nothing but a bubble. He cited what he succeeded in getting in the press personally, ending by saying that since The Post printed an editorial inspired by him (Dr. McGovern) Mr. Kirkpatrick hasn't opened his mouth. He resented strongly his being on trial, which it was very plain that he was.

"Dr. Hooe was recognized. He stated that he had not made any plea for Mr. Fulton Lewis' services tonight—just presenting facts. He added that he had another very important matter to bring before the committee—that was relative to the hospitals. He thought that a meeting should be arranged in the Medical Society Building, to which would be invited the official representatives of the various hospitals. He stated that the hospitals had been cooperative. He thought that the Society should get the representatives all together with view to expressing appreciation and standardizing action against the Group Health Association group physicians.

"Dr. Hooe would make a motion that the Chairman of the Executive Committee be authorized and directed to appoint a committee, consisting of many members, including such doctors as Drs. A. C. Christie, F. X. McGovern, W. M. Sprigg, Sterling Ruffin and others, to perfect arrangements and conduct the meeting.

"The secretary offered an amendment to the effect that the Compensation, Contract and Industrial Medicine Committee, with certain supplementary additions, operate the meeting. Dr. Hooe thought his original plan was to be preferred.

"The motion as originally made was seconded and adopted."

The minutes are signed by the defendant C. B. Conklin, Secretary.

I should like to read, also, from the minutes of the Annual Stated Meeting of the Medical Society of the District of Columbia held Wednesday, May 11, 1938, at 8 p. m.:

"Dr. Thomas E. Neill, president, presiding.

"Present: Drs. Vaughan, Prentiss, Trinder, Elward, Fong, Talbot, Reede, Alfaro, Thompson, Gwynn, Rench, Thomas, Barry, Mallory, Leonard, Foye, Arnold, King, Fowler, Christie, Clark, and other members to the number of about 460.

"The minutes of the preceding meetings held April 27 and May 4 were read and approved."

Now I should like to turn to page 14:

"Dr. R. Arthur Hooe was recognized. He made a motion to the effect that the Medical Society of the District of Columbia go on record as forbidding its members to receive monies or checks for services rendered to beneficiaries of Group Health Association, Inc., or its agencies and so notify the membership of the Medical Society.

"Dr. Hooe was confident that the Legal Department of the American Medical Association would render an opinion consistent with the motion. He said he had conferred with counsel for the Society and upon request read a communication that had been addressed to the Secretary, as follows:

"May 10, 1938.

"Dr. C. B. Conklin, Secretary,
Medical Society, D. C.
1718 M St. N.W., Washington, D. C.

"Dear Dr. Conklin:

"Mr. George F. Hoover tells me that he has received from Dr. Hooe a request for information which it is understood is desired by the Medical Society, namely, as to whether members of the Society should accept payment for services rendered members of Group Health Association.

"Mr. Hoover, Mr. Leahy and I have considered the subject and it is our advice that members of the Medical Society should not accept any payments whatsoever from Group Health Association and should issue no receipts in favor of said Association; and that with respect to treatment rendered patients who happen to be members of Group Health Association, the physician who renders the treatment can accept payments made directly by the patients.

"Very truly yours,

"F. A. Fenning."

"Dr. C. B. Conklin made a motion that this matter be referred to the Executive Committee for consideration and report. No second to this motion.

"Dr. W. Raymond Thomas made a motion that the matter be laid on the table. Seconded and not adopted.

"Dr. Hooe restated his motion to the effect that the Medical Society of the District of Columbia go on record as forbidding its members to receive monies or checks for services rendered to beneficiaries of Group Health Association, Inc., from or over the signature of Group Health Association, Inc., or its agencies and so notify the membership of the Medical Society. Seconded and finally adopted."

And the minutes are signed by C. B. Conklin, Secretary.

I will resume the reading of the Sibley Memorial Hospital correspondence.

Government Exhibit 417 is a letter from Dr. Lewis H. Taylor, president of Sibley Memorial Hospital, to Mr. William C.

Kirkpatrick, President, Group Health Association, dated Feb. 5, 1938, which reads as follows:

"My Dear Mr. Kirkpatrick:

"I am returning you herewith a check of the Group Health Association for \$66.80 on which there is a notation 'hospitalization for Miss Tommie Lee Nix.' This check was evidently sent to us by mistake. As you are aware from correspondence between your predecessor, Mr. William F. Penniman, and myself, as President of Sibley Memorial Hospital, the application of Group Health Association to this institution for the admission of its members is still under advisement. The Board of Directors of this institution have arrived at no conclusion in the matter and pending their decision, of course, none of your Group, as such, are eligible for hospital privileges here.

"For your information, I may state that Miss Tommie Lee Nix on Dec. 24, 1937 was admitted to this hospital on the service of Dr. Rush Conklin. Later, she was transferred to the service of Dr. A. B. Little and was then operated on by Dr. Oliver Cox. On her admission card, responsibility for her bill is assumed by and over the signature of James R. Nix, 2900 Seventeenth St. N.E., and we look to this gentleman or the patient, Miss Tommie Lee Nix, for the settlement of her account.

"Very sincerely yours,

"Lewis H. Taylor, M.D., President."

The next is Government Exhibit 491, and it is a memorandum to Admission Office, Accounting Department, from Lewis H. Taylor, president of Sibley Memorial Hospital, dated Feb. 8, 1938:

"Please use every precaution to see that no patient is admitted as a member of the Group Health Association, Inc., of the Home Owners' Loan Corporation. Also, that all checks in payment of service rendered patients be scrutinized closely to see that they are not made out by this organization. The reason for this memorandum is that Group Health Association, Inc., has applied for the privilege of having their members admitted to this hospital and that their application is still pending and has not been acted on by the Local Board of Directors.

"Lewis H. Taylor, M.D., President."

Exhibit 496 is a handwriting memorandum which was identified by the witness Mumford on the stand this morning. In handwriting it says:

"Group Health Association, H. O. L. C.

"Dr. Henry Brown, Director,

"Dr. Raymond Selders, Surgeon

"Dr. Allen Lee

"Dr. Edmund Wells

"Dr. Stephen Hulburt

"Dr. M. Scandiffio.

"These doctors are not to be allowed in at any time.

"L. Welch

"Beulah Mumford

"H. R. Dutton

"D. A. Wood

"J. Jenney

"M. M. Realine."

The next is Government Exhibit 418, which is Mr. Kirkpatrick's reply to Dr. Taylor in regard to the Nix check, dated Feb. 18, 1938:

"My Dear Dr. Taylor:

"I am in receipt of your letter of Feb. 5, 1938 with which you return a check issued by Group Health Association, Inc., bearing number 247, in the amount of \$66.80, to the order of Sibley Memorial Hospital. This check is in payment of a bill dated Jan. 5, 1938 rendered by your hospital for services rendered to Miss Tommie Lee Nix, a member of this Association, while confined in your hospital from December 24 to December 31, 1937.

"In your letter you state that the check was evidently sent to you in error and refer to the fact that on the stub of the check there is a notation which reads 'hospitalization for Miss Tommie Lee Nix.' We wish to advise there was no mistake on our part in transmitting the check in question. Under provisions of the by-laws of Group Health Association, Inc., Miss Nix is entitled to have provided to her hospitalization when such is necessary. Miss Nix having received hospitalization in your institution for the dates mentioned is therefore entitled to have the cost of that hospitalization paid for by Group Health Association, Inc. Your attention is invited to the fact that the stub which contains the notation referred to is not in any sense a part of the body of the check. The stub is provided only for information of the payee as to what the check is intended to cover. In depositing the check, if you so choose, the stub of course may be detached before the check is deposited. We are, therefore, returning the check herewith and ask that it be deposited in the usual course.

"In the first paragraph of your letter you state that application of this Association to admit its members to your hospital is yet under advisement by your Board of Directors and that until a conclusion is reached members of Group Health Association, Inc., are not entitled to receive the privileges of your hospital. I gather from your letter that because patients may be members of Group Health Association, Inc., they are by that fact not entitled to be treated at Sibley Memorial Hospital until such time as your Board has approved their admission as such members. It is difficult for us to appreciate this conclusion. We understand that hospitals in the District of Columbia are maintained for the service of members of the community and that those comprising the community may enjoy the privileges of treatment at those hospitals when necessary and that membership in Group Health Association, Inc., could hardly be regarded as a reason for denying such persons admission to your hospital when such is necessary. I do not believe that the ston to your hospital when such is necessary. I do not believe that the Methodist Episcopal Church, which we understand is the owner of Sibley Memorial Hospital, would approve such a policy.

"We can well understand that admission to your courtesy staff of any member of the staff of physicians of Group Health Association, Inc., is entirely within the discretion of the authorities of your hospital and that you have every right to insist that any physician or surgeon admitted to courtesy privileges in your hospital should first establish beyond all doubt the fact that he is in every respect qualified for admission to the courtesy staff. We cannot, however, comprehend that citizens of the District of Columbia when in need of treatment at your hospital should be denied that privilege merely because they are members of this Association.

"Very sincerely yours,

"W. C. Kirkpatrick, President."

To which the president of Sibley Memorial Hospital makes response by letter dated Feb. 21, 1938, Exhibit 419, as follows:

"My dear Mr. Kirkpatrick:

"I wish to acknowledge receipt of your letter of Feb. 18, 1938 addressed to me as President of Sibley Memorial Hospital and returning to me a check, numbered 247, issued by the Group Health Association, Inc., in the amount of \$66.80, said check made to the order of Sibley Memorial Hospital and dated Jan. 17, 1938; the purpose of this check as indicated on its stub, 'Hospitalization for Miss Tommie Lee Nix.'

"Miss Tommie Lee Nix was admitted to the Hospital on the service of Dr. Rush Conklin on Dec. 24, 1937. Miss Nix signed her own card of admission on which appears the name of her brother, James R. Nix, 2900 17th Street, N.E., who assumed responsibility for the payment of her bill while in this institution. On her admission card appears no reference whatsoever to the Group Health Association, Inc. It should be apparent that pending the decision of the Local Board of Directors of Sibley Memorial Hospital, who are considering the request of your Association, the institution would not receive your members as such. This Hospital is open to citizens of the District of Columbia and the surrounding country and has been since its foundation over forty years ago. The fact that an individual is a member of any organization, yours or otherwise, has nothing to do with entry to Sibley Hospital. I am therefore, returning your check, 247. We confidently expect and know that Miss Nix or her brother who signed responsibility for her bill, will settle this account.

"Very sincerely yours,

"Lewis H. Taylor, M. D., President."

The next is Government Exhibit 420. It is on the letterhead of Group Health Association, Inc., and comes from R. T. Berry, Secretary-Treasurer, Group Health Association, Inc., addressed to Dr. Lewis H. Taylor, M.D., President, Sibley Memorial Hospital, dated March 30, 1938:

"Dear Dr. Taylor:

"We have again received our check 247 in the sum of \$66.80, drawn to your order for hospitalization incurred by Miss Tommie Lee Nix.

"We regret that you seem to be unable to accept payment for an apparent just debt. We wish to inform you that the expense so incurred by Miss Nix is payable by this association and any delinquency in payment as may appear on your records is due entirely to the fact that this check has not been accepted and we wish you to understand that the credit standing of Miss Nix in the District of Columbia or elsewhere is not to be affected in any way, pending your decision as to whether or not you will definitely decline or accept this check.

"When you wish payment, kindly notify this office and we will again forward you the check to clear your records.

"Very truly yours

"R. T. Berry, Sec'y.-Treas.,
Group Health Association, Inc."

That was in March. Next we see in June Government Exhibit 421 from Lewis H. Taylor, M.D., President of Sibley Memorial Hospital, to W. C. Kirkpatrick, President of Group Health Association, Inc.:

"June 20, 1938.

"My dear Mr. Kirkpatrick:

"I am returning to you herewith, a check of the Group Health Association, numbered 931, in the amount of \$31.00, on which there is a notation 'for board, drugs, and laboratory service, Miss Taylor Owen.'

"Miss Taylor Owen was admitted to Sibley Hospital on May 23, 1938, on the service of her physician, Dr. A. McNitt. On her admission record, responsibility for her account was assumed by her sister, Miss Moss Owen.

"Similar action was taken in the case of Miss Tommie Lee Nix and the reasons therefore were plainly stated in correspondence between you and myself and may be found in my letters to you.

"The Local Board of Directors have arrived at no decision in the matter of the application of Group Health Association for certain privileges in Sibley Memorial Hospital. I will communicate to you promptly any action which they may take in the matter.

"Very sincerely yours,

"Lewis H. Taylor, M. D., President."

Here comes Mr. Kirkpatrick's response, Government Exhibit 422, dated Aug. 5, 1938, addressed to Dr. Lewis H. Taylor, President, Sibley Memorial Hospital:

"Dear Dr. Taylor:

"This will acknowledge receipt of your letter of June 20, 1938 with which you return our check 931 in the amount of \$31.00 for Board, Drugs and Laboratory Service to Miss Taylor Owen, a member of

Group Health Association, Inc. The check in question is returned herewith together with a request signed by Miss Owen that you accept the check as tendered.

"Very truly yours,
"W. C. Kirkpatrick, President."

The enclosure is the communication referred to of Aug. 5, 1938, to Sibley Memorial Hospital, reading as follows:

"Dear Sirs:

"This is to advise you that Group Health Association, Inc. has been by me requested to make payment to you of the indebtedness due you of \$31.00 arising out of your recent services to Miss Taylor Owen.

"If for any reason you do not accept the tendered payment, you will kindly advise Group Health Association, Inc., the basis of your refusal as I expect to leave settlement of this indebtedness entirely with the Association, and have given it full authority to act for me in the premises."

To which the president of Sibley Memorial Hospital, on Aug. 12, 1938, makes response, Government Exhibit No. 423, as follows:

"Miss Taylor Owen,
2019 Eye Street, N.W.
Washington, D. C.

"My dear Miss Owen:

"Receipt is acknowledged of your letter of Aug. 5, 1938, enclosing check of Group Health Association No. 931, in the amount of \$31, payable to the order of Sibley Memorial Hospital. Said check is returned to you herewith.

"It is requested that you pay the amount of your indebtedness to this hospital in cash.

"Yours very truly,
"Lewis H. Taylor, M.D., President."

Government Exhibit No. 424 is Mr. Kirkpatrick's letter dated Aug. 26, 1938:

"Dear Mr. Taylor:

"This will refer to your letter of Aug. 12, 1938, addressed to Miss Taylor Owen, 2019 Eye Street, N.W., Washington, D. C., which letter has been referred to the writer for attention by Miss Owen.

"Miss Owen has previously notified you that this Association is acting in her behalf with respect to the hospital bill amounting to \$31.00 due you.

"You will find enclosed our check No. 931, which was previously forwarded to you and which was returned with your letter to Miss Owen, now duly certified by the Riggs National Bank.

"If for any reason you do not see fit to accept this certified check, advice as to the basis of your refusing to do so will be appreciated.

"You can readily understand the considerable trouble which would be involved in making a formal legal tender in cash to you of the amount in question. I feel certain that your attitude will not be such as to require us to resort to this extremity.

"Very truly yours,
"W. C. Kirkpatrick, President."

To which the president of Sibley Memorial Hospital, Dr. Lewis H. Taylor, on Aug. 30, 1938, makes response, Government Exhibit 425, as follows:

"Dear Miss Owen:

"Receipt is acknowledged of a letter of Group Health Association dated Aug. 26, 1938, with the enclosure being a certified check in the amount of \$31.00 therein referred to. Said letter purports to have been sent in your behalf.

"The check is returned to you herewith, with the request, as previously made in our letter addressed to you under date of Aug. 12, 1938, that you pay the amount of your indebtedness to this Hospital in cash.

"Yours very truly,
"Lewis H. Taylor, M.D., President."

Government Exhibit 426 is a somewhat similar letter from the same Dr. Lewis H. Taylor, president of Sibley Memorial Hospital, this time to Mr. Howard F. Vickery, another member of Group Health Association, in regard to refusing payment of Group Health Association's check for his account. It is dated Aug. 2, 1938. I will not bother to read that, nor will I read at this time Government Exhibit 427, which is Mr. Kirkpatrick's letter in regard to the Howard Vickery case, which enclosed the authorization of Mr. Vickery to the Sibley Memorial Hospital to accept check. Nor will I read the letter dated Aug. 12, 1938, in regard to a similar matter. Nor will I read Government Exhibit 429, which is Mr. Kirkpatrick's letter to Sibley Memorial Hospital dated Aug. 13, 1938. Perhaps I should give you the last word in this series. I do not think it is necessary to read it, however. It is exactly like one of the others that I read. This is as late as Aug. 30, 1938. It is Exhibit 430, Dr. Taylor's letter to Howard Vickery, finally refusing a certain check and demanding cash.

Mr. Kelleher:—I wish now to read the documents which were introduced through the witness from Columbia Hospital.

Exhibit 507 is the minutes of a meeting of the Executive Committee of Columbia Hospital, dated Dec. 2, 1937:

"(b) the Hospital Committee of the Medical Society of the District of Columbia has recommended to the Society that all members of the staffs of all hospitals in the District be asked to join the Medical Society of the District or the American Medical Association, but the District Medical Society has not yet acted upon the recommendation."

Then, turning to page 2 of the minutes, I read the following, which is still part of the Superintendent's report:

"The Superintendent reported correspondence with the Group Health Association within the Home Owner's Loan Corporation, indicating, on the part of the Association, a desire to have its members accepted for hospitalization at customary rates, and that Dr. Selders, one of its employees, be allowed to treat such members when hospitalized here. The Superintendent had replied that the hospital would doubtless be willing to accept members of the Association at the customary rates, but that no physician could practice here until appointed to either the regular or courtesy staff by the Board of Directors. Following this, Dr. Selders made application in Classes 1, 2 and 3, which application is now under consideration by a committee appointed within the Medical Board, because the application did not show the special training and large experience in Obstetrics and Gynecology which are usually demanded of applicants for privileges in Classes 1 and 2.

"The Superintendent further reported a visit from Mr. Penniman of the Home Owner's Loan Corp., who explained the objective of the cooperative society and expressed a desire to work in the closest harmony with physicians and hospitals, stated that the cooperative society expects to pay but \$4 per day toward the hospital expenses of its members and that those members must themselves pay any additional charges. He asked that pending action upon Dr. Selders' application for privileges, temporary approval be granted him in case of emergency work or obstetrics. The Superintendent informed Mr. Penniman that privileges would be granted for cases of normal obstetrics pending the decision.

"Dr. Sprigg, a representative of the Medical Board, counseled delay in action upon both the requests made by the Group Health Association and Dr. Selders pending legal decision at present being sought in regard to the Association, and that meanwhile emergency cases requiring hospitalization be accepted as a measure of humanity. The Superintendent asked if the Committee had any instructions as to how he should proceed in case of request for admission of patients and was advised, upon motion of Mr. Blair, that action in such cases be left to his judgment. Mr. Lesh then stated that, if it were true, he thought that it should be made a matter of record that the Superintendent's action and the proposals now made meet with the approval of the Medical Staff and, upon assurance by Dr. Sprigg that such is the case, it was decided to make a record of the fact."

U. S. EXHIBIT 508

Mr. Kelleher:—Exhibit 508 is the minutes of the meeting of the Board of Directors held on Wednesday, Sept. 21, 1938, at 3:30 o'clock p. m. I will read the following paragraph:

"The Medical Board reported as follows on the applications for courtesy privileges:

"Dr. Raymond E. Selders, Classes 1 and 3, the Medical Board informs the Board of Directors that it considers it inadvisable to act at this time on the application of Dr. Selders."

Now I read paragraph D:

"The Superintendent reported 'Group Health has asked for the granting of privileges to its doctors. Captain Wells had informed them that action might be taken at this meeting. The action on Dr. Selders' application indicated above is the answer."

Mr. Leahy:—Will you not read what is above that?

Mr. Kelleher:—I have read it; I will read it again if you like. I have no desire to read the rest of the paragraph D, unless you want me to.

"The Medical Board reported that it considers it inadvisable to act at this time on the application of Dr. Selders."

Mr. Kelleher:—Exhibit 511 is the minutes of the Medical Board of Columbia Hospital, Dec. 9, 1938:

"U. S. EXHIBIT 511.

"The following applications for hospital privileges were considered, Dr. Clark P. Halstead, Class 3, postponed pending further information," and the minutes show that the applications of two other doctors were postponed at the same time. Unfortunately, I have read some of these minutes out of order. I would like to read the minutes of the Medical Board for Sept. 19, 1938:

"Dr. Sprigg moves to consider the application of Dr. Selders for privileges in Classes 1 and 3, and that he not be endorsed for the privileges. This was seconded by Dr. Mundell and discussed by Drs. Sprigg, Wilson, Sylvester, McNitt, Mundell and Copeland, after which, Dr. Wilson moved that the following be substituted for Dr. Sprigg's motion:

"That the Medical Board inform the Board of Directors that it considers it inadvisable to act at this time on the application of Dr. Wilson."

"This was seconded by Dr. Sylvester and was carried by five to two. Dr. Wilson then moved the adoption of his substitute. Dr. Sylvester seconded the motion and it was passed by a vote five to two."

Mr. Kelleher:—Exhibit 514 is the letter of the defendant Conklin dated July 19, 1937, to the Superintendent of the Hospital, enclosing the list of approved organizations.

Exhibit 515 is the letter from Dr. Conklin to the Chief of Staff of Columbia Hospital dated Dec. 2, 1937, and enclosing the resolution of the Medical Society adopted on Dec. 1, 1937.

Mr. Timberlake:—May it please the Court, I will now read from Government's Exhibit 440-A, a letter from Sister M. Rodriguez to C. B. Conklin, Secretary, The Medical Society of the District of Columbia, dated Dec. 7, 1937:

"U. S. EXHIBIT 440-A

"My dear Dr. Conklin:

"I am in receipt of the copy of the Resolution adopted by the Medical Society of the District of Columbia.

"It gives me pleasure to state that the Executive Staff of the Georgetown University Hospital, in session on Oct. 11, 1937, acting on the recommendation of the American Medical Association concerning the approval of Residencies and Internships ruled as follows:

"That all members to the Courtesy Staff shall be nominated and elected annually and that no physician shall be nominated or elected to any staff of the hospital unless he is a member of his local or County Medical Society and of the American Medical Association. Members who are already on the staffs, as well as those who are applying for privileges to practice in the hospital, shall be notified to qualify within the year.

"Thanking you for past courtesies, I am,

"Sincerely yours,

"SISTER MARY RODRIGUEZ,

"Superintendent."

Mr. Timberlake:—Government's Exhibit 516 is the minutes of the "Special Committee of the Executive Committee on Hospital Administration" held Jan. 20, 1938, in the staff room of the hospital, Father McCauley presiding.

"U. S. EXHIBIT 516

"SPECIAL MEETING OF THE EXECUTIVE COMMITTEE
ON HOSPITAL ADMINISTRATION

"Special meeting of the Executive Staff was held Jan. 20, 1938, at 4 p. m. in the staff room of the hospital, Father McCauley presiding.

"Those present were Drs. Coe, Martel, Whitmore, Vaughan, Koppanyi, Mollari, Cavanaugh, Cahill, Solnitzky, Milone, Mundell, Stanton, Duehring and Dardinski.

"Sister Rodriguez presented the case for consideration which concerned a patient admitted from the H. O. L. C. The question to be decided:

"1. Was the patient now (after 48 hours) to be considered an emergency case.

"2. Would Dr. Selders be allowed to treat the case in spite of the fact that his credentials had not yet been approved.

"Dr. Vaughan felt that the case was no longer an emergency and that Dr. Selders should not be allowed to continue with the case.

"Dr. Coe said the case must be taken care of and that he had been in consultation with Dr. Selders on the case and had advised him to have orthopedic consultation.

"Dr. Cahill thought we should take action, since we had no report from the Washington Academy of Surgery we should act ourselves. He said Dr. Selders is not qualified and a case is no longer an emergency after 48 hours.

"Dr. Martel thought that Mr. Penniman was pressing Sister on a good opportunity. Being an emergency case Sister consulted with Drs. Coe, Martel, Duehring and Dardinski. All agreed to admit patient as emergency. Now we must consider is the case still emergency. If patient is moved what would be the consequences. Furthermore Dr. Selders says he doesn't care who treats the patient but patient must pay doctor. They will not.

"Dr. Stanton said that Dr. Coe had suggested treatment and Dr. Selders is not taking advice. Best interests of patient to be considered first. Case is no longer an emergency.

"Dr. Coe thought that Dr. Selders can do it only with consultation of staff member.

"Dr. Martel moved that Dr. Selders be informed case ceases to be an emergency and should cease treating case.

"Dr. Vaughan again stated that case was not an emergency. The case now could wait a week. Dr. Selders has no right to handle case and now it becomes hospital case. He should not be allowed to operate but courtesy of being present when man operates should be extended to Dr. Selders.

"Dr. Coe described the operation.

"Dr. Mundell thought there were many angles to the case and expressed himself in favor of allowing Dr. Selders to go on with the case.

"Dr. Koppanyi suggested we defer action until we see what other hospitals do.

"Dr. Duehring felt that case should be treated by Dr. Selders to avoid trouble.

"Dr. Vaughan does not agree with Drs. Duehring, Koppanyi and others in favor of allowing Dr. Selders to continue with case.

"The original motion of Dr. Martel's withdrawn. Dr. Martel moved that emergency no longer exists.

"Passed 5 no, 10 yes.

"Sister Rodriguez moved that although permission was given to treat the case now that the case has become operative it must be done under supervision of one of our approved orthopedic surgeons according to the rules of the hospital.

"Passed unanimously.

"Dr. Cahill moved that surgical privileges be withdrawn from Dr. Damian. Dr. Coe seconded. Passed unanimously.

"Motion made to adjourn.

"V. J. Dardinski, M.D.,
"Secretary."

U. S. EXHIBIT 517

Mr. Timberlake:—Now I read from Exhibit 517, which are the minutes of a "Special Meeting of the Executive Committee on Hospital Administration," held Thursday, March 10th:

"SPECIAL MEETING OF THE EXECUTIVE COMMITTEE
ON HOSPITAL ADMINISTRATION

"A special meeting of the Executive Staff was held Thursday March 10th at 12 noon. Father McCauley presiding.

"Those present were Sister Rodriguez, Drs. Hird, Vaughan, Martel, Koppanyi, Cavanaugh, Mollari, Wall, Milone, Solnitzky, Duehring, Cahill, Coe, Mundell, Cutting, and Dardinski.

"Subject for consideration was the letter sent out by the Group Health Organization, Inc., inviting members of the Hospital Staff to attend meeting which was to be held Friday, March 12.

"This letter was read by Father McCauley.

"Dr. Coe read a motion which after suggestions and amendments by Drs. Hird, Wall and Duehring finally read as follows:

"The Executive Staff appointed Dr. Duehring to represent the Georgetown University Hospital in an informal capacity at the Group Health Association meeting with the following instructions, which he is at liberty to use or ignore.

"1. The Georgetown University Hospital will grant privileges to practice to any doctor whose qualifications are such as are deemed sufficient by the credentials committee of the hospital to practice his specialty.

"2. Any patient who is a member of the Group Health Association applying to the Georgetown University Hospital for treatment of any nature will be admitted to the hospital and cared for by the doctor of his choice if said doctor is a member of the staff, or by a designated member of the staff.

"This was seconded and adopted.

"Dr. Duehring said he believed the group should be informed that the hospitals of this city are more open than hospitals in the New England States which are closed to all except those on the staff.

"Dr. Koppanyi said we should tell them frankly that hospitals cannot be coerced into taking men that were not qualified.

"Dr. Martel said that Dr. Scandifio is qualified. He has done something we do not approve and that probably that is what they would like to have some one say. Dr. Martel felt that we should not send a representative.

"Dr. Cahill said we could not ignore the letter. Providence Hospital is sending representative. Thought sending a letter would be better explaining we will be glad to take patients but men must be approved.

"Dr. Duehring moved that a representative be sent to speak informally. Seconded by Dr. Mollari.

"Dr. Coe thought that speaker might refer to the compensation commission work and suggest that the Group Health Organization, Inc. workings might be run along the same lines.

"Father McCauley asked Dr. Martel to go as representative but he declined for reasons of his own. Dr. Duehring was asked to go and accepted.

"Sister Rodriguez felt that a letter should be taken along with definite statements to be read.

"Dr. Vaughan thought that a letter should be taken and used if necessary.

"This was finally done.

"Moved to adjourn at 12:30 p. m.

"V. J. Dardinski, M.D., Secretary.

TESTIMONY OF R. STEPHEN HULBURT

DIRECT EXAMINATION

By Mr. Kelleher:

Richard Stephen Hulburt said he is a general practitioner, a graduate of Georgetown University in 1931.

Q.—And while you were in private practice were you associated with Georgetown University Hospital?

A.—Yes.

Q.—In what capacity?

A.—I was Clinical Instructor in Medicine in the Out Patient Department, that is the Dispensary.

Q.—And how long were you Clinical Instructor in that Out Patient Department?

A.—From about 1932 until about 1937.

Q.—What were your duties as Clinical Instructor?

A.—They were to take care of medical patients in the dispensary and to advise students there in their work.

Q.—Did you also at the same time have courtesy privileges at that hospital, that is, the privilege of bringing in your own patients and treating them there?

A.—I think I did.

Q.—Did you have that continually from the time you finished your internship until 1937?

A.—I don't believe I applied in a formal application immediately; it must have been, maybe, as much as two years before they requested me to fill out a formal application blank.

Q.—Would that be about 1935?

A.—Yes.

Q.—And did you fill out a formal application blank about that time?

A.—Yes.

Q.—And were you formally notified that you had such privileges at the Georgetown Hospital?

A.—Yes.

Q.—What privileges did you have?
A.—Privileges for general medicine; normal obstetrics and minor surgery.
Q.—Dr. Hulburt, did you join the staff of Group Health Association in 1937?
A.—I did.
Q.—Did you join as an assistant to Dr. Lee?
A.—That was the understanding.
Q.—Were you with Group Health Association at the time the clinic opened, their clinic?
A.—I was.
Q.—Who was Gretchen Moriarity?
A.—Gretchen Moriarity was one of the members of Group Health who came there as a prenatal case.
Q.—Did you handle her case early in 1938?
A.—I did.
Q.—Will you tell us what occurred on April 7, 1938, with respect to her case?
A.—I believe she phoned me at the clinic some time in the morning and said she—
Mr. Leahy:—I object to the conversation.
THE COURT:—Sustained.
By Mr. Kelleher:
Q.—Did you attend Mrs. Moriarity?
A.—I did.
Q.—In what condition did you find her?
A.—You mean in the clinic?
Q.—No, on April 7.
A.—I visited her at Georgetown Hospital and she was in labor and I gave her the necessary examination and went back to the clinic.
Q.—After she called you, did you call Georgetown University Hospital?
A.—Yes.
Q.—And whom did you talk to at the Hospital?
A.—I asked for the admitting office and talked with the girl in the office.
Q.—And did you ask permission to bring Mrs. Moriarity in?
A.—I did.
Q.—And what did the admitting office say?
Mr. Leahy:—I objected to that; it is hearsay.
Mr. Levin:—Falls under the same ruling your Honor has made.
Mr. Kelleher:—I will also connect it up with the Superintendent.
Q.—Did you speak directly with the admitting office: Did you ask for the admitting office?
A.—I asked for the admitting office, and I believe I was connected with it.
THE COURT:—While you were connected with the hospital you talked on the phone?
The Witness:—Yes.
THE COURT:—Overruled.
The Witness:—I talked with the girl in the office and told her I was Dr. Hulburt, connected with Group Health, and I had this obstetrics case in active labor. I would like to have her admitted as an obstetrics case; she needed hospitalization.
Q.—And what did the clerk in the admitting office say?
A.—She said she didn't know whether there was any vacancy, but she would find out, and I think she inquired of Sister James Joseph.
Q.—And who was Sister James Joseph?
A.—She was the Sister in charge of the office.
Q.—What was the conversation you had with her?
Mr. Leahy:—The same objection.
THE COURT:—Overruled.
A.—I asked her to admit this patient. I told her I wanted her to admit this patient; that she had a history of having previous children who were delivered very quickly, and her membranes were already ruptured, and I thought she should be in the hospital where she could be under observation.
Q.—And what did Sister Joseph say?
A.—She just asked me to wait a minute; she would take it up with Sister Rodriguez.
Q.—Did she make any suggestion as to who should handle Mrs. Moriarity in the hospital if she was admitted?
A.—I don't recall.
Q.—Did she say anything about the patient being treated as a house patient?
A.—She may have; I don't recall that especially; she may have said that.
Q.—What is a house patient?
A.—A patient who comes in and who is under the treatment of the physician in charge of that service in the hospital.

Q.—I believe you already testified that she said she would speak to Sister Rodriguez?
A.—Yes.
Q.—Who is Sister Rodriguez?
A.—She was the Superintendent of the Hospital at that time.
Q.—Did you wait at the phone while she did that?
A.—I did.
Q.—And did Sister Joseph return to the phone?
A.—Yes.
Q.—What did she say at that time?
A.—She said, Sister Rodriguez said it would be all right to admit her as an emergency patient; that they would never turn down any case that needed help.
Q.—Did you send Mrs. Moriarity in to the hospital?
A.—I did.
Q.—And you attended the patient in the delivery room at that hospital?
A.—You mean in the actual delivery room? I was in and I saw her in the first stage room.
Q.—Did a nurse approach you there at that time?
Mr. Richardson:—I suggest that the witness tell this without the leading questions.
THE COURT:—Yes.
By Mr. Kelleher:
Q.—Will you tell the jury what occurred there at that time?
A.—I went over there about 1 o'clock, I guess, in the afternoon, and examined her, and found that she was not having any pain, and that the procedure of the labor was not as fast as I anticipated, but I knew from her history she had a very rapid labor in other cases. In fact she had no other pains at all. So I examined her and went back to the clinic, and about 5 o'clock, while I was in the clinic, I received a phone call to come to Georgetown right away; that the patient was ready to be delivered. I started out but at that time of day the traffic was heavy. I didn't get here until 5:30. When I got there the nurse told me that Mrs. Moriarity had a sudden pain and the baby had been delivered without any pain. I examined her and found she was all right. The nurse then said that Sister Rodriguez wished to speak with me, so I waited in the doctors' room, the delivery room, and she told me she was glad to admit the patient as an emergency case, and that they would never think of not allowing any one to come into that hospital who they thought could be helped there, but that I should realize that I no longer had privileges there. I said I didn't know that; I had not been notified to that effect, but I didn't care to argue or remonstrate, so I told her I was sorry and went on.
Q.—When did you resign from Group Health Association?
A.—On April 25, 1938.
Q.—After you had resigned from Group Health, did you have a conversation with Sister Rodriguez about obtaining courtesy staff privileges from the hospital?
A.—I did.
Q.—And did you make formal application for such privileges?
A.—Yes.
Q.—Were those privileges granted to you?
A.—Yes.
Q.—Do you have a formal letter notifying you that such privileges had been granted?
A.—I do.
Q.—May I have it? I show you Exhibit 530 and ask you whether that is the letter you received after you applied for courtesy privileges at Georgetown Hospital, after your resignation from Group Health?
A.—It is.
Mr. Kelleher:—I offer Exhibit 530 in evidence.
Mr. Leahy:—No special objection.

U. S. EXHIBIT 530

Mr. Kelleher:—Exhibit 530 is dated May 12, 1938:

"My Dear Dr. Hulburt:
"Your application to practice at the Georgetown University has been approved by the Credentials Committee.
"You have been granted privileges to practice in the branches of medicine checked herein with the understanding that you become a member of your own local medical society within the year."
And there is a check mark next to "Minor surgery," "Medicine," and "Obstetrics, normal."

"Very sincerely yours,
"SISTER MARY RODRIGUEZ
"Superintendent."

By Mr. Kelleher:
Q.—Dr. Hulburt, while you were connected with the staff of Group Health did you apply for privileges at Columbia Hospital?
A.—I don't recall, while I was with Group Health.

Q.—Did you have privileges at Columbia while you were with Group Health?

A.—I don't believe I did.

Q.—Did you obtain privileges at Columbia after you resigned from Group Health?

A.—Yes, I did.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Doctor, do you recall now whether you had ever made application for privileges at Columbia Hospital before you went with Group Health?

A.—I don't recall.

Q.—Isn't it a fact that with any of the hospitals in Washington you have to make application for such privileges?

A.—Yes, that is the general procedure.

Q.—And you have no recollection now of ever having made such an application to Columbia while you were with Group Health, or before you were with Group Health?

A.—No.

Q.—And when you did make application you followed the general routine required by applicant for such privileges in the local hospitals?

A.—When I did apply?

Q.—Yes?

A.—Yes.

Q.—And when you so applied you received it?

A.—Yes.

Q.—Do you remember what year you made the application and received the privileges?

A.—I think 1938.

Q.—After you had resigned from Group Health?

A.—Yes.

Q.—And when was it you resigned from Group Health?

A.—April 25, 1938, I think.

Q.—And how long were you with the G. H. A.?

A.—Just a little over five months.

Q.—And what time did you serve with G. H. A. during that period; was it part time or full time?

A.—I understood it was to be part time, but before I had been there very long it developed into full time.

Q.—What was the reason for that?

A.—The demand was great. There was just so much work, there wasn't any time to do anything else. I did the clinic hours from 9 to 1, made the calls from 1 to 3 and from 3 to 6 was in the clinic.

Q.—When you first went to the clinic what was your time to be?

A.—That was an understanding with Dr. Lee, who first interested me. I understood I was going in to help him as a sort of his assistant in internal medicine.

Q.—Before you got through, you were doing other things?

A.—Yes, I was doing other things. The pressure of the work was so great, so varied, I was doing a great many things.

Q.—You say the pressure of the work was so great and so varied—

Mr. Kelleher:—We object to this line of testimony. It is not proper cross examination. We did not go into that.

THE COURT:—Objection sustained.

By Mr. Leahy:

Q.—At the time you went into the Group Health work, did you go into it for any definite period?

Mr. Kelleher:—Same objection.

Mr. Leahy:—You asked him about his resignation.

Mr. Kelleher:—I didn't ask him about his reasons at all.

THE COURT:—The cross examination is limited, of course.

Mr. Leahy:—Does your Honor hold that I should not go into the reason why he resigned?

THE COURT:—I don't think it is material.

Mr. Leahy:—May I approach the bench?

THE COURT:—Yes, you may have some reason that I can't think of.

Mr. Leahy:—If I have, I assume your Honor will admit the evidence.

(Counsel for both sides approached the bench.)

By Mr. Leahy:

Q.—Now, Doctor, will you tell us why you resigned in April 1938 from Group Health?

A.—Well, I resigned for many reasons that had been going over in my mind for many months, before I made my decision. I had gone to Group Health with the idea: I had heard Dr. Lee describe it as going into a new organization which would provide better medical practice, and it would build up to be comparable to the Ross-Loos Clinic in Los Angeles, and, perhaps, even the Mayo Clinic. That I would go in as an assistant and

be associated with men of national reputation, and I thought it would be of professional advantage to do that. I went in on that basis. For the first month it worked very well. There weren't so many people coming in. By the middle of December the volume worked up, the volume of work had become so great that I was doing work from early morning until late at night—full time work and over.

THE COURT:—I think that is too long; I don't want him to review his relationship with Group Health.

By Mr. Leahy:

Q.—I will ask you if the reason why you left the Group Health Clinic was not because from your experience with the Clinic you found you couldn't do good medical service because of the stress of work laid on you?

Mr. Kelleher:—Objected to; not proper cross examination.

THE COURT:—The Doctor can answer that question yes or no, and it excludes all his explanation as to his relationship with the Group Health; I think he may answer that.

THE WITNESS:—Will you read the question?

Mr. Leahy:—Was it the reason you resigned from the Group Health Clinic in April 1938, that after your experience with it for five months you found you couldn't do good medical work in the clinic because of the stress of work laid on you?

A.—Yes.

RE-DIRECT EXAMINATION

By Mr. Kelleher:

Q.—Didn't you come with Group Health with the understanding you would be Dr. Lee's assistant?

A.—Yes, to help him in medical work.

Q.—And what happened to Dr. Lee?

A.—He left.

Q.—Resigned from Group Health?

A.—Yes.

Q.—In December 1937?

A.—I guess it was about that time.

Q.—And was it then that the work of the Clinic increased and your duties increased?

A.—It was before the middle of December.

Q.—Did your duties increase after Dr. Lee resigned?

A.—They were increasing every day; even before he resigned.

Q.—Were they substantially increased after he resigned?

A.—Yes.

Q.—And were they heavy during the period between the time when Dr. Lee resigned and Group Health obtained Dr. Price?

A.—Yes.

Q.—Did the fact that you were excluded from Georgetown University Hospital influence you in your decision to resign from Group Health?

A.—No, not materially at all.

Q.—Did it influence you at all?

A.—It didn't influence me, it influenced my wife.

Q.—It influenced your wife?

A.—Yes.

Q.—Did you discuss this with your wife?

A.—Yes.

THE COURT:—I don't think it is necessary to go into that.

By Mr. Kelleher:

Q.—Are you a member of the Medical Society now?

A.—I am.

Q.—When did you join?

A.—I filed my application, I think, the following summer after I resigned from Group Health, and at the first meeting after that they acted on it; in November, I think it was, I was accepted in November 1938.

Q.—Prior to your resignation from G. H. A. did you have a discussion with the defendant Yater?

A.—I did.

Q.—What was the substance of that discussion?

Mr. Leahy:—I object to that.

THE COURT:—It is not re-direct examination.

Mr. Kelleher:—It bears directly on the question of why he resigned from Group Health.

THE COURT:—Are you cross examining him?

Mr. Kelleher:—No, this is re-direct examination.

THE COURT:—Well, still he is your witness. You can't cross examine him. If the question refers to anything he might have said to Dr. Yater, it would be a matter of impeaching your own witness, and I don't think you want to do that.

Mr. Kelleher:—I want to show what Dr. Yater said to him.

THE COURT:—You might ask him if Dr. Yater persuaded him in any way to resign, and if he says yes there might be something in that.

Mr. Kelleher:—I think I will let it go.
Mr. Kelleher:—May I recall the witness? I am very sorry.
THE COURT:—Yes.

By Mr. Kelleher:

Q.—Dr. Hulburt, on cross examination you testified that you could not recall whether you had applied for privileges at Columbia Hospital while you were a member of Group Health?

A.—Yes.

Q.—I now show you Government Exhibit 509, which is in evidence, and will read you this to see if it will refresh your recollection.

Mr. Leahy:—Just a minute. Let him see it.

Mr. Kelleher:—I am going to read it.

Mr. Leahy:—No you are not; you should show it to the witness.

Mr. Kelleher:—In order for the situation to be clear, I will read it to the jury:

U. S. EXHIBIT 509

"The application of R. Stephen Hulburt for privileges was tabled."
This is the minutes of the Medical Board. Now does that refresh you as to whether you applied for privileges at Columbia Hospital during the period while you were with the G. H. A.?

A.—No, sir.

Mr. Kelleher:—No further questions.

I now would like to read from Exhibit 510, the minutes of the meeting of June 9, 1938, of the Board of Columbia Hospital.

U. S. EXHIBIT 510

"The following applications for courtesy privileges were considered.
"R. Stephen Hulburt was approved."

TESTIMONY OF FRANCIS X. RICHARDSON

DIRECT EXAMINATION

By Mr. Lewin:

Francis X. Richardson said he was licensed to practice medicine in the District of Columbia in 1938. He graduated from George Washington University and interned at Providence Hospital.

In 1937 and 1938 he lived at 118 Carroll Avenue, Takoma Park, Maryland. He was then a member of the American Medical Association's constituent Society in Maryland. He joined the medical staff of the Group Health some time in December, 1937.

Q.—Did you apply for the appointment?

A.—No, sir. I applied for the appointment in that a man asked me if I would be available for outside calls and I told him I thought I would, and I did go and see about it.

Q.—Who was the man who suggested that?

A.—George McDuffy.

Q.—After Mr. McDuffy asked you whether you would be available, did you then go down to the Group Health Clinic and apply for the work?

A.—I went to see Dr. Brown, who was the Medical Director.

Q.—And as a result of that conversation did you join the staff?

A.—For outside calls, yes.

Q.—Now, what kind of a doctor are you? Have you any specialty?

A.—No.

Q.—Would you be known as a general medicine man?

A.—General practitioner.

Q.—You are not a surgeon?

A.—I am not.

Q.—What services did you undertake to perform for Group Health?

A.—My contract with them was to take outside calls when they called at my office, and make visits to homes.

Q.—Was it intended to be full time, or were you permitted to practice on the side?

A.—It was part time; I was to be permitted to practice in addition.

Q.—And what was the arrangement as to your compensation, at first?

A.—The arrangement was that I should receive a salary of \$150 for making the outside calls, and 4 cents a mile for mileage.

Q.—\$150 per what period of time; per month?

A.—Yes.

Q.—You were to get \$150 and 4 cents a mile for transportation?

A.—Yes.

Q.—Now did you enter into the performance of these services?

A.—Yes, I did.

Q.—How long did you continue with Group Health on that basis?

A.—I resigned from Group Health on the 15th day of July, 1938.

Q.—That is a little over six months after you joined the staff?

A.—Yes.

Q.—Before you resigned had there been any change in the basis of your compensation?

A.—Originally I was only to take calls in and around Takoma Park, and I then took some calls in the District when they raised the compensation to \$200 a month.

Q.—You resigned July 15, 1938?

A.—Yes.

Q.—Did you have a conversation with two members of the defendant, District Medical Committee, on that day at the Sibley Memorial Hospital?

A.—I don't know whether those men were members of the Medical Society or not. I had a conversation with Dr. McNulty and Dr. Mann.

Q.—What are Dr. McNulty's initials?

A.—I am not positive.

Q.—Were those men friends of yours, close friends?

A.—I know Dr. McNulty pretty well. I had known him while I was an intern.

Q.—You don't know his initials?

A.—No.

Q.—Do you know Dr. Mann's initials; Jesse Mann?

A.—I know it is Jesse Mann.

Q.—Where did you have the conversation?

A.—In the cloak room at the Sibley Hospital.

Q.—Did you have courtesy staff privileges at Sibley?

A.—Yes.

Q.—At the time?

A.—Yes.

Q.—All through the 1937 and 1938?

A.—Ever since I began practicing medicine.

Q.—And at other hospitals?

A.—Garfield and Providence.

Q.—Did you have them during that seven months period in 1938?

A.—Yes.

Q.—Now, how did the conversation with Dr. McNulty and Dr. Mann begin? Did they start the conversation or did you?

A.—Dr. McNulty asked me—

Mr. Leahy:—I object to the conversation; it is pure hearsay; the answer is not responsive.

THE COURT:—He didn't ask you that.

The Witness:—Dr. McNulty.

By Mr. Lewin:

Q.—Had you been attending a patient at Sibley at the time the conversation began?

A.—I had; I had been; I was leaving and getting my hat at the cloak room.

Q.—Had you been attending a Group Health patient at Sibley, or a private patient at Sibley?

A.—A private patient; I never had any Group Health patients at any hospital.

Q.—You are not a surgeon?

A.—I never had anything to do with a case requiring hospitalization for a Group Health patient.

Q.—Were Drs. Mann and McNulty together when you had this conversation with them?

A.—Yes.

Q.—Now will you tell the jury. Give your best recollection of the substance of what they said to you.

Mr. Leahy:—Objected to as hearsay.

Mr. Lewin:—It is already in evidence that Dr. McNulty was a member of the District Medical Society, and had been attending some of the meetings. That appears from the minutes which are here and which have been read. It is also in evidence that Dr. Mann was on the Hospital Committee of the Medical Society, which committee was under the chairmanship of Dr. Warfield; and your Honor will also recall from the evidence the activities of that committee. With that evidence in the record I ask that I be permitted to have the statements made at that time to this witness.

THE COURT.—I doubt very much if it is competent evidence. Will you step up here?

(Thereupon counsel approached the bench.)

FEBRUARY 28—MORNING

TESTIMONY OF DR. FRANCIS X. RICHARDSON (RESUMED)

DIRECT EXAMINATION (RESUMED)

By Mr. Lewin:

The witness was asked to identify the letter sent on July 15, 1938, to the Medical Director of Group Health Association.

Mr. Leahy:—That is objected to, if your Honor please, entirely immaterial; the witness is here.

(Mr. Lewin handed document to THE COURT.)

THE COURT:—Step up here a minute.

(Counsel for both sides approached the bench.)

By Mr. Lewin:

Q.—Now, did you write and send in this letter, Exhibit 531, after you had this talk in the cloakroom in the Sibley Hospital with Drs. Mann and McNulty? A.—Yes.

Mr. Lewin:—Exhibit 531 is Dr. Richardson's resignation. It is on his letterhead. It is addressed to R. G. Selders, the Medical Director of G. H. A., and reads:

"Dear Dr. Selders:

"This is to advise you that upon receiving this letter I shall be no longer available to accept calls for Group Health Association.

"Sincerely yours,

"Francis X. Richardson, M.D."

By Mr. Lewin:

Q.—Now, without telling us what was said at that conversation let me ask you whether there was any connection between that conversation and this resignation.

Mr. Leahy:—Objected to.

THE COURT:—Sustained.

By Mr. Lewin:

Q.—Without telling us what the conversation was at the Sibley Hospital, tell us why on July 15, you sent in this resignation.

Mr. Leahy:—Same objection.

THE COURT:—Sustained.

Mr. Lewin:—Will you hear me on this? It is clearly under the allegation of the indictment.

THE COURT:—The only effect would be to get in indirectly what I have ruled out directly.

Mr. Lewin:—I thought you ruled it out as hearsay.

THE COURT:—It is an attempt to get into this case hearsay.

Mr. Lewin:—The indictment alleges he resigned for a certain reason. I should like to show that reason.

THE COURT:—You have told me that. I have ruled.

Mr. Lewin:—I can't go any further; I hand him over to you.

CROSS EXAMINATION

By Mr. Leahy:

Q.—And you had your own office from 1934 to 1937?

A.—Yes.

Q.—And you went in with Group Health as a part-time man, did you? A.—Yes.

Q.—What time: when did your hours begin? A.—It began in the morning any time, about ten-thirty, as a rule, I used to get the first call.

Q.—And ran on all through the day and night? A.—It ran up to night, yes.

Q.—How late at night? A.—Very seldom did I have to make calls after 8:00 o'clock at night.

Q.—Have you any idea how many calls a day you made?

Mr. Lewin:—Objected to as immaterial.

THE COURT:—Sustained.

Mr. Leahy:—Could I ask your Honor to approach the bench?

THE COURT:—Yes.

(Counsel for both sides approached the bench.)

By Mr. Leahy:

Q.—You were first employed at the rate of \$150 per month? A.—Yes.

Q.—The Group Health Association paid you, did it? A.—Yes.

Q.—And later on it was increased to \$200 a month? A.—Yes.

Q.—Do you remember when it was raised to \$200?

Mr. Lewin:—Objected to. Not proper cross examination.

THE COURT:—It was brought out on direct. He may answer.

The Witness:—Some time in February.

TESTIMONY OF WILLIAM C. KIRKPATRICK
Recalled as a witness.

FURTHER DIRECT EXAMINATION

By Mr. Lewin:

Q.—Mr. Kirkpatrick, I would like to ask you whether you know how final payment was made for hospitalization bills at the Sibley Hospital, bills of Tommie Lee Nix; Howard Vickery, and Miss Taylor Owen. A.—Yes, I know.

Q.—How was it done? A.—Made in cash.

Q.—By whom? A.—Well, I had the cash drawn and in one instance I gave it to my secretary to take up there; and in another instance I gave it to one of the patients, and in the third instance our bookkeeper took it up, Mr. Bias.

Q.—And the money came from the treasury of Group Health Association? A.—Yes, we drew the money from the bank. We didn't receive receipts for that money, as an association.

Q.—Did you have any instances in which Group Health Association compensated members of the District Medical Society for services rendered to Group Health patients? A.—Yes, I recall a few instances of that sort.

Q.—Were there any cases in which it was necessary to pay in cash? A.—Yes, I think Dr. Warfield was one instance.

Q.—Now, what was your purpose in seeking this interview with Mr. Rice of the Washington Sanitarium? A.—Our purpose was this. We hadn't succeeded at that time in getting our doctors into the hospitals in Washington so we thought we would try the Washington Sanitarium, and for that purpose we went to see Mr. Rice.

Q.—What did you say to Mr. Rice on that occasion, and what did he reply? A.—I told Mr. Rice—

Mr. Leahy (interposing):—Who is he, Mr. Rice?

The Witness:—Credit manager of the Washington Sanitarium.

Mr. Leahy:—I object to the conversation with Mr. Rice.

THE COURT:—The position of credit manager doesn't indicate any general power on the part of such a person to bind the hospital.

Mr. Lewin:—Your Honor has already admitted Exhibit 451, which is Mr. Kirkpatrick's letter to Mr. Rice.

THE COURT:—Yes, I did that in the belief, on the theory that in the natural course of things a letter sent would get to the proper official of the hospital. When you ask for a conversation had with a credit manager, that is something else. There does not appear any inherent power in such a person to speak for the corporation.

By Mr. Lewin:

Q.—How did you make your approach to the Washington Sanitarium; had you known Mr. Rice previously? A.—No, we went out there and asked for the man in charge and were directed to Mr. Rice.

Q.—You asked for the man in charge of the hospital? A.—Yes.

Q.—Who did you ask that of? A.—The information desk.

Q.—And you were directed to Mr. Rice? A.—Yes.

Q.—Did he have an office there? A.—He did.

Mr. Lewin:—What do you think of it now, your Honor?

THE COURT:—I don't think that helps any. I don't know who directed him. It may have been an elevator boy.

The Witness:—No, it was a lady seated behind a desk marked "Information."

Mr. Lewin:—I don't know how a person would go about reaching the proper official. He said he went out there and went through the main door to this information desk and was referred to Mr. Rice.

The Witness:—The only door I saw, I guess it was the main door.

By Mr. Lewin:

Q.—And there was a desk there with the word "Information" on it? A.—Yes, there was a desk with "Information" on it, and I asked who was in charge of this hospital and they directed me to Mr. Rice.

Mr. Lewin:—I submit, your Honor, we are in the right pew. I don't know where else anybody would go except to the reception desk.

Mr. Leahy:—Aren't there some exhibits in the case?

Mr. Lewin:—Indeed there are. An exhibit which has been admitted which shows Mr. Kirkpatrick's letter to Mr. Rice. Now, it must have gotten into the proper channels because he gets this reply from Dr. Hare.

THE COURT:—I have no doubt about that. It bears out exactly what I said. You haven't proved Mr. Rice's authority to act for the hospital. If you can show me where it is I will be glad to see it.

Mr. Lewin:—Your Honor's ruling is that I can't go into that conversation; either bring out what Kirkpatrick told the hospital or what was said to him?

THE COURT:—Yes.

(The witness was then taken up to the conference with Major Gist Blair.)

The Witness:—We met in the office of Major Blair in the Emergency Hospital. Present at that conference was Major Blair, Mr. Sandidge, the superintendent of the hospital, and Dr. Mitchell, who, as I understood, was chief of the surgical staff. Accompanying me was Mr. Horace Russell, a member of the Board of Directors and General Counsel for the Federal Home Loan Bank Board. We stated the purpose of our visit there, namely to see whether we could enter into an arrangement whereby doctors of Group Health could make application to Emergency Hospital and be admitted to courtesy privileges, provided their qualifications were proper.

We found Major Blair very cooperative. He made the statement that he was in sympathy with what we were trying to do, and he made the statement that he thought there was a place in the medical field for Group practice of medicine.

Mr. Sandidge contributed nothing to the meeting. He didn't say a word. Dr. Mitchell said very little more. After some discussion of perhaps 20 minutes or a half an hour, they spoke of getting our staff in there. Major Blair volunteered that he would do what he could among his acquaintances in the other hospitals and among the medical fraternity in the District to see whether or not this question might not be resolved in favor of Group Health to the end that we be admitted to that hospital, but he offered the information that it was a part of the by-laws of that hospital that any physician on the courtesy staff must by reason of that fact be a member of the District Medical Committee, and we told Mr. Blair that none of our doctors at that time were such. He said that he would communicate with us in writing when and if he was successful in obtaining any information that he thought might be helpful or favorable to us, and at the end expressed his interest in this thing and his sympathy with it, and with that the meeting ended.

Q.—Were you asking for the admission of any particular doctor on Group Health staff or all the doctors? A.—We didn't name anybody at all. We asked for the staff as a whole. We said "our doctors." That is the way we put it.

(The witness identified some of the correspondence.)

Mr. Lewin:—I am going to offer in evidence Exhibit 392, which is a copy of a letter to Major Blair from Mr. Horace Russell, and Major Blair's reply, which is Exhibit 532, to Mr. Horace Russell, dated Feb. 10, 1938. I call counsel's attention to the fact that apparently that letter of Major Blair is not signed by him. It has been testified that the initials "C. G." which appear on it are the initials of his secretary or assistant secretary.

Mr. Richardson:—May we approach the bench?

THE COURT:—Yes.

(Counsel for both sides approached the bench.)

U. S. EXHIBIT 392

Mr. Lewin:—Government Exhibit 392 is a letter from Mr. Horace Russell to Major Gist Blair, dated February 9, 1938, reading as follows:

"Dear Major Blair:

"I write to express my appreciation and that of my associates for your accommodation of us in arranging for and taking the time to discuss with Mr. Kirkpatrick and me the hospitalization problems of the members of Group Health Association, Incorporated. We were glad to present to you and your associates at the hospital our problem as best we could and, particularly, we appreciate your kindness in suggesting that you would look further into the matter and discuss it with others and see what can be done about it.

"It occurred to me that you might like to know that in our recent dealings with the Medical Society of the District of Columbia it has been represented by Messrs. Frederick A. Fenning, George P. Hoover and Wm. E. Leahy, and it may be that you will be willing to discuss the matter with these gentlemen. We assure you that we shall be glad to discuss this problem with you and others concerned at any reasonable time, and that we are anxious to make proper provision for our hospitalization which will permit our treatment in the hospitals by competent physicians and surgeons selected by ourselves. We should like very much to avoid any controversy about the matter if we can.

"Meanwhile, we shall await word from you as to the course you advise.

"Very truly yours,

"Horace Russell."

Mr. Magee:—Read the next line.

Mr. Lewin:—"Horace Russell, General Counsel."

I will read the next one, which is dated Feb. 10, 1938, from Gist Blair to Horace Russell:

U. S. EXHIBIT 532

"Dear Mr. Russell:

"Replying to your letter of February 9th, I think I understand your method of approaching the hospitalization problems of the members of the

Group Health Association, Inc. and for that reason I feel I can say that I try to approach problems in this same way. The problem you have suggested to me is a very big one and the adjustment of the conflicting interests requires tact and persistence and a great deal of trouble to instill into the minds of people whose interests are affected a comprehension of the wisdom necessary to give up a little on their part in consideration of a little being given up on the part of others.

"I am not able to clear up your problem for you much as I would like to do so. I will, however, feel around and find just what can be done and if I find any favorable indications, I will arrange a meeting with you. I do not like letter writing because letter writing sometimes adds to the many misunderstandings which angry discussion always causes and frequently brings about the worst possible results.

"Sincerely yours,

"Gist Blair."

By Mr. Lewin:

Q.—I think you have told us that following some correspondence with Mr. Aspinwall, the president of Garfield Hospital, you had an interview with him in February of 1938?

A.—That is correct.

Q.—Will you state to the jury the substance of that conversation? A.—Present there were Mr. Aspinwall, Mr. Ormond Loomis Reed and myself. I told Mr. Aspinwall the purpose of our visit, which was to try to get the members of our staff admitted to the courtesy staff of Garfield Hospital. He knew that Dr. Selders had already had temporary privileges there; but I told him that we were interested not only in one physician, but we were interested in all of them. I asked what he thought he could do to bring about that result. "Well," he said, "I have been following the difficulties that you seem to be having for some time past here and," he said, "I am not altogether in sympathy with some of the opposition that you encounter." He said, "We in the hospital board of trustees are, for the most part, laymen, and we try to be guided in our decisions with respect to the admission of physicians by the conclusions of the medical staff who, in the end, are the ones we deem best fitted to advise us."

He offered also to speak among his friends in the other hospitals and among the physicians here in Washington and see if some solution of this question might not be had. He made this suggestion, that what he called a Committee of Arbitration be established to the end that both sides might submit whatever they chose to that committee, and ask the committee to arrive at a conclusion. That conclusion would be adhered to by agreement of both sides. Nothing ever came of the suggestion, so far as I know. I never heard anything more about it.

During the course of the conversation I told Mr. Aspinwall that word had come to me that the physicians of at least one hospital in Washington, which perhaps was his, had threatened to walk out if any member of the staff of Group Health Association were admitted to that hospital.

"Well," he says, "I am afraid of that."

"Well," I said, "Mr. Aspinwall, when are the trustees of these hospitals, who certainly have a trust to perform, going to take this question in hand and make some decision about it?"

"Well," he says, "I don't know." He says, "We are pretty much in the hands of the physicians in our hospitals."

He volunteered to ask his counsel, Mr. ——— I have forgotten the name of the gentleman—

Q.—Mr. Dunlop?

A.—Mr. Dunlop—to confer with counsel for Group Health Association, just as a matter of clearing up any question of legality that might be in Mr. Dunlop's mind. No question of the legality of the Association was brought up at that meeting at all. It all hinged on the question of admission of the doctors of our staff as such to the courtesy staff of the hospital.

Q.—Did you hear anything further from Mr. Aspinwall except the letters that we offered in evidence on the day you were on the stand? A.—No, sir; that is the last I had from Mr. Aspinwall.

Q.—Following your correspondence, or your letter of July 28, telling him about Mr. Justice Bailey's decision? A.—That is right, sir.

Q.—Do you know Mrs. Eugene Meyer? A.—I do.

Q.—Is her name Agnes E. Meyer? A.—That is what I understand.

Q.—Who is she? A.—She is the wife of the owner and publisher of The Washington Post.

Q.—Did you ask her to do anything for Group Health Association in the way of getting in any of the hospitals?

Mr. Leahy:—Objected to as immaterial.

THE COURT:—I do not see the admissibility of it on the face of the question.

Mr. Lewin:—May we come to the bench, your Honor?
THE COURT:—Yes. I would like to know what the purpose of the question is.

(Counsel for the respective parties approached the bench.)

By Mr. Lewin:

Q.—I believe you are permitted to answer that last question.

THE COURT:—I think you asked him if she did write a letter.

Mr. Lewin:—I do not think that is clear in the record, your Honor.

By Mr. Lewin:

Q.—Did you ask Mrs. Meyer to write to one of the Washington hospitals?

Mr. Leahy:—I object to that as immaterial. Let him identify the letters if he can.

Mr. Lewin:—His Honor thought it was already in, and I was just trying to clear up the question.

THE COURT:—He may answer the question.

Mr. Richardson:—Do I understand you include the text of the letter, the argument that is made in the letter that went to the hospital?

THE COURT:—I do not know whether there was an argument or not. I have not seen the letter. Some of it may not be admissible; I do not know. But I am permitting these preliminary questions.

By Mr. Lewin:

Q.—What is your answer? A.—I asked Mrs. Meyer—

Mr. Leahy:—Yes or no; that is enough.

THE COURT:—Yes.

The Witness:—Yes.

By Mr. Lewin:

Q.—Now, tell us what you asked her to do.

THE COURT:—I do not think you need to go into the details of it.

By Mr. Lewin:

Q.—What hospital did you ask her to approach? A.—The Casualty Hospital.

Q.—Did she agree to do it? A.—She did.

Mr. Leahy:—I object.

By Mr. Lewin:

Q.—What did she tell you she would do?

Mr. Leahy:—I object.

THE COURT:—Objection sustained. I am not going into the details of that conversation. I think there is enough of it which is preliminary to the letter.

By Mr. Lewin:

Q.—At your request did she write a letter to Mr. Allmond, the secretary of the board of trustees of Casualty Hospital?

Mr. Leahy:—I object. He cannot know whether she wrote a letter except just by hearsay.

THE COURT:—He might know if he saw her write it. He can say whether he knows.

The Witness:—She did.

By Mr. Lewin:

Q.—Did she show you the letter she sent them? A.—She did.

Q.—Is this (indicating) the letter she sent Mr. Allmond of the Casualty Hospital? A.—That is the letter; yes, sir.

Q.—Did she show you the reply that she received? A.—She sent me the reply.

Q.—I show you U. S. Exhibit 534, which purports to be her letter to you, dated June 11, 1938, and ask you if that is the letter she sent you? A.—It is.

Q.—And I will show you U. S. Exhibit 536 and ask you if that was the letter from Casualty Hospital which she enclosed? A.—It was—it is, rather.

Mr. Lewin:—I offer them in evidence.

Mr. Leahy:—May I pass these to the court?

THE COURT:—Yes.

Mr. Lewin:—Do you object to them?

Mr. Leahy:—Yes, indeed (handing letters to the court.)

(Counsel approached the bench.)

Mr. Lewin:—Members of the jury, the court rules that U. S. Exhibit 533 for identification, Mrs. Meyer's letter, is not admissible, but I am permitted to state that that letter did request from that hospital the admission of Group Health Association doctors for courtesy privileges.

Exhibit 536, however, is received in evidence, and it is the reply of S. H. Rogers, president of the board of directors of the Eastern Dispensary and Casualty Hospital, to the letter of Mrs. Meyer, dated June 10, 1938, and on the letterhead of that hospital:

U. S. EXHIBIT 536

"Mrs. Eugene Meyer
1624 Crescent Place N.W.
Washington, D. C.

"Dear Mrs. Meyer:

"I wish to acknowledge your letter of the 26th to Mr. Allmond, the Secretary of our Board, on the subject of Hospitalization for Group Health Association Patients, as I am Chairman of the Committee which has handled this problem for our Board.

"Our Committee has given very earnest consideration to this problem as relates to our institution, but as stated to Mr. Kirkpatrick and Mr. Loomis at a recent interview, on account of long-established by-laws and rules of our institution we have not been able to work out a plan that permits our accepting patients to be attended by physicians who have not the approval of the local medical society.

"We appreciate very much your interest in our institution in connection with this matter, and it is our hope that the Medical Society and the officers of the Group Health Association may soon find a solution to their differences, as we understand they are still working toward that end.

"Very truly yours,

"S. H. Rogers

President, Board of Directors
Eastern Dispensary and Casualty Hospital"

By Mr. Lewin:

Q.—That letter refers to some explanation which Mr. Rogers gave you and Mr. Loomis. Was that at the conversation which you testified you had with Mr. Rogers some time in June of 1938? A.—It was.

Q.—Will you state to the jury what the conversation was at that meeting, what you said and what was said by these people representing the hospital? A.—In substance, it was this. We again offered our plea for admission of the members of our staff to Casualty Hospital, and Mr. Rogers led the conversation for the other group, and he said that it had been a tenet of their by-laws for some fifty years that no admission to the courtesy staff of that hospital could be made unless the applicant were a member of the District Medical Society; and he offered that as the one and only stumbling block in the way of admission of any of our staff members to that hospital. I offered at that meeting to enter into a contract with that hospital to take over one of its bays—

Q.—What is that? A.—Sick bays—they call them bays or wings of the hospital—which I understood contained approximately 40 beds; that we would rent these beds under contract, provided the hospital would admit our physicians to treat patients who might occupy those beds. But again he offered the objection that the by-laws of the hospital would prevent such action. Finally, addressing Dr. Rogers Young, I think his name is, who I understood was the man in charge of the surgical staff of that hospital, or its medical staff, I said to him, "Doctor, when are you hospital people going to stand up on your hind feet and assert your rights in this question?" His reply was that he did not know. After a little more discussion about the subject in general the meeting ended.

Q.—Was the defendant J. Rogers Young present during the entire interview? A.—My recollection is he was there during the entire interview.

CROSS EXAMINATION

By Mr. Leahy:

Q.—When you opened up the conversation you were then advised that for a period of approximately fifty years the rules and regulations of the hospital were such that they could not admit doctors to the staff who were not approved by the local medical society? A.—No; he didn't say that.

Q.—What did he say? A.—Mr. Rogers said that it had been a part of their by-laws for upwards of 50 years that admission to the courtesy staff of their hospital was confined to members of the District Medical Society.

Q.—What you wanted them to do was to change those by-laws to admit your doctors; is that right? A.—I wanted them to do anything they thought best to do.

Q.—To do that you knew they would have to change the by-laws which had been in effect fifty years? A.—Perhaps.

Q.—You knew that, didn't you? A.—No; I didn't know that at all. I had nothing to do with what they should do. All I was interested in was in getting our staff in there. How they did it I wasn't concerned with.

Q.—But you knew they could not get in there unless they changed the by-laws which had been in force for fifty years? A.—Yes; from the statement of Dr. Rogers.

Q.—Notwithstanding that, you still persisted, did you, to get this letter of June 11— A.—I wouldn't say I persisted; no.

Q.—You went to Mrs. Meyer, did you not, and asked her to write? A.—I first asked her to call a meeting. Mrs. Meyer said she didn't have time to call a meeting, but would be glad to write a letter.

Q.—You told him you would fill up one of the sick bays?
A.—I did not.

Q.—You told him you would hire one of the sick bays?
A.—I told him I would offer to.

Q.—You mean, you would, don't you? A.—Yes, if he would.

Q.—That is, G. H. A. would rent one of the sick bays in Casualty Hospital? A.—Yes.

Q.—In connection with that do you recall that Mr. Rogers said anything about the fact that Casualty Hospital was incorporated to take care of the poor? A.—No. I recall no such statement as that. He may have made it, but I don't recall it.

Q.—See if I can refresh your recollection. Do you recall whether Mr. Rogers said to you that Casualty Hospital was incorporated to take care of the poor and the indigent, and you replied, "We are not interested in that"? A.—No; I don't recall any such thing.

Q.—Would you say it was not said? A.—I will say that I don't think I said it.

Q.—Was there anything said that Casualty Hospital was approaching its 50th anniversary of existence? A.—I don't recall that. The only reference to 50 years was Mr. Rogers' statement about the by-laws.

Q.—Did you then tell Dr. Rogers that if he would let you take this bay of forty beds you would get Mr. Acton, the publicity agent for G. H. A., to push Casualty and give them great publicity on their fiftieth anniversary? A.—Never made any such statement.

Q.—Nothing like that in substance? A.—Nothing like that, approaching it, near it, or anything around that.

Q.—Did Mr. Loomis make any such statement? A.—I don't know.

Q.—You were there, weren't you? A.—I was there, but I don't recall his making any such statement.

Q.—Would you say he did not make such a statement? A.—I will hazard a guess that he didn't make it.

Q.—So your answer as to this conversation is that nothing was said about the incorporation of Casualty Hospital to the end that it was to take care of the sick and the indigent, in which you were not interested? A.—Nothing that I recall at all about that.

Q.—And that nothing was said about booming Casualty if they would let G. H. A. patients take over that bay? A.—No. We had no interest in booming Casualty or anything else.

Q.—Did you have a publicity agent? A.—No, sir; I did not.

Q.—Who was Mr. Acton? A.—Howard Acton; chairman or director of public relations for the Federal Home Loan Board.

Q.—Did he have anything to do with establishing G. H. A.? A.—I don't think he did anything toward it.

Q.—Did he carry on publicity for G. H. A. in the papers? A.—I don't know how much of it—

Mr. Lewin:—Objection.

THE COURT:—Sustained.

By Mr. Leahy:

Q.—When was it you talked to Mr. Aspinwall? A.—I think it was in August 1938.

Q.—You recall a letter in January having been received from Garfield? A.—I recall a letter having been addressed to Dr. Selders in January.

Q.—You know that Garfield Hospital told you then, do you not, that until the question of the legality of Group Health Association was determined, they could not admit Dr. Selders on the staff? A.—They didn't tell me anything.

Q.—You saw that in a letter, did you not? A.—They told Dr. Selders that.

Q.—I am talking about you, now, as Group Health Association. A.—Fine!

Q.—This letter which was received by Dr. Selders was turned over to your files, was it not? A.—Yes.

Q.—And you saw the letter in your files? A.—Yes.

Mr. Lewin:—That has already been testified to.

By Mr. Leahy:

Q.—So you knew in January, did you not, that Garfield Hospital had taken the position that it could not admit Dr. Selders to staff privileges in Garfield until the legality of G. H. A. was determined? A.—I knew that was the statement of the Superintendent, but I didn't know that that was the policy of Garfield Hospital.

Q.—You do know that that was the policy as stated to you by the Superintendent, through Dr. Selders? A.—No. I know it was the expression of the Superintendent; that is all.

Q.—You did not think he was speaking for the hospital? A.—I didn't think anything; I didn't know.

Q.—Did you deny in any way at all to him that that was the policy of Garfield? A.—No.

Q.—It was not discussed in the conversation? A.—It was not.

Q.—And he, as a member of the Board, did not bring up to you the fact that the hospital had discussed this matter in the previous January and determined that they could not admit such doctors until the question of legality had been determined? A.—No legality was ever mentioned at all. I said on the stand this morning that the only reference to that question was the statement that I knew that Dr. Selders had been denied privileges in January.

Q.—But the reason for that denial was not discussed? A.—It was not.

Q.—At that very time, along in January, you had made application to Garfield, had you not, for the admission of Dr. Selders? A.—I am not sure that I made it to Garfield. I don't think so, because he was already in Garfield at that time when I became president.

Q.—You became president and took over your duties on January 18, did you not? A.—That is correct.

Q.—And within ten days you got this letter from Garfield? A.—About that; it was January 25.

Q.—Did you then make an application to Garfield for privileges? A.—I think, perhaps, on February 2nd, but not in January.

Q.—You know you did, don't you? A.—Well, if I did I know I did.

Q.—Have you any doubt about it? A.—I just don't know I did—because you offered that as a statement. If I did I know I did.

Q.—Did you not testify on Monday that on February 2nd you made another appeal to all the hospitals in Washington? A.—Oh, yes; sure.

Q.—Then you did go to Garfield with this appeal? A.—Yes.

Q.—Why did you say "If I did I did," then? A.—Because I am not going to have you put words into my mouth.

Q.—I am not doing that. I am asking you to answer a question which is directly put to you. Now listen, please— A.—If you will let me do that, we will get along fine.

Mr. Lewin:—I object to all this bullying by counsel. Show him the letter.

Mr. Leahy:—You have got it. Give me the February 2 letter to Garfield.

Mr. Lewin:—You are showing off here at a great rate.

Mr. Leahy:—If you Honor please, I am trying to do the best I can.

Mr. Lewin:—You are trying to bullyrag this perfectly honest witness about a letter, and you have the letter in your hand.

THE COURT:—Mr. Leahy, if you have got the letter now, let us go on.

By Mr. Leahy:

Q.—You did write to Garfield on February 2nd? A.—Yes.

Q.—And you knew when you wrote on February 2nd that on the 28th day of January you had signed a petition for a declaratory judgment in this court? A.—I signed such a petition; I don't know what date it was.

Q.—I am going to show you the petition and ask you if your signature appears where I am indicating. A.—That is my signature.

Q.—And in that respect you were represented, were you not, by Horace Russell, Mr. Keeley, Mr. Long and Mr. Newton? A.—That is correct.

Q.—All counsel for the Home Owners' Loan Board? A.—All employees of the Home Owners' Loan Corporation.

Q.—And you swore to it, did you not, on January 27? A.—That is correct.

Q.—Your signature appears there, does it not? A.—It does.

Q.—And you had sworn to this petition in this court—you can read over those pages to refresh your recollection if you wish. A.—I wouldn't understand them, but I will take your word that they are there.

Q.—You have no difficulty in understanding what you swore to, have you?

THE COURT:—Put your next question, Mr. Leahy.

Q.—Did you swear on the 27th of January that on or about Jan. 15, 1938—

Mr. Lewin:—I object to that as immaterial.

Mr. Leahy:—This is on the cross of what he said on direct.

Mr. Lewin:—He didn't say anything about this suit on direct.

Mr. Leahy:—Oh, yes he did.

Mr. Kellcher:—Another objection, your Honor, he is trying to read to this witness these conclusions of law from this suit for declaratory judgment.

THE COURT:—I would like to hear the question. I cannot rule on it until I do.

By Mr. Leahy:

Q.—Did you swear on January 27 that on or about Jan. 15, 1938 notice was given by the defendant, David A. Pine, Acting United States District Attorney for the District of Columbia, to the plaintiff, that, unless operations were immediately suspended and the affairs of the plaintiff were wound up, a bill for injunction or legal proceedings looking to the involuntary dissolution of the plaintiff corporation would be brought against the plaintiff on the ground that it, said plaintiff, is illegally engaged in the practice of medicine, as the same is defined by the Healing Arts Practice Act in the District of Columbia, and is illegally engaged in the insurance business within the meaning of Title V, Chapter 7, Section 179 of the Code of Laws of the District of Columbia?

Mr. Lewin:—We object to that as immaterial. It is outside the scope of the direct examination.

Mr. Leahy:—He went into it on direct examination.

Mr. Kelleher:—What difference does this make?

THE COURT:—I am ready to rule.

Mr. Leahy:—May I approach the bench?

THE COURT:—Yes.

(Counsel for both sides approached the bench.)

By Mr. Leahy:

Q.—I show you Government's Exhibit 433 and ask you if that is an answer to your letter of February 2, Government Exhibit 432? A.—I would say it was.

Q.—Now he says there if you want to drop into the office and discuss the matter, he would be glad to talk to you. Did you do it? A.—Yes, we dropped in his office.

Q.—Then you did see him before this conversation? A.—No. I only saw him once. Whenever that conversation took place, that was the time.

Q.—You had only the one conversation? A.—Yes.

Q.—Now I ask you to look again at Government's Exhibit 432 and tell me whether you discussed the legality of G. H. A. A.—I still say we did not.

Q.—Isn't Government Exhibit 432 the very thing you wanted to talk about? A.—It may have been the thing we wanted to talk about, but it isn't the thing we talked about. You asked me what we talked about. Now, that isn't what we talked about.

Q.—All right. On Feb. 2, 1938, you wrote to Mr. Aspinwall that you felt there may have arisen some misunderstanding concerning the legality of our operation and in order that the question may be discussed and a clear understanding had by both parties, it is respectfully requested that the representatives of Group Health Association, Inc., be accorded the privilege of appearing before your Board of Trustees for the purpose of discussing the situation with them. A.—That's fine. I wrote that letter.

Q.—All right. Now on February 3 you received back a letter from Mr. Aspinwall saying "I would be glad to discuss the matter. I should be glad to talk to you." A.—Yes, we did.

Q.—Now, you went there to discuss what you said in your second paragraph of your letter of February 2nd? A.—No, we did not discuss that.

Q.—Just a moment. On February 2 that is the thing you wanted to discuss, isn't it? A.—That is one of the things we wanted to discuss.

Q.—Is there anything else you stated in your letter of February 2nd you wanted to discuss? A.—I—

Q.—Was there anything other than the legality of G. H. A.? A.—Not in the letter.

Q.—Now, when you did get in this discussion, the only thing you didn't discuss was the thing you wanted to discuss in your letter of February 2nd? A.—No, we didn't necessarily want to discuss it at all. We didn't think it was a pertinent question. If Mr. Aspinwall wanted to discuss it, fine, and good, we were ready to discuss it.

Q.—But you didn't bring on the discussion at all? A.—We did not.

Q.—You knew at that time, did you not, that the suit which you swore to and which you just identified your signature on, had been filed in this Court, about three or four days before?

A.—I knew that such a paper had been filed.

Q.—And that was the question you wanted to raise in your suit, was the legality— A.—No, I am not a lawyer, Mr. Leahy. I don't know anything about legal matters at all.

Q.—You don't mean to tell the jury that you didn't know what was involved in that suit? A.—That isn't what your question was and that isn't what my answer was.

Q.—Will you now say that the suit— A.—I have already admitted I knew that.

Q.—And you filed the suit four days before you wrote the letter of February 2? A.—Yes, and had no question of the suit in my mind when I wrote the letter; none whatever.

Q.—In your letter of February 2 in the second paragraph you had no reference— A.—No reference or question in my mind or anything else of that suit, and I want to make that as clear and emphatic as I possibly can; and if you want it repeated, I will be glad to repeat it.

THE COURT:—Mr. Witness.

The Witness:—Yes.

THE COURT:—Please contain yourself.

Mr. Kelleher:—Your Honor, I do think his attitude is understandable.

THE COURT:—I am speaking to the witness now, not counsel.

Mr. Kelleher:—I want to make a representation to the Court.

THE COURT:—I want to say to the witness and I want to say to counsel too, I don't want this to get into a personal wrangle between counsel and the witness. I am simply wanting both sides to maintain the cross-examination on a plane that is proper.

Mr. Kelleher:—I think, your Honor, it is fair to the Government to say this witness' attitude is very understandable.

THE COURT:—I think his answers should apply to those letters.

By Mr. Leahy:

Q.—Now, let us get to the Episcopal Hospital. You wrote a letter on February 2nd to them also, didn't you? A.—That is correct.

Q.—Did you ask privileges for all your doctors in Episcopal? A.—No, sir.

Q.—For whom did you ask privileges? A.—Dr. Dabney.

Q.—Wasn't Dr. Dabney on the staff? A.—Dr. Dabney was on the staff, as I understand it.

Q.—Just what were you asking for at Episcopal? A.—Because Dabney couldn't take our patients in as a member of our Association; as I said the other day, he took them in through the back door.

Q.—Did he take patients to Episcopal Hospital? A.—He did.

Q.—How many patients did he take in? A.—Approximately 50 at that time.

Q.—Did he pay for them? A.—Yes, sir. They paid approximately \$14 for each patient.

Q.—Did the Episcopal refuse to take your checks? A.—No, sir.

Q.—So that Dr. Dabney took 50 patients of G. H. A. into the Episcopal Hospital for which G. H. A. paid by its checks? A.—That is correct.

Q.—Right? A.—Right.

Q.—Was Dr. Dabney ever removed from the staff of Episcopal? A.—Not that I ever heard of.

Q.—You know that Dr. Dabney had been on the staff of Episcopal Hospital for a good many years? A.—He told me he had been.

Q.—And you know he remained there notwithstanding he was connected with G. H. A.? A.—Well, do you want me to tell you what he told me?

Q.—I asked whether you knew he remained on the staff. Yes or no. A.—Yes, he remained on the staff.

Q.—Now, are you sure that there was any problem at all about Dr. Dabney getting patients of G. H. A. in the hospital? A.—Well, that resolves itself around what he told me, Mr. Leahy, which has a very direct connection with the question if you would like me to say it.

Q.—I will let you say it and we will be glad to get it. A.—Dr. Dabney told me they dared not touch him in Episcopal, that they had to let him bring patients in there, even by the back door.

Q.—Is that what Dr. Dabney said? A.—Yes, sir.

Q.—Then you did yet your G. H. A. patients in there? A.—We did under this surreptitious arrangement.

Q.—What was the surreptitious arrangement? A.—That he wasn't admitted there as a surgeon or physician recognized by the hospital as being on our staff. He was there as a private physician, and he brought our members in there as his private patients. Now that—

Q.—Have you ever—have you finished? A.—I just wanted to say one more thing. We wanted him recognized as a member of our staff. We didn't like this business of him having to take patients in there quietly, any more than he did.

Q.—Did you ever talk with anybody of the Episcopal Hospital about this? A.—I never saw or spoke to a single one of them.

Q.—What information you got you got from Dr. Dabney? A.—I got right from Dr. Dabney.

Q.—Did you, as President of the Corporation, have any difficulty in having G. H. A. cases treated there? A.—We never had a bit of difficulty that I ever heard of.

Q.—In other words, any G. H. A. patient who was under Dr. Dabney's care while Dr. Dabney was with you, was treated at the Episcopal Hospital without any difficulty? A.—Yes, sir.

Q.—Now, at Columbia you had a series of letters, I think, which you wrote, beginning again on February 2. Is that right? A.—February 2. That's right.

Q.—Now did you ask for privileges for all your members at Columbia? Yes or no. A.—The letter speaks for itself, Mr. Leahy. I don't recall just exactly the wording of the letter, but I think it asks for privileges for all the members. It may not have.

Q.—So then was that the same letter which you sent to all the hospitals? A.—It was an identical letter, yes.

Q.—Were they carbons or identicals? A.—They were originals in each case.

Q.—But typed the same. Is that it? A.—Typed the same.

Q.—Did you ever discuss the matter at all with anybody at Columbia? A.—No, sir. I had no connection whatever, or discussion, with anybody at Columbia Hospital.

Q.—Did you conduct correspondence with Columbia as President of the Group Health? A.—I think I had two or three letters in response to mine of February 2 and perhaps the one of July 28th.

Q.—The one whom you wished to have on the staff at Columbia was Dr. Selders, wasn't it? A.—Not necessarily Dr. Selders. At that time we had no obstetrician on the staff. Dr. Selders felt himself qualified to administer or treat a limited degree of obstetrics.

Q.—Now did he get the privilege at Columbia? A.—I don't think he ever did.

Q.—Are you sure about that? A.—No, sir. I am just telling you my recollection.

Q.—Did you state on Monday that he never got any privilege in Columbia? A.—Did I what?

Q.—Did you state on Monday that Dr. Selders was not permitted to go to Columbia? A.—I perhaps did.

Q.—Why did you make that statement? A.—Well, that was my recollection.

Q.—On what was your recollection based on Monday? A.—On my memory.

Q.—Has your memory changed now, since Monday? A.—No, sir.

Q.—Will you tell the jury whether he did or did not get the privilege? A.—My answer is exactly the same as it was on Monday.

Q.—What is that? A.—That I don't recall whether he ever treated anyone there or not, but I do know that he wanted to get this limited obstetrical arrangement, as he described it.

Q.—See if I can refresh your recollection, Mr. Kirkpatrick. At the time you were writing these letters to the hospitals, and more particularly this one to Columbia, didn't you know that Dr. Selders was asking for the widest privileges for a surgeon to ask? A.—Mr. Leahy—

Q.—Yes or no. A.—No, I don't know anything about that, what he was asking for.

THE COURT:—Don't extend your answers where it is not necessary. Where you can answer yes or no, please do so, and then you may explain if necessary.

By Mr. Leahy:

Q.—Now you state in this letter of February 2 that you had before you the letter of Dec. 15, 1937, addressed to Mr. William F. Penniman. A.—Yes.

Q.—Penniman was your predecessor in office, wasn't he? A.—Yes.

Q.—And you had been looking over the file, hadn't you, to see what Mr. Penniman had done with relation to Dr. Selders? A.—I may have looked over that file. I don't know whether I looked over the file or not. I had it in my files, but I don't know whether I looked at it.

Q.—You said "I have before me your letter of December 15th addressed to Penniman." A.—That is true. It may have been in my file.

Q.—You had it before you when you were dictating this. A.—Not necessarily.

Q.—At least you had it in your mind, didn't you? A.—I wouldn't say I had it in my mind.

Q.—Where did you have it? A.—I knew that Fred Penniman had written such a letter before I came into office.

Q.—Now then in your letter—that is referring to Ashburn—you say in this letter of yours of February 2 that the Medical Board would meet on December 23 to make a recommendation with respect to the application of Dr. Raymond B. Selders for privileges of the Courtesy Staff of your hospital. A.—That's right.

Q.—Now you didn't inquire about any other doctor, did you? A.—No, sir.

Q.—So far as you knew when you wrote that letter there was no other doctor connected with Group Health who had made any application to Columbia Hospital? A.—Yes, sir.

Q.—Haven't you any recollection of the privileges for which Dr. Selders made application? A.—No, sir. I had nothing to do with it.

Q.—Didn't you look in the files in order to write this letter of February 2 for the type of privileges which Dr. Selders sought? A.—I didn't say I did—

Mr. Kelleher:—Objected to as immaterial.

By Mr. Leahy:

Q.—I asked you if you didn't know when you wrote that letter of February 2 that Dr. Raymond B. Selders had made application for the widest surgical privileges on that staff of Columbia Hospital for which a surgeon could apply?

Mr. Kelleher:—I object.

THE COURT:—He has answered it once.

By Mr. Leahy:

Q.—Well, what did you think Dr. Selders had applied for? A.—I didn't think. All I wanted of him was to be admitted to the hospital, for whatever thing he thought he could do. I had nothing to say with what he thought he could practice there. That is his business. I am a layman.

Q.—Well, why didn't you let Dr. Selders make the application? A.—Because it was necessary for everybody to help. We just regret we didn't have a hundred people trying to get them in there.

Q.—Now, in that letter on February 5 you learned, didn't you, they had failed to act on Dr. Selders' application for courtesy privileges, that is, the Medical Board, and consequently the Medical Board had made no recommendation in the matter to the Board of Trustees, Directors. A.—That is correct.

Q.—And Dr. Selders' status with relation to this hospital remains unchanged? A.—Yes.

By Mr. Leahy:

Q.—Mr. Kirkpatrick, you have been over the testimony you were going to give today, haven't you, before you took the stand? A.—Yes.

Q.—And you came down here and refreshed your recollection by going through the files of Group Health? A.—I didn't go through any files of Group Health.

Q.—Didn't you have letters presented to you so your memory might be refreshed? A.—Oh, yes. I did that. I thought you meant me going through the files.

Mr. Kelleher:—Is it pertinent to this case to have this witness testify now orally whether he wrote letters that he had testified already he wrote? Is there any point in it?

THE COURT:—The only matter, he says he didn't write any letters, has no recollection of it.

Mr. Kelleher:—Is that important to the case?

THE COURT:—It is only important in this way, this man on cross-examination may have his credibility tested, which of course involves his statements, recollection, and that sort of thing.

Mr. Kelleher:—I suggest it has no bearing upon this witness' credibility to ask him about a series of correspondence without showing him the correspondence.

THE COURT:—He is asking him the fact as to whether he had written any other letters. Proceed.

By Mr. Leahy:

Q.—You have no recollection of it now? A.—No, I haven't, Mr. Leahy.

Mr. Leahy:—Are there other letters there?

Mr. Lewin:—There are other letters here.

Mr. Kelleher:—You expect the witness to remember that and you can't even find them.

Mr. Leahy:—I didn't expect the witness to remember them.

By Mr. Leahy:

Q.—I will ask you if you remember the letter of March 3, 1938, in which Columbia Hospital advised Group Health that Dr. Selders had been given the privileges which you say he wanted to obtain? A.—No, I don't remember that letter.

Q.—You don't remember that letter? A.—Who was that letter addressed to?

Q.—Was it addressed to the Group Health or Dr. Selders? A.—I am asking the question. I don't recall the letter.

Q.—Don't you know as a fact that Dr. Selders had privileges in Columbia Hospital as a representative of G. H. A. and as

Q.—And that did disclose to you the reason why Dr. Selders' application was rejected? A.—As I recall, Mr. Leahy, they quoted a paragraph in that letter from the by-laws which referred to the necessity for membership in the Medical Society.

Q.—And it also sets forth the fact that the by-laws had been adopted in 1936, did it not? A.—I think there was reference to that date.

Q.—Now, how long was Dr. Selders with you after that time? A.—He remained until January 1939.

Q.—You asked for his resignation at that time? A.—Yes.

Q.—You were on the Board and president of Group Health at that time? A.—I wasn't president; I was on the Board.

Q.—By the way, when did you first go on the Board of Group Health? A.—In April 1937.

Q.—And when was it Dr. Brown was employed? A.—In June 1937; I think June 7th.

Q.—Now, to return to Sibley Hospital, some time was it in June you had a series of letters interchanged between the two, with reference to the payment of some money for some patients of Group Health? A.—Yes. I will accept that date. We had two or three members in attendance at Sibley Hospital, and those patients were discharged. In the regular course of things we tendered our check in payment for the services there and in all three cases the checks were declined, and the correspondence grew out of the declination of those checks.

Q.—Did anybody on the legal staff, any of those whose names were on the petition you filed, consult with you with reference to those letters? A.—No, sir.

Q.—Did any of them consult with you with reference to the letters written to the Sibley Hospital? A.—No, sir, not one.

Q.—Do you recall a letter which was introduced, addressed to Dr. Neill? A.—That I wrote.

Q.—Did you write that? A.—Yes.

Q.—Anybody consult with you about that letter? A.—I think I had some help in the formation of that letter.

Mr. Lewin:—Now, there are two letters. Identify the letter. Only one got in evidence.

Mr. Leahy:—Well, the letter that was received in evidence.

THE COURT:—You better show him the letter.

Mr. Leahy:—The letters are Exhibits 458 and 459. Do you remember the first letter you wrote to Dr. Neill?

The Witness:—Now, Mr. Leahy, there were two letters and I don't know which I wrote first. If I saw the letter I might tell you.

Mr. Leahy:—All right. We will get it.

Q.—While you are looking for that, I believe I forgot to ask you about George Washington Hospital. You wrote a letter also to George Washington, did you not? A.—I think that was included in the February 2nd letter.

Q.—And you received a notification from George Washington Hospital that they couldn't grant the privileges for Dr. Selders, for those for which he applied? A.—I think so.

Q.—Did you follow that up to find out why they could not do so? A.—No.

Q.—Did anybody for you? A.—Nobody that I ever heard of.

Q.—Now, I will show you what has been identified as Government Exhibit 458, dated March 21, 1938. Now, who was it helped you formulate that letter?

Mr. Lewin:—He has not said anyone helped him yet.

The Witness:—This is not the letter that I had the help on.

Q.—You wrote that without any help? A.—Yes.

Q.—Your recollection is that this is not the letter on which you had help? A.—The letter I had help on is the letter in response to Dr. Neill; somewhere about this time.

Q.—This one you wrote without any assistance from any member of the legal staff whatsoever? A.—Yes.

Q.—And this has reference to Dr. Price? A.—Yes, he was the doctor involved in that question.

Q.—How long was it that Dr. Price was on the staff? A.—Well, he came there shortly after we commenced operations and remained until some time in 1939.

Q.—Did he retire before you retired as president? A.—No, he retired after I retired.

Q.—Don't you remember that you had a controversy with Dr. Price while you were still president?

Mr. Lewin:—We object to it. It is beyond the scope of proper cross-examination; also immaterial.

THE COURT:—Yes, it would be unless it is for the purpose of refreshing his recollection.

By Mr. Leahy:

Q.—Do you recall when that occurred? A.—Now, if you characterize it as a controversy; I should say I had no controversy with him at any time. I had some discussion with Dr. Price.

Q.—Do you recall when that occurred? A.—Just toward the end of 1938.

Q.—Does that refresh your recollection now as to when Dr. Price retired? A.—No.

Q.—It does not? A.—No, because Dr. Price attended the meeting of the Board of Trustees, which was the last meeting I presided over as president, and I know he was on the staff long after that.

By Mr. Leahy:

Q.—You knew, of course, that Sibley had a rule which required any doctor practicing in Sibley Hospital to be a member of the staff there? A.—Well, I presume they had that in common with every hospital in Washington.

Q.—You knew that before a doctor could practice he had to be a member of the staff? A.—Yes.

Q.—In the month of February you knew that Dr. Selders didn't have privileges in Sibley Hospital? A.—Right.

Q.—And some time before February 5th, you had sent a check to Dr. Taylor, hadn't you? A.—Yes.

Q.—And Dr. Taylor was then the superintendent, in charge of Sibley Hospital? A.—I think he was the president.

Q.—And you had received a letter, had you not, from Dr. Taylor, stating that Miss Tommie Lee Nix, on Sept. 4, 1937 was admitted "to this hospital on service of Dr. Rush Conklin; later she was transferred to the service of Dr. Little, and was then operated on by Dr. Cobb. On her admission card responsibility for the payment of her bill is assumed by" over the signature of James R. Nix. Do you know who he was? A.—I assume her brother.

Q.—"And we look to him for settlement of this account"? (showing document to the witness). A.—Right.

Q.—That is Dr. Taylor's statement to you as the reason for returning the check? A.—Yes.

Q.—Did you have any correspondence from Dr. Taylor before in the case of anyone who went to the hospital? A.—No, sir.

Q.—Had anybody at your request? A.—No, sir.

Q.—So that Miss Nix had gone into Sibley, so far as Dr. Taylor was concerned, from his letter, without any knowledge on the part of the hospital authorities that Group Health Association was going to hold itself responsible for payment of the bill? A.—I don't understand that to be the situation at all.

Q.—Didn't you understand when you were told that Mr. Nix was going to be held responsible for the bill that the hospital was not looking to Group Health for its payment? A.—I understand that statement, but I don't agree with it.

Q.—So you sent the check back again, didn't you? A.—I sent it back two or three times.

Q.—Why didn't you accept Dr. Taylor's statement, as contained in his letter, that the hospital was looking to Mr. Nix for the payment of the bill? A.—Because I wanted to establish the fact that we could pay that bill with our own check.

Q.—That was the purpose of that? A.—Yes.

Q.—Did you have some correspondence with Mr. Paul B. Cromelin about that? A.—Not about that question; I wrote him a letter.

Q.—You knew Mr. Paul B. Cromelin was counsel for the Sibley Hospital, did you not? A.—I didn't know that.

Q.—Did you know he was an attorney? A.—I knew he was an attorney when I got his letterhead which indicated it.

Q.—You hadn't talked with him over the telephone about this matter? A.—No, never spoke to him.

Q.—Do you know whether anybody on behalf of G. H. A. had spoken to him? A.—Not that I know of.

Q.—When you got his letter which indicated that he was an attorney, did you try to get hold of him? A.—No.

Q.—Why were you so insistent on the hospital accepting this check, when you knew that the credit had been extended to Mr. Nix and not to Group Health. A.—Because, Mr. Leahy, we felt we had the right to discharge the liability, which we regarded as ours, and we wanted to establish the fact that we had full right to have that hospital accept our check, just as other hospitals had.

Q.—What other hospitals had? A.—Every other hospital that we sent our check to.

Q.—Then other hospitals did accept your check? A.—Yes.

Q.—That was the only hospital you had a difference with? A.—Yes.

Q.—Why was it that you didn't get the cash in the first place as you did finally? A.—We wanted to establish that we had a check drawn for this thing, I think you will agree, a check is the best evidence of payment of a bill.

Q.—Did you doubt that the Sibley Hospital would mark the bill "Paid" if it got cash? A.—We didn't care how they marked the bill. What we wanted was to have their endorsement on our check.

Q.—Was it that you were just trying to build up the record against Sibley, who wouldn't accept your check? A.—No, nothing in the world like that. I may say that during this time that this correspondence was going on we received a solicitor from Sibley for a contribution.

Mr. Leahy:—Well, that isn't necessary to go into that.

Mr. Kelleher:—Why not. Let him answer.

Mr. Lewin:—He says that during that time Sibley sent a solicitor there.

The Witness:—We were simply trying to establish the validity of our tendering a check and have them accept it.

Q.—You were trying to make Dr. Taylor at Sibley receive your check? A.—Yes.

Q.—And he had told you some one else was responsible and you knew that the fact of such responsibility was evidence by this notation on the card at the time the patient was admitted. Dr. Taylor had so informed you? A.—That is what he said.

Q.—Do you recall now how many letters you wrote in that regard? A.—Two or three.

Q.—You didn't get any advice from anybody about that? A.—None whatsoever.

Q.—Never talked with Mr. Russell about that? A.—No.

Q.—Or with any one of your legal staff? A.—No.

Q.—Who was it suggested "legal tender"? A.—What do you mean by "legal tender"?

Q.—Legal tender. A.—I thought of it as a final solution of the question. We didn't want to keep on sending this check back and forth indefinitely.

Q.—That was the first reference to that, February 24—February 5, instead of February 24—this was sent, and then you followed that up with your letter of February 18, Exhibit 418, and you said in your letter in response to Dr. Taylor's statement that he considered the check was evidently sent in error, that you wanted him to know that there was no mistake on your part in transmitting the check in question. Is that so? A.—Yes.

Q.—So you wrote him this letter in which you said "Under the provisions of the by-laws of Group Health, Inc., Miss Nix is entitled to have provided to her hospitalization, when such is necessary. Miss Nix, having received hospitalization in your institution for the dates mentioned is therefore entitled to have the cost of that hospitalization paid for by Group Health, Inc."

"Your attention is invited to the fact that the stub which contains the notation referred to is not in any sense a part of the body of the check. The stub is provided only for the information of the payee as to what the check is entitled to cover. In depositing the check, if you so desire, the stub, of course, may be detached before the check is deposited."

"We are therefore returning the check to you and ask that it be deposited in the usual course."

Now, did he answer that letter? A.—I think he sent the check back again.

Q.—Under date of February 21, is that right? A.—Yes.

Q.—And again, didn't he call your attention to the fact that she signed her own card, and that card has the name of her brother, James R. Nix, as the person who would be responsible for her bill? A.—Yes, but we didn't consider him responsible for the bill; we considered ourselves responsible for it.

Q.—So you were going to compel Sibley to accept your check, if you possibly could? A.—Not compel them, get them, if we could.

Q.—Then you sent them a check back a third time? A.—We finally settled it.

Q.—Why didn't you send the cash in the first place? A.—We wanted a record to show that we had paid the bill.

Q.—What final record did you get out of it? A.—None.

Q.—Didn't you get a record that you paid cash? A.—We didn't from Sibley Hospital.

Q.—Didn't you have a Group Health record of the fact that you had paid this bill? A.—We have a record in our cash book, but we have no evidence from Sibley that we paid the bill.

Q.—Well, you have the record that the bill is paid, do you not? A.—We have a record that we gave the money to somebody at Sibley, but we have never received from them a receipt.

Q.—Did you ask for a receipt? A.—We certainly did.

Q.—Who was it that made the payment? A.—My secretary, Ben Jones.

Q.—Is he still in Washington? A.—I don't know.

Q.—You haven't seen him since you came here this time? A.—I haven't seen him for two or three years.

Q.—Now, didn't you ever talk with Dr. Taylor as to why he didn't want to take them? A.—I never talked with him in my life.

Q.—You didn't know that Mr. Cromelin had advised Dr. Taylor to write you as he did? A.—I didn't, and I didn't care what advice he had given him.

Mr. Lewin:—I object to this line of questioning. It is just redundant and time-consuming.

THE COURT:—I think it has been covered.

By Mr. Leahy:

Q.—I just want to know, he said the general topic, the conversation took a half an hour. What was it you were discussing? A.—I will tell you one thing. I asked Mr. Mitchell and repeated it three times if it were a fact that every member of the staff of Emergency Hospital was a member of the District Medical Society, and he replied each time in the affirmative; at the same time I knew that was in error. That is why I asked that.

Q.—What was the error? A.—It was in the case of Dr. McCready. He was on the staff, but he was not a member of the Medical Society.

Q.—How do you know he was on the staff? A.—Because he showed me a letter appointing him to the staff a week before that. That was in early spring of 1938, when he was serving as a refractonist for Group Health.

Q.—That is interesting; then you did have a man from Group Health on the Emergency Hospital staff? A.—No, he was on a fee basis for us. We paid him \$5 per case.

Q.—Do you mean that Dr. McCready was not employed by you? A.—I mean he was not a member of our staff.

Q.—Well, we won't quibble about words: was he under employment by Group Health? A.—He was employed to refract eyes at \$5 a case during that emergency.

Q.—Employed by whom? A.—Group Health.

Q.—And at that time he was a member of the staff of Emergency Hospital? A.—Yes.

Q.—Did you tell Dr. Mitchell that you did have a member of your association on the hospital staff there? A.—No.

Q.—You didn't; why? A.—Because he was not a member on our staff.

Q.—You didn't consider him a member of your staff? A.—No, neither did we consider any physicians we employed on a fee basis.

Q.—Did you tell Dr. Mitchell he was on a fee basis with your staff? A.—I never mentioned Dr. McCready to him.

Q.—Did you know he was not a member of the District Medical Society? A.—He told me he was not.

Q.—Did you know of your own knowledge that he was not? A.—No, sir.

Q.—Then your information that Dr. Mitchell was in error is based on something he told you? A.—I think he is the best evidence. He ought to know.

Q.—Did you ever make inquiry of the District Medical Society to determine that? A.—I didn't; I accepted his word.

Q.—Were there any other physicians you had on a fee basis who had staff privileges? A.—There may have been. I remember Dr. Eckelby as one, and Dr. Warfield, who I think is a defendant in this case. And there was Dr. Ledbetter. We didn't inquire whether they were members of this, that or the other thing. They did their work and we paid them.

Q.—About how many did that work? A.—I should say there were six or eight, perhaps a dozen of them.

Q.—And that was work for which the clinic was not equipped? A.—No, sir, we were equipped for that work.

Q.—Who would do the work that Dr. Ledbetter was engaged to do? A.—I couldn't say.

Q.—Think it over; you were president for a year and a half. A.—I could think it over but I wouldn't know.

Q.—You are familiar with the work the various surgeons or physicians did, are you not? A.—You are asking me to tell you who on the staff could do the work that Dr. Ledbetter did. I don't know. I didn't get into this medical question at all.

Q.—You said you were obliged to hire Dr. Ledbetter? A.—We were.

Q.—Now, isn't Dr. Selders the only surgeon you had? A.—Yes, for general surgery. Dr. Halstead is also a surgeon, for minor surgery.

Q.—Did you have anybody for orthopedic work? A.—Not that I know of.

Q.—What kind of work did Dr. Ledbetter engage in? A.—I don't know. All I know is we paid him for services performed, and I know that because I signed the check.

Q.—All you know is you paid the bill to various doctors? A.—Yes, that is all.

RE-DIRECT EXAMINATION

By Mr. Lewin:

Q.—I hand you the roster of the Medical Society members of the District of Columbia, which is Exhibit 32, and ask you to look that over; and ask you to see if you can find the name of Dr. McCready on that list?

Mr. Leahy:—It speaks for itself.

Mr. Lewin:—It speaks loudly against your point.

The Witness:—I looked under the "M's." I don't find his name there. Do you want me to look all the way through it?

By Mr. Lewin:

Q.—No. After you had your conversation with Mr. Rogers of the Casualty Hospital, you say at that meeting Mr. Rogers told you that they had a rule in effect that they could not accept on their courtesy staff non-members of the District of Columbia Medical Society? A.—He said it was first of the by-laws.

Q.—After that didn't he tell you to submit another application to Dr. Selders? A.—You mean verbally, or by correspondence, or by what? I think there was a letter later on in which he either enclosed an application or asked for it.

Q.—I show you Exhibit 403 and ask you if this is Dr. Rogers' letter to you of Aug. 2, 1938. A.—It is.

Q.—And didn't he say in that letter if Dr. Selders will submit a further application that it will receive consideration? A.—Yes.

Q.—Is there anything in that last communication indicating that there was some iron-clad rule which would prevent the doctor from receiving staff privileges notwithstanding he was not a member of the Society?

Mr. Leahy:—I submit it speaks for itself.

The Witness:—There certainly isn't.

TESTIMONY OF MARY FRANCES STUART MAURY.

DIRECT EXAMINATION

By Mr. Lewin:

Mary Frances Stuart Maury said that in 1937 she was Miss Stuart. In November 1937 she was laboratory technician for Group Health. She was graduated with an A.B. degree, majored in science, after which she took a year's course at the University of Virginia Medical School as a laboratory technician. In November 1937 she was taken ill.

Q.—Will you tell the jury the circumstances of your becoming ill? A.—I was awakened in the morning about 6:30 with severe abdominal pain, and I got up out of bed and fainted.

Q.—Do you know how long you remained unconscious? A.—No.

Q.—Could you tell us what you did on regaining consciousness? Did you ask for a doctor? A.—Miss Lewis, who was the chaperon at the house where I lived had called and—

Mr. Leahy (interposing):—We object to the conversation.

By Mr. Lewin:

Q.—All right. My question was, did you ask for a doctor when you came to?

THE COURT:—A better question would be to ask her if she finally got a doctor.

The Witness:—Shall I answer that?

Mr. Lewin:—Yes.

The Witness:—Yes, Miss Lewis had called her personal physician, Dr. Birdsall. After he had already been called, Miss Lewis asked me about a doctor and I specified Dr. Allen E. Lee, on the staff of Group Health.

By Mr. Lewin:

Q.—And did Dr. Lee come there? A.—Yes.

Q.—How soon after you asked for him would you say? A.—Very soon.

Q.—And did he make an examination of you? A.—Yes.

Q.—What did he do as a result of that examination? A.—He recommended that I be taken to the hospital.

Q.—Did you suggest which hospital you preferred? A.—Yes.

Q.—Which one was it? A.—Garfield.

Q.—Were you taken to the hospital? A.—Yes.

Q.—Were you taken there in an ambulance? A.—Yes.

Q.—And about what time would you say you arrived at the hospital? A.—I think it was around ten.

Q.—Did he tell you that an operation would be necessary?

Mr. Leahy:—I object to what he told her.

THE COURT:—She may answer that.

Mr. Lewin:—Did he tell you whether any operation would be necessary?

The Witness:—He thought before I left home, he told me before I left home an operation would be necessary.

By Mr. Lewin:

Q.—And did you engage a surgeon or leave that to him? A.—I left it to him.

Q.—And did you know who the surgeon would be when you left your house to get in the ambulance to go to the hospital? A.—No.

Q.—After you arrived at the Garfield were you taken to a room and put to bed? A.—Yes.

Q.—And then did a doctor come in to see you? A.—Yes.

Q.—When, with reference to the time you arrived at the hospital? A.—It seemed rather long to me; I don't know exactly how long it was.

Q.—Was any treatment given to you while you were awaiting your doctor? A.—Not that I recall.

Q.—When the doctor finally came, who was he? A.—Dr. Schoenfeld.

Q.—Is that Dr. Herbert H. Schoenfeld? A.—Yes.

Q.—And did he then give you any treatment? A.—I had an injection before I was taken to the operating room.

Q.—Yes, but did he give you any treatment after examining you? A.—No.

Q.—Did he give you that treatment after he came back? A.—I don't recall.

Q.—How long after he left the room was it before he returned? A.—I imagine it was around an hour. I am very vague about the time.

Q.—And who came in with him, if anybody, when he returned?

A.—An assistant. I don't recall his name.

Q.—And were you later operated on? A.—Yes, sir.

Q.—Who performed the operation? A.—I was told Dr. Schoenfeld.

Q.—Can you tell us about when the operation took place?

A.—Sometime after noon.

Q.—Would you say it was in the early afternoon or the late?

A.—Early afternoon.

Q.—You would say it might have been as early as 12:20?

A.—I had no idea of the time.

CROSS EXAMINATION

By Mr. Leahy:

Q.—I have only this one question. If it should become necessary, would you be willing to let Dr. Schoenfeld tell the Court and jury what he did that day? A.—Yes.

Q.—I am going to tell you why: you have a right under the law to refuse to permit a doctor to tell of his treatment of you.

Mr. Lewin:—It has already been covered by a written waiver, which I hold in my hand, signed by Mrs. Maury.

Mr. Leahy:—I just wanted to know, if we called him, would you object or would you be willing to have him testify. A.—I would be willing.

Q.—You were not a member of Group Health? A.—No.

Q.—You were just an employee? A.—Yes.

Mr. Lewin:—As a matter of fact, is this your signature to a waiver permitting Dr. Schoenfeld to testify concerning your operation. A.—Yes.

TESTIMONY OF DR. ALLEN E. LEE

DIRECT EXAMINATION

By Mr. Kelleher:

Allen E. Lee said he is a Doctor of Medicine, and limits practice to diagnosis and internal medicine. He obtained his doctor's degree at the University of Michigan in 1930. Then he took some postgraduate work at Ohio State until 1932. In 1931 he was at Cleveland; in 1932 at Columbus. He was chief resident at the University of Ohio. It was in the University of Ohio State Hospital, or Starling-Loving. Then he went back for some time to Ann Arbor and came to practice in Washington in 1934. He became associated with the Medical department at Georgetown as instructor in medicine.

Q.—While you were with Georgetown did you also have any classes for nurses? A.—I had, I think, for one year, a course in Materia Medica with the nurses there. I started a course with them; and then I taught some classes at Garfield Hospital.

Q.—When you came to Washington did you join the Medical Society of the District of Columbia? A.—I joined it in 1934 or 1935, I think, at the time I started practicing.

Q.—Now, Dr. Lee, did you join the staff of G. H. A. or Group Health Association, Inc., in the latter part of October,

1937? *A.*—Well, I believe I did. I am not exact about the date, but I believe I joined the clinic in 1937, the latter part of the year.

Q.—Were you on the staff of Group Health Association when the clinic opened up on I Street? *A.*—When it opened I was affiliated with the clinic.

Q.—Dr. Lee, do you know, or did you know, Miss Mary Frances Stuart? *A.*—Yes, sir.

Q.—Was she a patient of yours on Nov. 18, 1937? *A.*—I don't recall the exact date, but she was a patient of mine shortly after I was with the clinic.

Q.—Will you describe to the jury the circumstances surrounding your treatment of her?

Mr. Levin:—You might care to see this waiver of Mrs. Maury.

THE COURT:—The doctor may understand that he is at liberty to testify.

The Witness:—Then I can refer to her record, I believe?

THE COURT:—Yes.

By Mr. Kelleher:

Q.—You are referring to a record which you made contemporaneously with the treatment? *A.*—Yes. It is my custom to keep a record of my patients in private practice. I saw Miss Mary Stuart on Nov. 18, 1937. I have a record here of the time. It was at 7:30 a. m.

Q.—In the morning? *A.*—Yes; 7:30 in the morning. After going over her carefully I made a diagnosis of one of two possibilities which I indicated as an acute appendix, possibly rupture, or possibly a ruptured ovarian cyst, with hemorrhage. That was my working diagnosis at that time. She was in shock, surgical shock, and had a surgically acute abdomen.

Q.—What do you mean by surgical shock? *A.*—It is rather a complex term to explain in layman's language. It means a condition in which a patient's bodily functions have more or less collapsed; the circulation, and possibly involving blood pressure and heart function, cerebral function.

Q.—Is it a serious condition? *A.*—We consider it serious.

Q.—May a patient die from shock alone? *A.*—It depends on the type of shock. A shock is usually considered a critical thing.

Q.—Take the type of shock she was suffering from: was that serious enough to induce death? *A.*—Well, ruptured internal viscus produces shock. It does not necessarily produce death within a short length of time. It is not as bad as a traumatic shock or a shock following an accident.

Q.—Will you tell us what instructions you gave for the care of Miss Stuart? *A.*—As I recall it, referring to the record here, I got in touch with Dr. Brown, who was director of the clinic. I simply referred the matter to him, because Miss Stuart was a member of the personnel, and he stated—

Mr. Leahy:—I object

THE COURT:—Yes. I would not go into the conversation.

By Mr. Kelleher:

Q.—Did you order Miss Stuart sent to the hospital? *A.*—I put an order in to have her transmitted to the hospital by ambulance as soon as possible, after I spoke to Dr. Brown.

Q.—To what hospital? *A.*—Garfield Hospital.

Q.—Did Miss Stuart suggest any surgeon? *A.*—Miss Stuart was more or less in a semistuporous condition at the time.

Q.—I do not think I asked you this. Did you conclude, as a result of your diagnosis, that an operation was necessary? *A.*—Well, my opinion was that surgery was indicated as soon as possible.

Q.—And you are not a surgeon, of course. *A.*—No, sir.

Q.—As a result of your conversation with Dr. Brown was a surgeon selected? *A.*—Following Dr. Brown's suggestion she voiced a request for a surgeon, and that surgeon was called.

Q.—Who was that surgeon? *A.*—Dr. Schoenfeld.

Q.—Who called Dr. Schoenfeld? *A.*—I did.

Q.—What did you tell him? *A.*—I described the problem involved and told him I thought the patient was in serious condition and I would appreciate his seeing the patient as soon as possible.

Q.—Did you tell him what your diagnosis of the patient was? *A.*—I told him exactly in the words that I have just described in the working diagnosis.

Q.—Will you tell us what transpired after you had contacted Dr. Schoenfeld? *A.*—I talked to Schoenfeld and was to meet him at some designated time, which I do not recall at this moment, as early as possible, at the hospital.

Q.—Continue. *A.*—When I arrived there—I don't recall just what time it was—I met Dr. Schoenfeld coming down the hall

toward me, and of course my first question was if he had seen the patient, and from his remarks I gathered that perhaps—

Mr. Leahy:—I object to any conversation.

By Mr. Kelleher:

Q.—Tell us what you said to Dr. Schoenfeld and what he said to you.

Mr. Leahy:—I object to that.

Mr. Kelleher:—May we approach the bench on this, your Honor?

THE COURT:—Yes.

(Counsel for both sides approached the bench.)

By Mr. Kelleher:

Q.—Did Dr. Schoenfeld operate upon Miss Mary Frances Stuart? *A.*—Yes, sir.

Q.—Were you present when the operation occurred? *A.*—I was there when the operation occurred.

Q.—What did the operation show as to her illness? *A.*—It showed cystic tumors of both ovaries and tubes, with hemorrhage.

Q.—With hemorrhage? *A.*—Yes, The right ovary was ruptured, accompanied by hemorrhage.

Q.—Is that a serious condition, Doctor? *A.*—Well, it is not such that it will cause death immediately. It is serious, because it is a ruptured viscus.

Q.—Was the matter of the hemorrhage serious? *A.*—Well, if there was the amount of hemorrhage when the patient was on the operating table one would not say it was serious, but clinically a ruptured viscus is usually considered a serious diagnosis.

Q.—Doctor, prior to your joining Group Health Association did you notify the Society that you intended to resign? *A.*—I think I did.

Q.—Do you know what date that was? *A.*—No, sir.

Q.—I show you what has been introduced in evidence as U. S. Exhibit 41 and ask you if that is your letter of resignation to the Society, dated Oct. 30, 1937? *A.*—Yes, sir.

Q.—Do you recall, after you resigned, whether you were cited by the Compensation, Contract and Industrial Medicine Committee of the Society? *A.*—Well, I don't know what you mean by that word "cited."

Q.—Will you tell what happened? *A.*—I received a letter stating that—calling my attention to the fact that I was to be taken up before the committee, or that my standing was to be taken up before the committee, in consideration of the contract which I was to have had with Group Health.

Q.—Do you know what date that was? *A.*—I don't recall the date.

Q.—I show you Exhibit 39 and ask you whether that is the letter which you received from the defendant Hooe, dated Nov. 2, 1937? *A.*—Yes, sir; that is it.

Q.—After you had received this letter, Exhibit 39, did you talk on the telephone with the defendant Hooe? *A.*—I recall having several conversations with him on the telephone.

Q.—Did you discuss with him the matter of your resignation from the Society? *A.*—I believe I notified him that I had sent a letter of resignation in, and that therefore perhaps I was not subject to any call by his committee.

Q.—And what did the defendant Hooe say? *A.*—I don't recall that.

Q.—After you had received this notification from the C. C. & I. M. Committee, did you receive any other notification to appear before the Executive Committee of the Medical Society? *A.*—I think I did.

Q.—Did you have any hearing before the C. C. & I. M. Committee? *A.*—Well, I recall having no hearing until the very last night, at which time I enclosed my resignation from Group Health.

Q.—That was after the hearing of the Executive Committee started? *A.*—Yes, sir.

Q.—You say you had no hearing before the C. C. & I. M. Committee before the first night of the hearing before the Executive Committee? *A.*—That was the only hearing I recall being in. It was the Executive Committee, I believe, in joint session with the Contract Committee.

Q.—I want to be sure. What is your answer to my question as to whether or not you had any hearing before the C. C. & I. M. Committee before Dec. 6, 1937, the date of the first meeting of the Executive Committee? *A.*—Is that the date of the Executive Committee hearing?

Q.—Yes. *A.*—I did not.

Q.—Did you attend the first hearing of the Executive Committee on December 6? *A.*—Well, I won't say about the date, but I did attend the first hearing of the Executive Committee.

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Q.—What occurred at that hearing? A.—Well, it was a hearing at which I appeared to explain, as I recall now, the contract at issue between me and Group Health.

Q.—When you say you appeared, what do you mean? Did you testify? A.—I was called before the committee to explain a contract that I was supposed to have had between myself and Group Health Association.

Q.—Who examined you before the committee? A.—Well, now, I don't understand that.

Q.—Who asked the questions? A.—It seemed that the entire group asked questions.

Q.—Was the committee represented by attorneys? A.—Yes, sir.

Q.—Did any attorney question you? A.—Yes. I believe I was questioned by attorneys.

Q.—Who was the attorney? A.—Offhand, I recalled Mr. Hoover doing a lot of questioning that evening.

Q.—Do you recall Mr. Leahy, this gentleman over here (indicating)? A.—I believe he was there that evening, but I don't recall his questioning me.

Q.—After you had testified on December 6, and before Friday, December 10, did you see the defendant Hooe or talk with him over the telephone? A.—I believe I had one conversation with him on the telephone between those two dates, the first one being the date at which I appeared before the committee.

Q.—That is, December 6? A.—I believe that was the first date; and the second date being the night of my resignation. Is that correct?

Q.—That would be December 10. A.—December 10. I had a telephone conversation with him, during which he stated that proceedings would be dropped or that my standing would be unaffected in the Society should he have a copy of my resignation by a certain time that evening.

Q.—Resignation from what? A.—Group Health.

Q.—Did he call you or did you call him? A.—I believe I called him.

Q.—Did you attend a meeting at the Medical Society Building on December 10? A.—I attended as a member in good standing of the Society; yes. I enclosed my resignation from Group Health.

Q.—Will you tell us how and where you announced your resignation? A.—I don't recall the details, except that on that evening I appeared as per request to continue with the hearing, and my resignation had already been submitted to Dr. Brown. A copy of it had been sent, I believe, to Dr. Hooe. And I met Dr. Hooe, who requested that I stop in before the Contract Committee and that he would announce that all proceedings would be dropped.

Q.—Did you go in before the C. C. & I. M. Committee? A.—Yes; I believe it was that committee—in one of the ante rooms of the Medical Society.

Q.—Did Dr. Hooe make the announcement which you suggest? A.—I recall that he did.

Q.—What did he say, in substance? A.—He simply stated that proceedings were dropped and that my standing was unaltered, in accordance with the fact that he had notice of my resignation from Group Health, or words to that effect. I can't give you the exact wording.

Q.—Did you notify Dr. Brown by letter that you had resigned from G. H. A.? A.—I gave Dr. Brown a letter personally.

Q.—Was that on December 10, the night of the second hearing? A.—I think it was on the afternoon of the same day.

Q.—I show you Exhibit 60 and ask you whether or not it is the original or a carbon copy of your resignation which you said you gave Dr. Brown? A.—That is a copy of the letter, I believe, that I gave Dr. Brown.

Q.—Did you enclose a copy of the letter to Dr. Hooe, dated Dec. 10, 1937? A.—Yes, sir. That is the original.

Q.—Now, Dr. Lee, did you receive a communication from the defendant Hooe notifying you that you were a member in good standing, in view of your resignation from Group Health Association? A.—Well, I don't recall whether I received a memorandum to that effect.

Q.—May I show you Exhibit 61 and ask you whether you received the original of that document. A.—I believe I did get the original.

CROSS EXAMINATION

By Mr. Leahy:

Q.—With reference to Miss Stuart, do you recall about what time it was that you first received word to go to her? A.—I don't recall the exact time. I have a note on her chart that I saw her about 7:30 in the morning.

Q.—And then you got in touch with Dr. Brown? A.—I got in touch with Dr. Brown first.

Q.—And Dr. Brown suggested the name of Dr. Schoenfeld? A.—Yes.

Q.—Yes, sir.

Q.—Then you got in touch with Dr. Schoenfeld? A.—Yes.

Q.—Have you any idea what time Miss Stuart got to the hospital? A.—I have no idea, but there must be a record on her hospital chart.

Q.—Do you recall the time you got to the hospital? A.—Well, I must have gotten there—I don't recall exactly—

Q.—Some time before 12 o'clock? A.—Oh, yes.

Q.—Would you say it was around 10 o'clock? A.—It is difficult for me to state the exact time, so I would not commit myself on that. I recall coming into the hospital at such time as Dr. Schoenfeld was coming down the hall, and we both met. My impression was at the time that he had seen the patient and knew something about her; and from then on we had our contact.

Q.—Some time has to elapse in the preparation for an operation? A.—Yes, sir.

Q.—The operating room has to be gotten in order; the patient also has to be gotten in order for the operation? A.—Yes.

Q.—Do you recall what time the operation was performed? A.—I have the time of it on my chart.

Q.—Will you tell us that? A.—I have here a note that she was operated on at 11:30 a. m.

Q.—Is that—well, you said you did not know about what time you got to the hospital. But she was operated on at that time? A.—Yes.

Q.—You found that generally your diagnosis was correct, did you not? A.—Yes, sir.

Q.—Was there a good deal of hemorrhage? A.—I don't know what the surgical note states, but my note states that there was hemorrhage in the pelvic cavity. As to the amount I do not have a note here; but as I recall, she had hemorrhage of such volume as would have endangered her life.

Q.—Just a couple of questions about those two dates of December 6 and December 10. You appeared at the first hearing which was held December 6, did you not? A.—Yes, sir.

Q.—At that time you tendered your resignation, effective as of November 1; is not that right? A.—I believe that letter is dated.

Q.—That was dated October 30? A.—Yes.

Q.—In other words, at that time, October 30—am I right on that October 30?

Mr. Kelleher:—That is correct.

By Mr. Leahy:

Q.—On October 30 you had made up your mind to resign from the Medical Society? A.—Yes.

Q.—And I presume you came to your conclusion, did you not, after deliberation and after weighing the pros and cons? A.—I arrived at that conclusion feeling that perhaps I ought to avoid a lot of time in controversy that might have elapsed later.

Q.—Did you discuss the matter among your friends or take advice on the matter before you came to your conclusion? A.—That conclusion was made unadvised.

Q.—Your own good judgment? A.—My own good judgment.

Q.—On December 6 had you in the meantime recalled that resignation in any way? A.—I recall that I had probably made an attempt at recalling it, since there was no action carried out on that letter of resignation.

Q.—Do you recall in what shape you had attempted to recall it? A.—I believe a letter was sent to that effect.

Mr. Leahy (addressing Mr. Kelleher):—Have you got that letter?

Mr. Kelleher:—Yes (handing a paper to Mr. Leahy).

By Mr. Leahy:

Q.—I now show you a letter, Doctor, which is dated Nov. 11, 1937, and it is Exhibit 43. Do you remember writing this?

A.—Yes, sir.

Q.—Was that your dictation or somebody else's? A.—That was my dictation.

Q.—At whose suggestion? A.—Well, after having had a conference as to what we ought to do about the letter of resignation.

Q.—With whom did you confer? A.—Offhand, at this time I don't recall. I believe Mr. Penniman and Mr. Zimmerman probably talked it over.

Q.—Did you have any legal advice? A.—There might have been some legal counsel there with us at the time.

Q.—Did Mr. Russell advise you about this letter? A.—I don't recall exactly.

Q.—But you do recall some lawyer there? A.—There were lawyers there with us at the time.

Q.—Did the lawyers make the set-up of the letter? A.—Well, I think perhaps that letter was to a great extent my own suggestion.

Q.—Did the thought come from this conference that you had with Mr. Penniman, Mr. Zimmerman and the lawyers? A.—I cannot say that now. We all talked it over.

Q.—Do you recall whether any of the lawyers for Group Health were present at the hearing on December 6? A.—I believe we had quite an imposing array of lawyers there.

Q.—You had some four or five, did you not? A.—Yes.

Q.—You had Mr. Russell there? A.—Mr. Russell.

Q.—And Mr. York? A.—I believe Mr. York was there.

Q.—Any others that you recall? A.—I don't recall the names.

Q.—But there was an imposing array? A.—Yes.

Q.—It looked a bit like the Supreme Court around there at that time, did it not? A.—With all the Executive Committee members and the lawyers it looked like it.

Q.—Then the next hearing was on December 10, was it not? A.—December 10.

Q.—And were the same lawyers present on December 10? A.—Practically the same crowd was there.

Q.—Had you attended any sort of a trial before? A.—What do you refer to? A trial outside—

Q.—Where you testified in court? A.—Yes; I have testified before.

Q.—And the Executive Committee was sitting there as a group of judges, and the lawyers on one side would ask questions and the lawyers on the other side would ask questions? A.—They were sitting there, it seemed to me at the time, as a combination of judge, lawyer, district attorney—a pretty complete group of itself. They all seemed to ask questions, which of course I felt was a little bit—

Mr. Kelleher:—You mean, the committee?

The Witness:—Yes.

By Mr. Leahy:

Q.—Were the lawyers for Group Health also asking questions? A.—I believe they asked questions, but we did not have much opportunity to explain.

Q.—Were they asking questions? A.—Yes.

Q.—And the lawyers for the committee also were asking questions? A.—Yes. Mr. Hoover asked plenty of questions.

Q.—And there were arguments on both sides, pro and con? A.—Yes. It got pretty warm.

Q.—And that was the meeting on December 10, was it? A.—That was the first meeting. I don't know what the date was.

Q.—You did not attend the December 10 meeting at all? A.—No, only as an observer, which was a little bit cooler.

Q.—Did you also consider, on September 8 or 9, when you tendered your resignation, the fact that you should resign from Group Health? Was that your deliberate judgment? A.—The resignation from Group Health was my own deliberate judgment.

Q.—Did you take advice from any lawyers in reference to that? A.—No. I arrived at that conclusion myself.

Q.—You weighed the pros and cons in the matter, did you? A.—It was my own conclusion.

Q.—And you came to the conclusion that you ought to resign; is that right? A.—I arrived at the conclusion because it seemed to me that I was wasting a good bit of time in a controversy that I could devote to my own practice of medicine, taking care of sick folks.

Q.—Did you weigh that thought over against the experience also that you had had in Group Health? A.—Well, I don't know what you have in mind; but it seemed to me that I was—I arrived at the conclusion that perhaps the private practice of medicine in which I was devoting most of my time at that time was for me much more preferable.

Q.—Much more preferable than the practice you found in Group Health? A.—I had only spent two or three hours a day at Group Health, anyway, and it seemed to me that the controversy was getting so that it would usurp a good deal of my time that I had to devote to sick people.

Q.—Do I understand correctly, then, Doctor, that you took into consideration what your experience had been in the practice at Group Health, over against your practice in the private practice of medicine, and that you preferred to pursue your private practice of medicine, and that therefore you resigned? A.—Well, I will put it in my own words, if you don't object.

Q.—I would be glad to have them. A.—I arrived at the conclusion to resign from Group Health because I felt I was wasting a good bit of time that should be devoted to the care of sick people, rather than to be involved in a controversy between Group Health and the Medical Society.

Q.—You could have devoted your entire time with Group Health if you wished, could you not? A.—I could have; yes. But it seemed to me that private practice was much more preferable.

Mr. Leahy:—That is all.

RE-DIRECT EXAMINATION

By Mr. Kelleher:

Q.—When you say that you preferred to spend more time a day in private practice, do you mean that you would have preferred private practice in the absence of this controversy between Group Health Association and the Society? A.—That is quite a hypothetical question, because actually there was no such situation.

Q.—All right. Let me put the situation, then. Was the controversy between Group Health Association and the Medical Society the cause of your resignation from Group Health Association? A.—Yes; I think it was the cause.

Mr. Kelleher:—That is all.

RE-CROSS EXAMINATION

By Mr. Leahy:

Q.—Did not your desire to devote your life to private practice, Doctor, enter into your decision as you have stated? A.—I just stated that a moment ago. Yes; that was a factor in my arriving at the conclusion to resign.

Q.—Then you took everything into consideration when you made up your mind? A.—That is right.

Q.—And you had the preference to private practice rather than Group practice—

Mr. Kelleher:—Oh, now; wait a minute.

Q. (Continuing)—if there was any controversy existing about Group practice? A.—Yes. I had a preference for private practice in preference to group practice, should there exist any controversy about the group practice type of medicine.

RE-DIRECT EXAMINATION

By Mr. Kelleher:

Q.—If there had been no controversy would you have resigned from Group Health when you did? A.—I said that that was a hypothetical question. If there had not been any controversy I might have still felt that some medical opinion ought to give the group type of practice support.

TESTIMONY OF SARAH ABBOTT

DIRECT EXAMINATION

By Mr. Kelleher:

Miss Sarah Abbott lives in Trenton, New Jersey. She was in Washington in 1937, employed in the Home Owners' Loan Corporation.

Q.—Were you a member of Group Health Association? A.—I was; one of the original members.

Q.—Were you in an automobile accident in January 1938? A.—Yes; on the 26th of January.

Q.—Will you describe that to the jury, please? A.—It was about 10 in the evening, and in crossing at Fourteenth and Pennsylvania Avenue I was run down by an automobile and badly injured, and a traffic policeman and a man passing helped me up, but I found I could not stand; and the woman who ran me down offered to take me to the All-States Hotel in her machine, and she did. The traffic policeman followed in an automobile, and when I got over to the hotel the traffic policeman helped me in. I found I could not stand on that leg (indicating) at all, and then he insisted that an ambulance be sent for, and they sent for an ambulance from Emergency Hospital. The intern with the ambulance thought the leg was broken, and I was taken over there and two of my friends went over with me, one in the ambulance and one called afterward. When I reached the hospital they took me to the emergency room and then I told them I was a member of Group Health, and the intern there said they did not recognize—

Mr. Leahy:—We object to what the intern said.

The Witness:—So, then, I called a Group Health physician, but I didn't have the night telephone number and it wasn't in the telephone directory at that time, because they were recently given it. So I suggested several people to telephone to, and they could not get any of them; they were not in at that time. So one of the friends who came with me agreed privately that she would telephone to a Group Health doctor in the morning. She didn't have the night telephone number. So an intern came around and I said, "Well"—

Mr. Leahy:—I object to what the intern said.

ORGANIZATION SECTION

JOUR. A. M. A.
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Mr. Kelleher:—Your Honor, I can connect it up with the hospital.

THE COURT:—I am inclined to think, gentlemen, that it would be admissible. The intern is a proper agent or officer of the hospital to act in these situations, and in view of what we have already, that would be admissible.

By Mr. Kelleher:

Q.—What did the intern say? A.—The intern told me that I couldn't stay there as a member of Group Health; that I could send for a physician outside if I wanted to; and I suggested one of the doctors who is a member of the emergency staff, but they said he was not a surgeon, so he wouldn't do. Then this intern told me that I couldn't stay there that night unless I of Group Health and I couldn't stay there that night unless I permitted the hospital to choose the physician. Then I asked him whom he was going to select, and he said Dr. Marbury. I didn't know him, but I agreed to anything at that time, it was taking so long telephoning.

Q.—Let me ask you a few questions about your experience in the emergency room. First, how long did the conversation between you and the intern take? A.—I think in the various telephone calls, and so forth, it must have taken nearly an hour.

Q.—After he told you that he did not recognize Group Health, did he leave the emergency room? A.—Well, you see there was a wall between where I was laid out on one of the emergency beds and the place where he telephoned. So I don't know. He was around on the other side, and he kept coming back and forth, talking to me.

Q.—Did you receive any treatment at all while you were in the emergency room? A.—No; none whatever. But when I agreed to take a room, then I was taken up to the room and the nurse took care of me the best she could that night.

Q.—What did she do for you? A.—She used hot water bottles, if I remember rightly. There was no medical attention that night. That was all.

Q.—Did any doctor come in that night? A.—No.

Q.—Dr. Marbury did not come? A.—No.

Q.—Did you want Dr. Selders to come that night? A.—I don't know. I wanted some one of the Group Health doctors that night, but as they could not get in touch with them I of course had to give up that, and there was nothing for me to do except to agree to stay, you see. And then the next morning Dr. Marbury came in and ordered an x-ray, and shortly after he had left Dr. Selders came in. I then told him what had happened and told him that I had no objection to staying at Emergency if he could arrange it; and it was agreed that if he could not arrange it he would send in some ambulance men and have me taken to another hospital. I think it must have been less than half an hour when the ambulance men came in for me and they put me on a stretcher and gathered up my things. No nurse came in at all, which surprised me. And then I was taken down and turned over to Garfield Hospital.

Q.—What occurred at Garfield Hospital? A.—At Garfield they admitted me at once and Dr. Selders came in and ordered an x-ray, and that was taken, and I was taken to a ward at first, and then was taken to a semiprivate room. Dr. Selders there came in to see me every day and he was just splendid and gave me the best of care and left his directions daily with the nurse. So that I had nothing to complain about as to the hospital treatment. It was very good.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Do you recall what day this was, Miss Abbott? A.—You mean, of the accident? It was the 26th of January.

Q.—1938? A.—Yes.

Q.—Do you recall about what time it was? A.—That it happened?

Q.—Yes. A.—It must have been about 10 or a little after.

Q.—In the morning? A.—Oh, no; at night.

Q.—Do you recall what time you got to Emergency Hospital? A.—Well, I don't know. I suppose the time it took me—it must have been about half past 11—no; it couldn't have been that late. It was before 11; half past 10, perhaps.

Q.—When was it you tried to reach the doctors of Group Health? A.—At the hospital?

Q.—Yes. A.—I don't know the time. It was just after I was taken in there. I at once told the intern that I was a member of Group Health and wanted a Group Health physician.

Q.—Do you recall how long it was that you tried to get the doctors of Group Health? A.—I should say it must have been an hour. My friends say it was along toward midnight before they got away.

Q.—From 10:30, when you came into the hospital, up until midnight you were still unable to get in touch with doctors on Group Health? A.—No; I could not reach any of them. The people they telephoned to they could not reach, so we could not get the doctors.

Q.—Did you call for any doctor that night at all at Emergency Hospital? A.—No. I just suggested that doctor who was on their staff, and the intern said he was not a surgeon, so he would not consider it.

Q.—Did anybody make any suggestion about getting another doctor? A.—Just the intern. The only suggestion he made was when he told me that I couldn't stay there unless the hospital was permitted to select the doctor. That was the only time he made any suggestion.

Q.—Was that that night? A.—Yes.

Q.—When you found out you could not get a Group Health doctor, then you said to the intern that you would take a doctor from their staff? A.—No; I didn't say that. He just said that I couldn't stay unless they selected the doctor. He made me agree to that. I agreed to take a room.

Q.—Did he say the doctor was on the staff? A.—He didn't agree to that. I agreed to take a room.

Q.—Did you try to get any doctor that night at anybody's suggestion after you found you could not get a Group Health doctor? A.—No; I did not.

Q.—Did they assign you to a room? A.—Yes. I agreed to take the room and they suggested the room, and I asked whom they were going to get, what doctor, and then the intern said Dr. Marbury, whom I didn't know.

Q.—Had you been in Washington long? A.—About 29 years.

Q.—You had never heard of Dr. Marbury? A.—Yes.

Q.—Did Dr. Marbury come the next morning? A.—Yes.

Q.—What time did he come? A.—I couldn't tell you. It was early.

Q.—Would you say, before 8 o'clock? A.—Somewhere around that time.

Q.—When was it that Dr. Selders came? A.—It couldn't have been more than half an hour after—it was less than half an hour after Dr. Marbury left. Dr. Marbury didn't stay but a few minutes.

Q.—Do you know how it was that somebody got in touch with Dr. Selders that morning? A.—Yes. A friend of mine from the All-States Hotel telephoned as soon as she could.

Q.—Did she phone from the hospital? A.—No. You mean, the next morning?

Q.—Yes. A.—No. I think she must have telephoned from the All-States Hotel.

Q.—Do you recall now about what time you got to Garfield Hospital? A.—I don't know. I suppose it couldn't have been later than around 10:30 suppose, the next morning.

Q.—Did you have any chat with Dr. Marbury at all when he came in? A.—He examined my leg and asked how it happened, and that is all. Nothing was said otherwise.

Q.—Dr. Marbury was the only doctor who saw you outside of Dr. Selders? A.—Yes.

Q.—Did Dr. Marbury recommend that an x-ray be taken? A.—Yes. That is all he did. He just examined that leg and recommended an x-ray, and said nothing else.

Q.—Do you remember the name of the intern? A.—Why, I didn't know him.

Q.—You did not hear anybody mention his name? A.—No.

Q.—When you got to Garfield Hospital an x-ray was taken, was it? A.—Yes.

Q.—And then you were assigned to a semiprivate room? Is that what you called it? A.—Yes.

Q.—How long were you in Garfield Hospital? A.—Three weeks.

Mr. Lewin:

U. S. EXHIBIT 475

Exhibit 475 is a letter from Gist Blair, president of Emergency Hospital, to the president and board of directors of Garfield Memorial Hospital, dated Jan. 27, 1938, on the letterhead of the Central Dispensary and Emergency Hospital:

"Gentlemen:

"Miss Sarah Abbott was brought to this institution by the hospital ambulance on the evening of January 26th. She was given first aid in the Emergency Room and assigned to a bed in the hospital under the care of the staff surgeon on that service, with a diagnosis of possible fracture and possibly other injuries.

"On January 27th, about noon, Dr. Raymond E. Selders, of Group Health Association, Inc., called and requested permission from the hospital authorities to take over the medical care of Miss Abbott, due to the fact that she was a member of Group Health Association, Inc.

"Dr. Selders was advised that we were informed that he was not a member of the District Medical Society and he was not on our courtesy list, and therefore we could not extend him the privileges requested. It is a prerequisite with this hospital for practicing physicians, to become a member of our courtesy list, to belong to the Medical Society of the District of Columbia.

"Dr. Selders contacted Dr. Henry Rolf Brown, at his office, in charge of Group Health Association, Inc., whereupon Dr. Brown called the Superintendent of this hospital and demanded a direct answer as to whether Dr. Selders would be permitted to take entire direct medical charge of the patient. He was advised that, due to the fact that Dr. Selders was not on our courtesy list, we could not extend to him that privilege, but Dr. Selders was advised that he would be privileged to visit and observe the patient and consult with the staff doctor in charge. Dr. Brown then advised that he was sending an ambulance for the patient to be removed from this institution, and a short time later an ambulance from Garfield Memorial Hospital arrived, and we understand the patient was taken to Garfield Memorial Hospital.

"We shall be under obligation to you for a full explanation of the circumstances under which this patient has been permitted to enter Garfield since it is not unlikely that we may be criticized for having declined to care for the patient as described when Garfield apparently is willing to take the patient as described.

"Thanking you for as full an explanation of this case as you can possibly give us,

"Very truly yours,
"Gist Blair,
President."

And then it says:

"P. S. Copy to Medical Society, District of Columbia."

And then:

"1/28/38. Patient—Miss Sarah Abbott, admitted to Ward H, at 3 p. m.
"1/27/38. Fractured leg. Condition good, though uncomfortable. Brought in by private ambulance, and is a patient of Dr. Selders, who still has temporary privileges."

And then some initials in handwriting.

U. S. EXHIBIT 476

The next is U. S. Exhibit 476, which is the reply of the president of Garfield Memorial Hospital to that communication from Major Blair, dated Jan. 29, 1938:

"Dear Major Blair:

"Your letter of the 27th in regard to Dr. Selders' patient has been sent to me.

"This patient was brought in to the Garfield Hospital by private ambulance on the 27th at 3 p. m., with a fractured leg, and was admitted to Ward H.

"In regard to Dr. Selders himself, he had been given the temporary courtesy privileges in accordance with our general practice, pending report on his credentials and standing, by the Staff. Upon the recommendation of the Staff these temporary courtesy privileges were withdrawn from Dr. Selders by the Board of Directors at its meeting on Tuesday the 25th instant. However, the notification of this action had not been received by Dr. Selders on the 27th when the patient in question was brought to the Hospital.

"I observe that you have sent a copy of your letter under acknowledgment to the Medical Society of the District of Columbia, and I am, therefore, sending a copy of this reply to them also.

"Yours very truly,
"Clarence A. Aspinwall,
President."

U. S. EXHIBIT 76

The next is Exhibit 76, which is an original letter from President Blair of Emergency Hospital to the Medical Society of the District of Columbia, dated Jan. 27, 1938:

"Attention Dr. Coursen B. Conklin, Secretary."

"My dear Dr. Conklin:

"I feel sure that the Medical Society of the District of Columbia wish this hospital to be able to carry on its work without unnecessary criticism, and we never have any favorites in the medical profession, although we have a staff of physicians accepted as the leading physicians in the city of Washington, who generously extend the privileges of the hospital to all those whom they believe capable and proper. This list is called our courtesy list.

"Inasmuch as we cooperate with the Medical Society wherever we believe the best interests of the public are served by it and we sustain our staff in its selection of this courtesy list, provided it includes the leading practitioners of the District of Columbia, therefore the enclosed letter is one which I wish you would bring before your Board and executive authorities. I would suggest that the enclosed letter be read carefully and a reply, which will enable us to not only care for this case but similar cases which may arise in the future, be given us.

"Thanking you.

"Very truly yours,
"Emergency Hospital.
"Gist Blair,
President."

U. S. EXHIBIT 75

The next is Exhibit 75, which is Dr. Conklin's reply to Major Gist Blair, dated Jan. 29, 1938:

"Mr. Gist Blair, President,
Emergency Hospital,
Washington, D. C.
"Dear Dr. Blair:

"Your communication of Jan. 27, 1938, has been received. The important subject matter will be given prompt consideration.

"Very truly yours,
"C. B. Conklin, M.D.
Secretary.

"cc—Dr. J. Ogle Warfield Jr., Chairman,
Hospital Committee."

U. S. EXHIBIT 77

Exhibit 77 is Dr. Conklin's letter to Dr. J. Ogle Warfield, Chairman of the Hospital Committee, Washington, D. C., dated Jan. 29, 1938:

"Dear Dr. Warfield:

"I am enclosing herewith correspondence which is self explanatory, for such action as your committee may deem proper.

"Very truly yours,
"C. B. Conklin, M.D.
Secretary.

"cc—Dr. Thomas E. Neill, President."

And the enclosures are copy of a letter from Gist Blair, President of Emergency Hospital, to the President of Garfield Memorial Hospital, dated Jan. 27, 1938, which has just been read, and a copy of the response of the president of Garfield Memorial Hospital to the president of Emergency Hospital, dated Jan. 29, 1938, which has just been read.

Mr. Levin:—I should like at this time to read certain correspondence had with the Washington Sanitarium, which is located in Takoma Park. The first is Exhibit 528, which is a letter from C. B. Conklin, M.D., Secretary of the Medical Society of the District of Columbia, dated July 29, 1937, sent to the Washington Sanitarium, at Takoma Park. It reads:

U. S. EXHIBIT 528

"Dear Doctor:

"It may have come to your attention that there is an organization or organizations that are interested in gaining medical personnel. Your attention is called to Chapter IX, Article IV, Section 5 of the Constitution, quoted in full.

"You are particularly urged to submit to the Compensation, Contract and Industrial Medicine Committee, pursuant to the Constitution, any or all contracts, written or verbal, under which you may contemplate giving your services.

"Very truly yours,
"C. B. Conklin, M.D.
Secretary

Mr. Levin:—The next is 529, which I will not read, and which is a letter from Conklin, Secretary of the Medical Society of the District of Columbia, which it was testified went to all the members of the Medical Society and all hospitals. It is dated July 29, 1937, enclosing this so-called approved list, which omits the name of Group Health.

Exhibit 451 is Mr. Kirkpatrick's letter to Mr. Rice, Credit Manager, Washington Sanitarium and Hospital, dated Feb. 4, 1938, reading as follows:

U. S. EXHIBIT 451

"Dear Mr. Rice:

"There is enclosed herewith an application executed by Dr. Raymond E. Selders, a surgeon on the staff of Group Health Association, Inc., for appointment to the staff of Washington Sanitarium and Hospital.

"It will be very much appreciated if this application may be presented to the proper body and advise us of such action as may be taken. Your prompt attention to this matter will be appreciated."

Mr. Levin:—The next is Exhibit 452, a letter from Robert A. Hare, M.D., from Washington Sanitarium, to Mr. W. C. Kirkpatrick, President, Group Health Association, dated Feb. 8, 1938:

U. S. EXHIBIT 452

"My dear Mr. Kirkpatrick:

"Your letter of February 4 accompanied by an application from Dr. Raymond E. Selders, for appointment on the staff of the Washington Sanitarium and Hospital, has been received.

"This application will have consideration at an early date and we will notify you of the action taken promptly."

Mr. Levin:—The next is a letter from Dr. Hare, Washington Sanitarium, to Mr. W. C. Kirkpatrick, Group Health Association, dated Feb. 14, 1938. It is Exhibit 453:

U. S. EXHIBIT 453

"My dear Mr. Kirkpatrick:

"In harmony with my recent communication I will state that our Board has considered the application of Dr. Raymond E. Selders which has come to us through your hands.

"In view of the fact that there are some problems existing between health groups and physicians, it was voted that the application be tabled, without prejudice, until your organization is recognized or approved by the American Medical Association or its local units. When a suitable plan is worked out in this line of endeavor we will be glad to consider this subject with you again. In the meantime, I am

"Very truly yours,
"Robert A. Hare, M.D."

Mr. Lewin:—The next is 455, a copy of a letter from Mr. Kirkpatrick to Robert A. Hare, Medical Director, Washington Sanitarium, dated July 29, 1938:

U. S. EXHIBIT 455

"My dear Dr. Hare:

"In view of Justice Bailey's decision yesterday establishing the legality of Group Health Association, Inc., it is respectfully requested that Dr. Raymond E. Selders, a member of our staff, be admitted to the courtesy staff of Washington Sanitarium and Hospital, and that he may attend members of this Association admitted as patients there.

"We shall appreciate the courtesy of an early reply.

"Very truly yours,
"W. C. Kirkpatrick,
President."

Mr. Lewin:—Exhibit 456 is a letter from Dr. Hare to Mr. Kirkpatrick, dated Aug. 8, 1938:

U. S. EXHIBIT 456

"My dear Mr. Kirkpatrick:

"Your letter of July 28 has been received. Would state that the question you raise will have consideration in due course.

"Sincerely
"Robert A. Hare, M.D.,
Medical Director."

Mr. Lewin:—The next and last is 457, which is Mr. Kirkpatrick's letter to Dr. Hare, dated Sept. 16, 1938:

U. S. EXHIBIT 457

"Dear Dr. Hare:

"On Aug. 8, 1938, you advised me that the application of Dr. Raymond E. Selders for admission to the Courtesy Staff of your hospital, which was the subject matter of my letter of July 28, 1938, would have consideration in due course.

"I shall appreciate it very much if I may have some advice from you as to what action that may have been taken in the meantime.

"Very truly yours,
"W. C. Kirkpatrick,
President."

MARCH 3—MORNING

Mr. Lewin:—May it please the Court, I think, in order to make the record clear, I should restate the Government's offer in evidence of those portions of the minutes of the District Medical Society and its executive committee and the documents referred to in and attached to the minutes. I refer, of course, only to those minutes which were identified as such by the defendant Wiprud, and I refer to all of them except the minutes of the Society for Jan. 6, 1937 and March 3, 1937, no portions of which were offered as yet.

The Government's offer includes, and only includes, those portions of the minutes which show the attendance, the fact of participation of all persons present at the meeting, and those portions which show the approval of the minutes of any prior meetings, and all of the portions of the minutes which were read to the jury by Government counsel, whether marked as hereinafter indicated or not, and all portions of those minutes or other papers attached thereto which have been marked with colored crayon in photostatic copies of the minutes; the said photostatic copies of these minutes as bearing these markings being likewise offered merely for the purpose of identifying these portions. All of this evidence was offered and received, as I understand it, against all of the defendants as against whom the Court has determined or may determine that a prima facie case as charged in the indictment has been established, either by this evidence or by any other evidence offered or to be offered by the Government in this case.

THE COURT:—If you will pass me a copy of that I will reread it.

(Mr. Lewin handed a memorandum to the Court.)

TESTIMONY OF DR. WALTER ARTHUR COOLE

DIRECT EXAMINATION

By Mr. Allen:

Walter Arthur Coole said that during the period from Oct. 30, 1937, to Nov. 23, 1938, he was secretary of the Harris County Medical Society. He was authorized by the Society to appear on behalf of that society in this court.

Q.—I wish to show you Government Exhibit 73-A, which is now in evidence, and ask you if you, as an official of the Harris County Medical Society, received a copy of that from Dr. Taylor? A.—I did not receive the copy. The President received the copy.

Q.—And it came to the Society's attention? A.—Yes, sir.

Q.—I next show you Exhibit 537, which is a letter from Dr. Holman Taylor dated Nov. 24, 1937, to Dr. B. F. Smith of the Harris County Medical Society, and ask you if that came to the Society's attention? A.—Not to my knowledge; no, sir.

Q.—Is that Dr. Taylor's signature (indicating)? A.—Yes, sir.

Q.—And you are acquainted with Dr. B. F. Smith? A.—Yes.

Q.—I next show you Government Exhibit 538, which is a letter dated Nov. 25, 1937 from Dr. P. M. Ashburn to the Secretary of the Houston Medical Society, and ask you if you received that letter as the Secretary of the Harris County Medical Society? A.—Yes, sir.

(The witness identified signatures, correspondence and minutes concerning Holman Taylor, A. B. Talley, C. B. Conklin, The Judicial Council, Minutes, Olin West, etc., relative to membership of Raymond E. Selders in the Harris County Medical Society.)

Your Honor, I do not wish to offer any of these documents at this time; and I am through with the witness.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Is the Harris County Medical Society a component society of the American Medical Association? A.—A component society?

Q.—Yes. A.—I don't know what that means, sir.

Q.—Do you have any State Society in Texas? A.—Yes, sir.

Q.—What is that called? A.—The Texas State Society.

Q.—What is the Harris County Medical Society? A.—The Harris County Medical Society is an association of doctors who practice in Harris County.

Q.—When was it formed, if you know. A.—You mean, the origin of the Society?

Q.—Yes. A.—The origin of the Society began with the 14 doctors who fought in the Battle of Sandy Center and settled in Harris County; and the Society itself was formerly called the Houston Medical Society in 1892, and it was extended to include all of Harris County in 1903.

Q.—What was this battle you spoke about?

Mr. Lewin:—I object to this going any further. I think it is legitimate enough to get in the Medical Society, but when counsel wants to go into a battle I think that is going a little beyond the proper scope.

Mr. Leahy:—Don't you like battles?

Mr. Lewin:—We have plenty of battles on our hands right here.

By Mr. Leahy:

Q.—Under the rules of the Society were you authorized to keep minutes? A.—Yes, sir.

Q.—Are you a shorthand reporter yourself? A.—I write shorthand; yes, sir.

Q.—Did you take down in shorthand just what was said, or did you take what you thought was the substance of what was said? A.—I took down what I could to the best of my ability.

Q.—Word for word as each one spoke? A.—Some of it was word for word, and some was in notes.

Q.—Then, after you had taken it down in shorthand, about a week later, you say, you wrote up the notes? A.—Usually within a week; as soon as I could get to them.

TESTIMONY OF DR. GEORGE B. TRIBLE

DIRECT EXAMINATION

By Mr. Lewin:

(George B. Tribble said he is a practicing physician of the city of Washington. His specialty is otolaryngology—ear, nose, and throat.)

Q.—Did you have occasion to operate upon a young boy named Lewey Gilstrap in November of 1937? A.—Yes, sir.

Q.—Will you tell the jury the circumstances under which you agreed to perform that operation? A.—I was called to see

this case, and I found that they were members of Group Health Association, but there was no specialist in their group, and they had been referred to me. I did an immediate operation, which was opening of the eardrum, and I explained to the father that I would not be able to handle the—

Mr. Leahy:—I object to any conversation.

THE COURT:—Objection sustained.

The Witness:—The case was taken to the Children's Hospital. It was first x-rayed by Dr. Bierman, roentgenologist or x-ray man in this city, which confirmed the diagnosis of an acute mastoiditis. The case was taken to Children's Hospital and admitted, and I operated, I think, that same night, or the next morning—it was the next morning.

Q:—Who was present during the operation? *A:*—The hospital anesthetist.

Q:—What was his name? *A:*—Dr. Macon. The surgical assistant was named Dr. Cohen, and the nurses who were in attendance.

Q:—Anybody else? *A:*—During the course of the operation Dr. Scandifio came in, just at the time I was going through the outer layer of the bone which we call the cortex, and just as I cut through the cortex the pus came squirting up through, and he just happened to look in at that time, and stayed about five minutes and left.

Q:—How did he happen to come there? *A:*—The night before he called me up and said—

Mr. Leahy:—I object to the conversation.

THE COURT:—Objection sustained.

By Mr. Lewin:

Q:—He called you up. Did you invite him to come? *A:*—He asked permission to come.

Q:—Did he come as a result of that conversation? *A:*—Yes, sir.

Q:—Was this patient taken there by you and operated on as a private case? *A:*—Yes, sir.

Q:—How serious an operation was it, Doctor? *A:*—Acute mastoiditis, with an abscess around the big vessel that goes beneath the mastoid bone.

Q:—Was the abscess large? *A:*—Yes, sir.

Q:—Did the patient make recovery all right? *A:*—A perfect recovery.

Q:—To whom did you send your bill? *A:*—To the patient's father.

Q:—Mr. Gilstrap? *A:*—Yes, sir.

Q:—Who paid it? *A:*—The check was received from the G. H. A.

Q:—Do you know who had charge of your Lewey Gilstrap and was looking after him, before you saw him? *A:*—I think, Dr. Scandifio saw him before I saw him. I am not clear on that.

Q:—Had you known Dr. Henry Brown, the medical director of Group Health Association? *A:*—Many years.

Q:—Had he been a personal friend of yours? *A:*—For many years.

Q:—You knew he was Medical Director at that time? *A:*—Yes, sir.

Q:—Did you make any report to Dr. Brown upon your handling of the Gilstrap case? *A:*—Yes, sir.

Q:—I show you Government Exhibit 567 and ask you whether that is a copy of the report which you gave to Dr. Brown? *A:*—A carbon copy of the report, sir.

Q:—Is it dated Dec. 20, 1937? *A:*—Yes, sir.

Mr. Lewin:—I offer it in evidence (handing paper to Mr. Leahy).

Mr. Leahy:—I will pass that up to your Honor. It strikes me that it is entirely immaterial. It is a copy of a report which was rendered to Dr. Brown (handing letter to the Court).

THE COURT:—What is the materiality of it?

Mr. Lewin:—It will come out clearly as the examination proceeds.

THE COURT:—I doubt its admissibility. Objection sustained.

By Mr. Lewin:

Q:—At that time were you a member of the District Medical Society and of the A. M. A.? *A:*—Yes, sir.

Q:—Have you continuously been a member since that time? *A:*—Before and since; yes.

Q:—Did you know the defendant R. Arthur Hooe? *A:*—Yes, sir.

Q:—Did you know that he was chairman of the Compensation, Contract and Industrial Medicine Committee of the District Medical Society? *A:*—Yes, sir.

Q:—Did you receive in May of 1938, six months after this operation, a letter from Dr. R. Arthur Hooe? *A:*—I did.

Q:—I show you Government Exhibit 568 and ask you if that is the letter you received from the defendant Hooe? *A:*—That is the letter.

Mr. Lewin:—I offer it in evidence (handing letter to Mr. Leahy).

Mr. Leahy:—O. K.

Mr. Lewin:—No objection?

Mr. Leahy:—No.

(Letter dated May 14, 1938, from Hooe to Trible was marked U. S. Exhibit 568 and received in evidence.)

U. S. EXHIBIT 568

Mr. Lewin:

"May 14, 1938."

It is on the letterhead of the Medical Society of the District of Columbia:

"Dr. George B. Trible
1801 I Street N.W.,
Washington, D.C.

"Dear Dr. Trible:

"You are hereby directed to appear before the Compensation, Contract and Industrial Medicine Committee at the Medical Society Building, 1718 M Street, N.W., on Tuesday evening, May 17, 1938, at 8 p. m.

"Very truly yours,

"R. Arthur Hooe, M.D.,

"Chairman of the C. C. & I. M. Committee."

By Mr. Lewin:

Q:—Had you ever received a communication like that before from that committee? *A:*—No, sir.

Q:—What, if anything, did you do to prepare yourself for that committee meeting? *A:*—As I recall it, I secured a statement from the parents of the patient regarding the case, and from Dr. Brown regarding the case.

Q:—At that time was Dr. Brown still Medical Director of the Group Health Association? *A:*—Yes, sir.

Q:—Are you sure of that, Doctor? Had he not resigned at that time? *A:*—My impression is that he was still a member.

Q:—Did you determine to obey this summons to attend this meeting as directed? *A:*—Earlier than directed. I had something I had to do later, and I asked permission to come in at 7:30.

Q:—I show you Government Exhibit 569 which purports to be a statement of Mr. Lewey O. Gilstrap, dated the 16th of May, 1937, and I show you also Government Exhibit 570 which appears to be a statement of Dr. Brown, dated May 15, 1937, and ask you whether they are statements which you obtained in preparation for this hearing. *A:*—True statements, and notarized.

Mr. Lewin:—I offer them in evidence.

By Mr. Lewin:

Q:—Let me ask you this. Did you take these statements with you to the committee hearing? *A:*—As I recall; yes, sir.

Q:—And submitted them to the committee? *A:*—Yes, sir; and the letter.

Q:—The letter which you sent to Dr. Brown, Exhibit 567? *A:*—Yes, sir.

Q:—Were those documents considered by the committee in your presence? *A:*—The committee meeting was very short—

THE COURT:—You mean, were they read?

Mr. Lewin:—Yes, or considered.

By Mr. Lewin:

Q:—Were any questions asked about the contents of them? *A:*—The meeting was very informal. It lasted a very short time. I did not pay much attention to it; I thought nothing of it.

Q:—Who was present? *A:*—As I recall, Dr. Hooe, Chairman; Dr. Fred Sanderson, member—

Q:—Is that Dr. Fred R. Sanderson? *A:*—Yes; Dr. Putzki, a member.

Q:—That is Dr. Paul S. Putzki? *A:*—Yes, sir; and Dr. Greear, a member.

Q:—And Dr. Nicholson? *A:*—Yes, sir; a lady doctor.

Q:—Who asked you questions at the committee hearing? *A:*—There were very few questions asked. Dr. Hooe asked a few. It was very informal.

Q:—What was the subject matter of the questions? *A:*—My relationship with Dr. Brown and with this case, and relationship with G. H. A. in general.

Q:—Were you asked questions about the Gilstrap case and your handling of it? *A:*—Yes.

Q:—And your personal relationship with Dr. Brown? *A:*—Yes, sir.

Q.—Had you had luncheon with Dr. Brown at times? A.—Frequently, before and since.

Q.—Was that the subject matter of the questions? A.—My mind is very vague. I think it was whether I knew him well, and so forth.

Q.—And this report which you made to him on the Gilstrap case was also discussed? A.—Yes.

Q.—And you were asked questions about that? A.—Yes, sir. Mr. Lewin:—I re-offer, in view of the testimony, Government Exhibit 567, and I also offer at the same time Government Exhibits 569 and 570.

Mr. Leahy:—The same objection, if your Honor please. I cannot see how they are material. It has already been covered in the testimony (handing papers to the Court).

By Mr. Lewin:

Q.—Did you leave these three documents with the committee? A.—Yes, sir.

THE COURT:—They will be admitted.

Mr. Lewin:—The first is Government Exhibit 567, which is a copy of Dr. Tribble's report to Dr. Brown, dated Dec. 20, 1937. He testified he made it after the operation on Lewey Gilstrap.

Mr. Lewin:

U. S. EXHIBIT 567

"Dec. 20, 1937.

"Dr. Henry R. Brown, Group Health Assn.,
1328 Eye St., N. W., City.

"Dear Dr. Brown:

"Complying with your request for information regarding Lewey Gilstrap, whose father is a subscriber to the G. H. A., and as such is entitled to treatment for his family by the Association, but who was seen by me on several occasions and operated on at Children's Hospital as a private patient. He was seen at home on November twenty-second, twenty-third, and twenty-fourth, a paracentesis being performed on November twenty-third at the home. This case presented a great many difficulties of diagnosis. The child was very patently sick. He had given a history of previous trouble, which had necessitated several days hospitalization last year. He suffers from enlarged tonsils and adenoids, both evidently infected. He was directed to be brought to this office on November twenty-fourth, which time an X-ray was taken by Dr. H. I. Bierman, a copy of which report is enclosed. He was operated at Children's Hospital on November twenty-fifth, disclosing a large mastoid abscess which had perforated the outer cortex of the mastoid and which corresponded to the painful spot which had been a marked symptom throughout. Cultures from the pus, made in the Children's Hospital laboratory showed strep hemolyticus. The child made a very good recovery, was discharged from the hospital in about a week, and comes into this office every other day for treatment.

"Sincerely,
"G. B. Tribble."

Government Exhibit 569 is the statement which Dr. Tribble obtained from the father of Gilstrap, dated May 16, 1938, in the form of an affidavit.

U. S. EXHIBIT 569

Mr. Lewin:

"District of Columbia, } Affidavit.
City of Washington. }

"Lewey O. Gilstrap, of lawful age, being first duly sworn on oath deposes and says: That to the best of his knowledge he is now a member, in good standing, of Group Health, Inc., Washington, D. C., and that he was such member at all times hereinafter mentioned.

"That on the 24th day of November, 1937, it was discovered by doctors in the said Group Health that Lewey G. Gilstrap Jr., son of affiant, was suffering from Mastoiditis; that said Group Health, at that time, had no doctor on its staff who specialized in such cases, and it had no facilities to care for such cases, and affiant was advised by said doctors that it would be necessary to obtain a competent physician in private practice in Washington to attend to the case.

"That affiant, having confidence in the ability of Dr. G. B. Tribble in such cases, took his son to the office of said Dr. Tribble on the evening of Nov. 24, 1937, and asked for his advice in the case. That Dr. Tribble examined the boy and advised the placing of the boy in the Hospital at once, and on the next morning, and on Nov. 25, 1937, Dr. Tribble performed a mastoid operation on the boy, which operation was entirely satisfactory.

"That from the time affiant took said boy to the office of Dr. Tribble, the said doctor considered him a private patient, and was looking to affiant for payment of his fees, and affiant agreed to be responsible for said fees.

"Witness my hand this 16th day of May, 1938.

"Lewey O. Gilstrap.

"Subscribed and sworn to before me this 16th day of May, 1938.

"Anthony De Poto

"Notary Public."

Q.—Shortly after that meeting with the committee, were the papers that you left with the committee returned to you? A.—Shortly after, returned by Dr. Hooe in person.

Q.—Where were they returned to you? A.—To my office, then at 1801 I Street.

Q.—Do you remember how long after it was they were returned to you? A.—I don't recall.

Q.—Wasn't it shortly after? A.—Yes.

Q.—Will you tell the jury what transpired when Dr. Hooe came to your office? A.—Well, he brought back the papers—

Q.—First, do you remember exactly what was said there in every detail? A.—Yes, in every detail. It made quite an impression on me. So I said, "That is fine"; I looked them over. He said, "Well, I am resigning from the chairmanship of that committee." He stated, "You will have to appear before the executive committee." I was a little surprised at that. I hadn't paid any attention to it. I thought it was just a matter of form, of no consequence; I didn't take it seriously. So he said, "You have done wrong" and he said, "If I could see things as he did, and when the time came, to come to him, then I could go to sleep soundly." I didn't have any trouble about sleeping; I didn't think I had done anything to be worried about. We had a long harangue there in my office. I don't recall it in detail. He asked me about Dr. Brown and I told him that I had known Dr. Brown for a great many years; that "He is a very fine fellow." He said, "Yes, so was Dillinger; he was a fine fellow too." It continued to get a little more exciting there. He got up and he said, "Well, you will have to be careful of this society." He said, "The Medical Society"—I don't know, should I repeat what he said?

Mr. Lewin:—Well, characterize it: was it some vulgarity?

The Witness:—Yes, it was some vulgarity; "That the members of the society were S. O. B.'s. That they are not fit to lace your shoes, but they will pass judgment on you." I didn't feel that way about it. I hadn't done any wrong.

Q.—What physical appearance did he manifest on that occasion, while he was talking to you? A.—He was walking around, back and forth; excited; I thought he was going to have a stroke.

Q.—What was the pitch of his voice? A.—It raised to a crescendo.

Q.—All right, he left these papers with you and said you would be passed on by the Medical Society, executive committee?

THE COURT:—Don't repeat it.

Mr. Lewin:—I was just trying to get that clear.

THE COURT:—You are merely summarizing.

By Mr. Lewin:

Q.—Did you do anything more to prepare for that meeting? A.—It so impressed me that immediately upon his leaving I took a prescription pad and jotted down notes of what transpired.

Q.—And you have those notes? A.—Yes.

Q.—And have looked at them from time to time since? A.—Yes.

Q.—Did you receive any further communication from the Medical Society on the subject? A.—I received a communication, I don't recall, he brought this report and then I got a communication from the executive side.

Q.—He brought this report, did he? A.—Yes.

Q.—What did the report say? A.—That I had been found guilty of violating Article so and so, relating to contract practice.

Q.—Were there any other circumstances than the ones concerning which you have testified now upon which such finding of guilty could have been based? A.—Not to my knowledge; I have followed the rules.

Q.—I show you Government's Exhibit 571, and ask you whether that is the report the defendant Hooe brought you on that occasion? A.—Yes.

Mr. Lewin:—I offer it in evidence.

Mr. Leahy:—It is not a report.

Mr. Lewin:—You can characterize it as anything you want.

Mr. Leahy:—You said it was a report.

Mr. Lewin:—I didn't do any such thing; the witness said it was a report, and I offered it in evidence.

THE COURT:—Whatever it may be called, it will be admitted. There may be some question as to what it will be called.

Mr. Lewin:—It will speak for itself.

THE COURT:—Yes, it will.

Mr. Lewin:—Exhibit 571 is dated May 17, 1938, and is addressed to Dr. George B. Tribble. It reads:

U. S. EXHIBIT 571

"The Committee hereby charges you with having violated Section 2 of Article 3 of Chapter 9 of the Constitution of the Medical Society of the District of Columbia, reading as follows:

"Every member of the Society before entering into a contract or agreement for rendering professional service shall submit a copy of his contract, if written, or a true declaration of the terms of the agreement, in writing, to the Committee on Compensation, Contract and Industrial Medicine for approval. In the event that the committee disapproves the contract, a member may appeal to the Executive Committee."

"And again Chapter 9, Article 4, Section 5, as follows:
"No member of the Society shall engage in any professional capacity whatsoever with any organization, group or individual, by whatever name called or however organized, engaged in the practice of medicine within the District of Columbia or within 10 miles thereof, which has not been approved by the Society."

"The Executive Committee is authorized and directed to prepare an approved list of organizations, groups and individuals, by whatever name called and however organized, engaged in the practice of medicine within the District of Columbia or within 10 miles thereof, and the same shall be kept in the office of the Secretary-Treasurer. Before any such organization, group or individual can be placed on the approved list of the Society, such organization, group or individual, or the member of the Society proposing professional relations therewith, shall submit to the Compensation, Contract and Industrial Medicine Committee such evidence as the Committee or the Society may require showing the character, activities, financial condition and ethical standards of said organization, group or individual, and after considering the same, said committee shall make a report of its investigation and findings to the Executive Committee for such action as it may deem necessary."

"R. Arthur Hooe, M.D.

"Chairman, Compensation, Contract and Industrial Medicine Committee."

By Mr. Lewin:

Q.—Now, with reference to this matter, did you receive any further word from the executive committee? A.—Yes.

Q.—Specifically, did you receive Exhibit 572, which purports to be a letter to you from the defendant C. B. Conklin, dated May 31, 1938, on the letterhead of the Medical Society? A.—Yes.

• Mr. Lewin:—I offer it in evidence.

(Letter, May 31, 1938, Conklin to Tribble, marked U. S. 572, was received in evidence.)

By Mr. Lewin:

Q.—Did you do anything in preparation for that meeting? A.—Yes, I was very much upset, naturally, under the circumstances. I hadn't paid much attention to it before, so I got a statement from Dr. Bierman.

Q.—That was the anesthetist, or the x-ray man? A.—And a statement from the anesthetist, Dr. Cohen; a statement from the nurse who had posted the operation, and who was present at the operation.

Q.—Did you obtain those statements for use before the executive committee? A.—Yes.

Q.—In answer to those charges? A.—Yes.

Mr. Lewin:—This is Exhibit 572. It is the letter from Dr. Conklin to Dr. Tribble, dated May 31, 1938:

U. S. EXHIBIT 572

"Dear Doctor Tribble:

"You are hereby directed to appear before a meeting of the Executive Committee, on Monday evening, June 6, 1938, in the Medical Society Building, at 8 p. m.

"Very truly yours,
"C. B. Conklin, M.D.,
"Secretary."

By Mr. Lewin:

Q.—I show you Exhibits 573, 574, 575 and 576, and ask you if they are the four statements you obtained and concerning which you have just testified? A.—They are.

Q.—And were they sent to the executive committee by you? A.—Yes.

Q.—And were they accompanied by a letter from you to the executive committee dealing with these charges? A.—Yes.

Q.—Is Exhibit 52, which I have just shown you, the letter which you prepared and sent to the executive committee? A.—Correct.

Mr. Lewin:—I offer in evidence Exhibit 52—you gentlemen, I think, are familiar with it, are you not? And also these supporting Exhibits 573, 574, 575 and 576.

Q.—Did you ask any member of the executive committee to transmit these communications to the executive committee? A.—Yes.

Q.—Did you attend yourself? A.—I did not.

Q.—Did you receive any further communication from the executive committee after the date of that hearing? A.—Yes.

Q.—From whom? A.—From Dr. Sprigg; he was then chairman of the executive committee.

Q.—Can you remember what he said? A.—I don't recall what he said, but I recall my reply. He had said, in substance, "Don't do it again."

Q.—And you made a reply? A.—Yes.

Q.—Do you recall your reply? A.—Very distinctly.

Q.—What was said by you? A.—I said, "Your letter received and contents noted. May I quote the motto of the Knights of the Garter of old, 'Honi soit qui mal y pense'."

Q.—And will you translate that motto? A.—"Evil be to him who evil thinks."

Mr. Leahy:—Will your Honor kindly look these over (handing documents to the Clerk)?

Mr. Lewin:—Do you object to them?

Mr. Leahy:—Yes, the same objection, not material.

THE COURT:—Are these submitted in connection with his answer?

Mr. Lewin:—That is his testimony.

THE COURT:—They will be admitted.

Mr. Lewin:—I will read first Exhibit 573, Dr. Bierman's statement, dated May 21, 1938. It is addressed to Dr. Tribble.

"Dear Dr. Tribble:

"Replying to your note regarding the Gilstrap case and the request that you appear before the Committee, I want to say that I went to see Dr. Hooe about this matter. I went to see him because I could not understand how anything could have been considered unethical in regard to our conduct in this case.

"I told Dr. Hooe that I had heard you were being questioned about the Gilstrap case and that if you were guilty I was also. I explained to him that you had told me in advance of my x-raying the patient that tho the patient had originally been treated at the Group Health he was now a private case and that he would be handled as such, and that I was to send my bill directly to the patient as in all private cases.

"Dr. Hooe reacted rather violently to my insistence that I could also be guilty, saying that the patient was referred to me by a private physician. He would not listen to my statement that I knew in advance that the patient had originally been treated at the Group Health and had been sent to you. His apparent inconsistency and vehement denial of any possibility of my also being guilty seems rather strange to me. I do not understand what is back of the whole matter, but I cannot see where one person could be guilty and another not guilty in exactly the same case when each one acted according to the accepted rules of the Society. It was impossible for me to argue with Dr. Hooe because of his very emphatic stand in the matter.

"Is it possible that there may be a personal matter back of the whole affair? The next day after I spoke to Dr. Hooe I met him on the stairs in this building coming from the third floor. I asked him whether he had been to see you in regard to the case and he said he had NOT. Later, when I spoke to you, I learned that he HAD been in to see you. I can't understand why he denied having just seen you or why he should make personal visits to a defendant outside of any regularly scheduled hearing and apparently without the knowledge of the remainder of his committee. If I can be of any assistance before the Committee, please feel free to call upon me.

"With best wishes, I remain,
"Sincerely,
"M. I. Bierman."

Mr. Lewin:—The next is Exhibit 574. It is from Dr. Edward B. Macon, to Dr. Tribble, and is dated May 23, 1938.

U. S. EXHIBIT 574

"Dear Dr. Tribble:

"In reply to your request for my knowledge of the Gilstrap case let me say first that I am, as you know, opposed to any dealings with Group Health Association or any similar association. I approve of the present policy of the Medical Society in their endeavor to control its member for the good of the Medical Profession and the public.

"As far as this particular case is concerned, the simple facts are that before this operation for mastoiditis you frankly stated that it had been a G. H. A. case and was now your private case. I did not then and I do not now see any reason why you could not under these circumstances treat the case.

"The investigation itself was conducted in a manner to arouse one's antagonism. On Friday May 13, 1938 I received a telephone message to call a certain number but the individual would not leave his name. To this call I paid no attention. Later he called again and left his name stating that 'I can save the Doctor some trouble if he gets in touch with him.' On getting in touch with Dr. Hooe he stated that he wanted to see me. When I asked him the nature of the business he stated that he could not discuss it over the telephone. I told him I would try and see him but that I was busy at the moment. He then said that 'he would leave it like this, that if I did not see him before noon Monday I would have to appear before a committee Tuesday evening.' As I had no reason not to appear before the committee and as this sounded like a threat I did appear before the committee. Up to that time I did not know the reason I was to appear before them. As Chairman of the Committee Dr. Hooe then told me that in view of your testimony he had no questions to ask me. Another member of the committee then asked me if I had ever received a check from the G. H. A.

"I hope this letter may clarify your association with this case and the frank way in which you dealt with it and all other matters in which it has been my pleasure to be connected.

"Sincerely yours,
"Edward B. Macon."

Mr. Lewin:—Then comes Mary O'Sullivan's statement. She was the nurse attending at the operation. Her letter is dated June 4, 1938.

U. S. EXHIBIT 575

"Dear Dr. Tribble:

"In so far as I know the Gilstrap child came to us as your semi-private case, and was handled the same as your other cases.

"Sincerely yours,
"Mary O'Sullivan."

Mr. Lewin:—576 is the letter of Dr. Cohen, dated June 4, 1938, addressed to Dr. Tribble:

U. S. EXHIBIT 576

"My dear Dr. Tribble:

"I recall assisting you do a mastoid operation on or about Nov. 25, 1937 at Children's Hospital. I cannot recall the name of the patient, though I understand now that his name was 'Gilstrap.' During the operation I heard you say in effect that the patient was originally a member of the Group Health Association and that you had seen him through Dr. Scandiffo. You stated that at first you had not wanted to take this case, but that you had finally agreed to accept him as a private patient of your own because the nature of the illness was so acute as to require immediate operation.

"Dr. Scandiffo was present for a short while after the operation had gotten under way.

"Truly yours,
"A. Cohen, M.D."

Mr. Lewin:—Exhibit 52 is Dr. Tribble's letter to the Secretary of the District of Columbia Medical Society, dated June 6, 1938. It is addressed to:

U. S. EXHIBIT 52

"My dear Doctor Conklin:

"It is a source of regret that I am unable to appear personally Monday night, but inasmuch as there has been, to my mind, no offense, no defense is contemplated. The facts relative to the G. H. A. are as follows:

"The former Medical Director, Doctor Brown, and I have been friends for years. I have treated him and his family and naturally, when he accepted the position as head of that organization, he asked me if I would consider a consultanship. I replied that if, and only if it were acceptable to the laws of the District and the by-laws of the Medical Society. He said he felt it was and wanted to cooperate and act under such laws, but seeing how I felt, he let the matter drop. I have not even seen his clinic.

"The Torch Club here asked me to present the organized medicine side of a debate. I told Mr. Elwood Street that I would be glad to help, but I was no speaker and suggested Dr. Christie, Dr. McGovern and Dr. Bennett. Then they thought it would be a good idea to have G. H. A. represented, so I asked Doctor Brown. He did not get in for dinner and for only a part of the debate and declined to speak. Dr. Christie and Dr. Bennett spoke and made a good impression on a hostile audience. I was warned after that, by two of my associates, that I was under suspicion and would be in trouble being seen with Doctor Brown. Inasmuch as he is a doctor, a gentleman and a friend, I have felt it a matter of personal privilege and not a regulatory affair.

"With a number of constituents ranging from 1,500 paying members up to 2,500, and their dependents, all multiplied by three, there naturally arose many cases in all fields. Knowing my attitude in this matter, they purposely were not referred to me. During all this time, to the best of my knowledge, two surgical cases came to me, one the case in question and the other an antrum case operated at Garfield also as a private patient, but who stated she was eligible for clinic and treatment and thought they should settle her bill. A dentist named Cling was also in this case. She found she was not eligible for treatment and personally paid her bill, as I told her I expected. She made two payments, one of \$100 and one of \$75. At the time she was operated, I told the anesthetist her claim, but that I had no connection with nor accepted any responsibility from that organization and looked to her personally for payment. She was also x-rayed by Dr. Bierman and treated just as any other case. She has left her job and cannot be contacted. Several patients among my clientele at different times told me they were eligible for treatment, but I sent them all bills which they paid.

"Reverting to the Gilstrap case, there was no connection with the G. H. A. and the patient was handled as any other, arrangement made from the office for it, as is always done. I mailed the bills to the patient regularly, not discounted, but based on the Mayo plan, the same as all other major operations. Later, after several months, it was paid from the G. H. A. There was no rule at that time that such checks should not be accepted. They were so accepted by many members of the society, though I have been told by two, who had similar cases, that they called the committee before accepting them. Referring to the by-law regarding an individual not on the accepted list, I note that both you, Mr. Secretary and I, treated Dr. Penhalow's children and I understand this rule was put in to prevent his contact with members of the District Society. It is remarkable that I have never got any pay cases from him or his clinic. Evidently they are treated by other specialists.

"Then I was called before the committee. I had only a half hour. I simply told them, as I said, that I felt I needed no defense, nor do I feel so now, and went away.

"Referring to the case at Children's Hospital, Dr. Scandiffo called me regarding this case and requested permission to be present at the operation and was present for a short time about the middle of the surgical procedure. He was at that time a member of the District of Columbia Medical Society.

"With reference to the claim by the chairman of the Committee on Contracts, etc., who stated that the letter in response to a request from Doctor Brown constituted a validity to the charge, I was cooperating with them. I think the rule was that phone calls or letters reporting on such cases were permissible to other than members of the Society, but personal consultations were not. I considered this request the same as from an insurance company and so replied. I replied by letter rather than by phone so that a record could be kept. It stated clearly that this was a private case.

"The chairman of the contracts committee brought back the papers I had submitted, made a long harangue in my office, about which I immediately jotted down notes, and ended by saying if I could see things as he did, and when the time came, to come to him, then I could go to sleep soundly. I was also told that the Society was full of s. o. b's. and a . . . a . . . s, but they would sit in judgment on me, though they were not worthy to lace my shoes. I told him I did not feel that way about them and a difference of opinion was understandable.

"Now there is no defense for there is no offense that I can see. I am submitting herewith certain papers to be presented for the committee. If there be any offense I am sorry and accept full responsibility, for in the case of the x-ray man and the anesthetists, I told them the circumstances and felt these were private patients, and they felt as I.

"I have deep regard for the Society and live up to its rules. I resigned as a Commander in the Medical Corps of the Navy and threw my lot with you. I know state controlled medicine as but few do, and I realize its good points and its bad ones. The men in the military services are high class men and I have always stood up for them, so much so I am called 'The Admiral' in some ridicule. It is a bad bird that soils its own nest. I stand for the District now as I stood for them and I regret if in any way I have been at fault. I do resent and have resented any infringement on personal social contacts and so do you. If there are any points I can elucidate further I will be glad so to do, but no defense is being submitted, for the facts are as I state them and I will be glad to have this passed upon by the Judicial Council of the A. M. A.

"In passing, you will note that the famous Gilstrap case was treated in semi-private accommodations and kept in the hospital a minimum of time following the mastoidectomy. This should point conclusively to the truth, which is that he wished the expenses cut down to the minimum as he fully expected to bear them himself.

"Very sincerely,
"G. B. Tribble."

Mr. Lewin:—I should like to read now from the minutes of the meeting of the executive committee of the District of Columbia Medical Society held June 6, 1938. First is the letter from Dr. Hooe to the chairman of the executive committee of the District Medical Society, who was Dr. Sprigg, dated May 18, 1938. It reads:

"Dear Doctor Sprigg:

"A letter addressed to Dr. George B. Tribble, under date of May 14, 1938, and sent by registered mail, follows:

And then he quotes the first letter, which has already been read to the jury. Then the following appears:

"Accordingly upon convening Dr. Tribble was presented with the following charges, in writing:"

And then follows that letter which the witness called a report, and which Mr. Leahy took exception to.

Mr. Leahy:—I didn't take exception to the letter. I took exception to it being characterized as a report.

Mr. Lewin:—Well, I won't read that again.

Then the report continues:

"Please find herewith attached complete transcript of the proceedings together with a true copy of a business card filed in the office at Children's Hospital.

"In view of the evidence as therein set forth and in particular consideration of the correspondence therein contained as having occurred between Dr. George B. Tribble and Dr. Henry Rolf Brown, Medical Director of Group Health Association, Inc., we desire to submit to your committee our verdict of guilty as charged (possibly unwittingly), with the recommendation that such disciplinary measure be in turn recommended to the Medical Society as may seem commensurate with the gravity of the offense.

"Respectfully submitted,

"R. Arthur Hooe, M.D.,
"Chairman, Compensation, Contract and
Industrial Medicine Committee."

Mr. Lewin:—Then, in the body of the minutes proper occurs this:

"The complaint against Dr. George B. Tribble was taken up at this point."

Oh, yes, at this meeting with Dr. Sprigg, chairman, presiding, there were present:

"Drs. A. B. Bennett, Daniel L. Borden, C. N. Chipman, Harry Lee Claud, A. C. Gray, Raymond T. Holden Jr., Thomas E. Neill, John A. Reed, E. Hiram Reece, Sterling Ruffin, and Mr. Theodore Wiprud, Executive Secretary.

"The minutes of the preceding meeting of April 25 were read and approved.

"Dr. Sprigg then introduced the new Executive Secretary to the Committee. He also introduced Dr. Fred R. Sanderson, representing the Compensation, Contract and Industrial Medicine Committee. The Chairman, Dr. Sprigg said, was unable to attend.

"The executive Secretary then read a letter from Dr. R. Arthur Hooe, Chairman of the Compensation, Contract and Industrial Medicine Committee, and the transcript of the hearing held by the Committee in connection with charges made against Dr. George B. Tribble.

"The Chairman stated that Dr. Edith Seville Coale wished to be heard, and suggested that the complaint against Dr. Tribble receive attention later in the meeting. This was agreeable to the Committee."

"Dr. Sprigg made a brief statement setting forth his views on the behavior of the Doctor.

"Dr. C. N. Chipman reported that Dr. Macon was waiting to be heard.

"The Chairman was rather surprised and said he did not know that either Dr. E. B. Macon or Dr. George B. Tribble had been invited to attend.

"Dr. E. B. Macon was invited into the meeting and informed by the Chairman that an error had been made and that the Committee did not desire to hear him. The Chairman apologized for causing him inconvenience.

"Some discussion then followed as to the letter Dr. Macon had received from Dr. C. B. Conklin, informing him that he was to be on hand. This letter was circulated among the Committee.

"Upon Dr. Macon's retirement further discussion was held.

"Motion made by Dr. E. Hiram Reece that the letter directed to Dr. Macon be placed in the record of these minutes and that Dr. Sprigg's comments also be included. Motion seconded by Dr. Holden and carried.

"There followed a discussion as to the advisability of inviting Dr. Tribble to a special meeting to be called by the Executive Committee for the purpose of hearing him.

"Dr. A. B. Bennett then stated that he had a letter from Dr. Tribble, directed to the Secretary of the Society, also original letters in connection with the complaint which Dr. Tribble wished returned to him.

"Dr. Sprigg did not think that this material should be introduced at this meeting. However, Committee members were not in agreement in this matter.

"Motion made by Dr. John A. Reed that the letter directed to the Secretary by Dr. George B. Tribble be read. Motion seconded by Dr. Holden and carried.

"Dr. F. X. McGovern requested the privilege of the floor and commented briefly on the letter received from the Compensation, Contract and Industrial Medicine Committee, in which the committee had found Dr. Tribble guilty of unethical conduct. He said that the Committee was out of order in passing judgment; that it was merely a fact-finding committee.

"Dr. Tribble's letter was read, following which there was considerable discussion.

"Motion made by Dr. Holden that the Executive Committee finds Dr. Tribble's explanation adequate and his assurance that he will not in any way knowingly violate the ethics of the profession or the Constitution and By-Laws of the Medical Society in the future satisfactory. For this reason it is their decision that the matter be carried no further; and that Dr. Tribble be informed of the Committee's action. Motion seconded by Dr. Chipman and carried.

"There followed a discussion as to whether or not a physician who treats a patient who is a member of the Group Health Association, Inc., as a private case, but accepts payment from the Group Health Association, is guilty of unethical conduct.

"Dr. Sprigg, in a statement based on the information given him by the Society's attorneys, stated that under these circumstances he would be guilty.

"This was denied by Dr. C. N. Chipman who said that the Executive Committee already had gone on record in resolution, stating that such a relationship was not unethical.

"Dr. F. X. McGovern reviewed the past efforts of himself and his Committee to have the Society take a definite stand on the Group Health Association, making its position clear; that so far he had not been successful in getting the Society to act."

Mr. Lewin:—This witness is with you, Mr. Leahy.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Doctor, I show you what purports to be a copy of a letter, and ask you if you can identify that, please. A.—It sounds like it. I wouldn't say; I don't remember it.

Q.—You did get a letter from Dr. Sprigg? A.—Yes.

Q.—Do you know what you did with that letter? A.—No, sir; threw it in the bucket, I think.

Q.—You didn't keep it? A.—No.

Q.—This sounds like the letter you received? A.—Yes.

Mr. Lewin:—Will you show it to me?

Mr. Leahy:—Yes, here it is.

By Mr. Leahy:

Q.—Well, Doctor, as I understand your testimony, it is this. You were called first by Dr. Hooe before this contract committee? A.—Yes.

Q.—You appeared there for a few minutes? A.—Yes.

Q.—Everything was very informal? A.—Yes.

Q.—And then you were advised by Dr. Hooe that these charges were to be sent on to the executive committee? A.—Yes.

Q.—You never even appeared before that committee? A.—That is correct.

Q.—You turned your letters over to them? A.—Yes.

Q.—And found everything was all right, and that was all? A.—Yes.

TESTIMONY OF ELEANOR HALL

DIRECT EXAMINATION

By Mr. Allen:

Eleanor Hall said she is a clerk in the record room, Eastern Dispensary and Hospital and has been for four and a half years. She identified by-laws of the hospital and Dr. J. Rogers Young's handwriting.

TESTIMONY OF ANNA MARY DENNINGER

DIRECT EXAMINATION

Ann Mary Denninger said she is employed by Dr. Jesse T. Mann and identified his signature.

Mr. Kelleher:—Exhibits 309 and 310, is the questionnaire with the name "Casualty" at the top, and it has been identified as having been written by Dr. Young, the defendant, chief of staff of Casualty Hospital:

EXHIBITS 309 and 310

"Questionnaire.

"1. What communication or inquiry has your hospital had from Group Health Association, Inc.?

"None.

"2. What reply has your hospital made to Group Health Association, Inc.?

"None.

"3. Which, if any of the following Doctors are now members of your Medical Staff in any capacity or have privileges to practice in your hospital?

"Dr. Henry Rolf Brown.

"Dr. Allan E. Lee.

"Dr. Mario Scandiffo.

"Dr. R. Stephen Hulburt.

"Dr. Raymond E. Selders.

"Dr. Edmond D. Wells.

"None.

"4. Is your hospital in sympathy with the policies of The Medical Society of D. C.?

"Yes.

"5. Is the entire Medical Staff of your hospital reappointed annually?

"Yes.

"6. Are appointments to the Medical Staff of your hospital approved by the Medical Staff?

"Yes.

"7. What governing body of your hospital finally makes appointments to the Medical Staff?

"Lay Board.

"8. Does your hospital require membership in the Medical Society of D. C. as a qualification for appointments to its Medical Staff?

"Applicant must be qualified for membership in local Society.

"9. What percentage of the entire medical staff of your hospital are members of the Medical Society of D. C.?

"10. Does your hospital require membership in the A. M. A. as a qualification for appointment to its Medical Staff?

"See No. 8.

"11. What percentage of the entire Medical Staff of your hospital are members of the A. M. A.?

"12. Is your hospital a beneficiary of Community Chest funds?

"No.

"13. Will you kindly make any other inquiry that you think might be pertinent at this time?"

Mr. Kelleher:—Exhibit 579 has been identified as the by-laws of Eastern Dispensary and Casualty Hospital. The Government has offered in evidence Article 2, Section 1, which reads as follows:

EXHIBIT 579

"The applicant for membership shall be,"—let me read the whole thing.

"Article 2, Membership.

"Section 1—Qualification.

"The applicant for membership shall be a graduate of a recognized medical school, legally licensed to practice in the District of Columbia, qualified for membership in the Medical Society of the District of Columbia."

Mr. Kelleher:—Exhibits 300 and 301 is the questionnaire with the word "Sibley" at the top. The answers have been identified as having been made by Dr. Jesse T. Mann:

U. S. EXHIBITS 300 and 301

"Questionnaire.

"1. What communication has your hospital had from Group Health Association, Inc.?

"Asking to admit pt. and those pt. be treated by Dr. Selders.

"2. What reply has your hospital made to Group Health Association, Inc.?

"Non-committal reply.

"3. Which, if any of the following Doctors are now members of your Medical Staff in any capacity or have privileges to practice in your hospital?

"Dr. Henry Rolf Brown.

"Dr. Allan E. Lee. Yes.

"Dr. Mario Scandiffo. Yes.

"Dr. R. Stephen Hulburt.

"Dr. Raymond E. Selders.

"Dr. Edmond D. Wells.

"4. Is your hospital in sympathy with the policies of The Medical Society of D. C.?

"Yes.

"5. Is the entire Medical Staff of your hospital reappointed annually?

"No—only twenty-five members of Medical Council.

"6. Are appointments to the Medical Staff of your hospital approved by the Medical Staff?

"Approved by Medical Council.

"7. What governing body of your hospital finally makes appointments to the Medical Staff?

"Recommended by Medical Council and appointed by Board of Directors.

"8. Does your hospital require membership in the Medical Society of D. C. as a qualification for appointments to its Medical Staff?"

"No.

"9. What percentage of the entire medical staff of your hospital are members of the Medical Society of D. C.?"

"Majority—about 80%.

"10. Does your hospital require membership in the A. M. A. as a qualification for appointment to its Medical Staff?"

"No.

"11. What percentage of the entire Medical Staff of your hospital are members of the A. M. A.?"

"About 80%.

"12. Is your hospital a beneficiary of Community Chest funds?"

"No.

"13. Will you kindly make any other inquiry that you think might be pertinent at this time?"

Mr. Allen:—I wish now to read Exhibit 521, minutes of the regular meeting of the board of directors of the Children's Hospital of the District of Columbia, held Nov. 15, 1937. I will read only the next to the last paragraph on the second page of this minute:

U. S. EXHIBIT 521

"Mr. Drayton read a letter from the Group Health Association with regard to permitting their physicians the courtesy of the Hospital—they not being members of our staff. Mr. Drayton also read a proposed letter from Miss Gibson in answer thereto. The Board approved the proposed letter. Mr. Seal voting present."

I will read the proposed letter attached thereto, date Nov. 15, 1937. It is from Mattie M. Gibson, Superintendent, to William F. Penniman, Group Health Association:

"Dear Mr. Penniman:

"At a meeting of the Board of Directors of the Children's Hospital, held November 15th, I was authorized to reply to your letter of November 8th as follows:

"The Children's Hospital will accept for treatment or hospitalization any patient in need of care, under its charter, rules and regulations.

"This pertains to indigent, semi-indigent, and a very limited number of pay patients—as we have only twenty-seven beds available for pay patients.

"All doctors treating these patients while in the hospital must have staff appointments and be members of local Medical Societies.

"Dr. Raymond E. Sellers has made no application so far for staff appointment."

Mr. Allen:—If it will be satisfactory to defense counsel I will not read Exhibit 359, which is a letter sent by Miss Gibson to Mr. Penniman, dated Nov. 16, 1937. It is quite similar to the one attached to the minutes and approved, with the exception that it doesn't have the word "and be members of the local medical societies."

Mr. Lewin:—Read that paragraph as the letter went to Mr. Penniman.

Mr. Allen:

"All physician treating patients while in the hospital must be members of the Medical or Courtesy Staff, appointments to which are made annually by its Board of Directors after individual examination into the qualifications of applicants by regular hospital channels.

Next I will read Exhibit 522, dated Dec. 6, 1937. It is the minutes of the annual meeting of the incorporators and members of the Children's Hospital of the District of Columbia.

Mr. Lewin:—Before you read that—

THE COURT:—We will stop here.

Mr. Lewin:—I am afraid your Honor if we do we will miss the point. First it is the letter from the District of Columbia Medical Society of December 2, then this by-law.

Mr. Allen:—I will state for the record in this respect that this letter was subpoenaed from the Children's Hospital and it was not produced, but evidence produced against the Medical Society shows it was sent to all the hospitals. I will only read from the center of page 2, the next three paragraphs, this is Exhibit 522:

U. S. EXHIBIT 522

"Upon proper motion, duly seconded, it was unanimously voted to amend Article 33, Medical Staff—of the By-Laws and Rules by adding the following:

"Only physicians, surgeons, and dentists who are licentiates of the District of Columbia and also members of the District Medical Society or ethical body in their locality shall be eligible for appointment to the Medical Staff.

"Physicians, Surgeons, and Dentists not officially connected with the Hospital, but members of their ethical medical societies, may be accorded the privilege of using the facilities of the Hospital as a matter of courtesy for a term that shall continue during the pleasure of the Board of Directors, those accepting such privileges to be known as the Courtesy Staff."

Mr. Leahy:—Was that the annual meeting?

Mr. Lewin:—Yes.

Mr. Allen:—Your Honor, there is one other minute which takes about three short paragraphs. Exhibit 523, dated April 4,

1938, minutes of the meeting of the medical staff of the Children's Hospital. I will read from the fourth paragraph:

U. S. EXHIBIT 523

"Dr. Wall mentioned the letter written by Mr. Drayton to Senator Capper."

Senator Capper is written in handwriting and the words "the newspapers" are stricken out.

"relating to the Group Health situation. Dr. Wall stated that the Board of Directors had supported the Medical Staff in the differences over Group Health.

"Dr. Wall presented a resolution formulated to take care of emergency admissions to the Hospital. It was moved and seconded that this ruling be adopted. After discussion by several members of the Staff, the ruling was adopted.

"Dr. Hagner moved that the Chairman of the Medical Staff get together with the Chairman of the Medical Staffs of other hospitals to adopt uniform rules covering the admission of Group Health patients. Seconded and carried."

Mr. Allen:—And I will say that the rules governing admission of emergency patients is attached thereto, but I will not read it.

MARCH 3—AFTERNOON TESTIMONY OF MRS. CAROLINE REECE EPPERLEY (RECALLED)

Mrs. Epperley, secretary to the Superintendent of Sibley Hospital, identified records from the hospital. She was also asked to identify some signatures.

TESTIMONY OF MRS. CHARLES HARDIN DIRECT EXAMINATION

By Mr. Kelleher:

Mrs. Charles Hardin said she was a member of Group Health Association in 1937. She lives in Arlington, Va., and lived there in 1938.

Q.—Do you have a family membership in G. H. A. which entitled your husband to benefits? A.—I did.

Q.—Did your husband become ill on June 19, 1938? A.—He did.

Q.—Will you tell us the circumstances surrounding his illness, please? A.—He had been feeling not very well for about two days, and late Sunday night the pain became more severe and I thought it necessary to call in a doctor.

Q.—What doctor did you call? A.—I called in Dr. Solet.

Q.—Why did you call Dr. Solet instead of the Group Health Association?

Mr. Leahy:—Objected to as immaterial.

THE COURT:—Objection sustained.

By Mr. Kelleher:

Q.—Had you ever called Group Health Association before?

A.—I had not.

Q.—Did Dr. Solet come over to see the patient? A.—He did.

Q.—Did you know Dr. Solet before? A.—No; I did not.

Q.—Did he examine Mr. Hardin? A.—Yes.

Q.—What was his diagnosis?

Mr. Leahy:—I object.

THE COURT:—Objection sustained.

By Mr. Kelleher:

Q.—Did Dr. Solet ask that a surgeon be called in? A.—Yes, sir.

Mr. Leahy:—I object.

THE COURT:—Objection sustained.

By Mr. Kelleher:

Q.—Was another doctor called in? A.—Yes; he was.

Q.—What was his name? A.—Dr. Bachrach.

Q.—What is his specialty? A.—I don't know. He is a surgeon.

Q.—What occurred after those two doctors saw the patient? A.—They said he had—

Mr. Leahy:—I object to what was said.

By Mr. Kelleher:

Q.—What occurred?

THE COURT:—Counsel means, what did they do? A.—He was taken to the hospital for an emergency operation.

By Mr. Kelleher:

Q.—What hospital? A.—Sibley.

Q.—Sibley Memorial Hospital? A.—That is right.

Q.—Before leaving the house did you make a telephone call?

A.—I did.

Q.—Whom did you call? A.—My brother.

Q.—Was your brother also a member of Group Health Association? A.—Yes; he was a charter member.

Q.—Did you meet your brother at the hospital? A.—I did. I asked him to come there.

Q.—Did you meet him there? A.—Yes.

Q.—Was Mr. Hardin operated upon? A.—Yes; he was.

Q.—Prior to the operation did you have a telephone conversation with Dr. Selders from the hospital? A.—Yes; I did.

Q.—Dr. Selders was the Group Health Surgeon? A.—That is right.

Q.—Will you tell us whether Dr. Selders made any suggestion about—

Mr. Richardson:—Just a minute, please.

Mr. Kelleher:—Let me ask the question.

Mr. Richardson:—The question is leading and suggestive.

THE COURT:—Do not answer that question until I rule on it. You may finish the question.

By Mr. Kelleher:

Q.—Can you tell us whether Dr. Selders made any statement about moving the patient from Sibley Memorial Hospital?

Mr. Leahy:—I object.

THE COURT:—Objection sustained.

By Mr. Kelleher:

Q.—Was the patient operated on in Sibley Memorial Hospital? A.—He was.

Q.—By whom? A.—Dr. Bachrach.

Q.—Who authorized Dr. Bachrach to operate upon your husband?

Mr. Leahy:—I object, as immaterial.

THE COURT:—Objection sustained.

By Mr. Kelleher:

Q.—After your husband had been operated upon and after he had recovered, what instructions did you leave at the office of Sibley Memorial Hospital as to the bill?

Mr. Leahy:—I object, as immaterial.

THE COURT:—Is this one of those cases referred to in the letters between Group Health and certain physicians?

Mr. Kelleher:—No, your honor. But this is another instance—

THE COURT:—Maybe you had better step here.

(Counsel for the respective parties approached the bench.)

(Counsel resumed their places):

By Mr. Kelleher:

Q.—I will repeat the last question which I asked you. What instructions, if any, did you give the cashier of the hospital concerning your hospital bill after your husband had recovered from his operation? A.—I asked that she send the bill to Group Health Association, of which I was a member.

Q.—What was her response? A.—She said that she had contracted with me and not with Group Health, and therefore it was my bill, and she had nothing to do with Group Health.

Q.—How did you pay the bill? A.—I went to the president of Group Health Association, Mr. Kirkpatrick, who had asked me to have the bill sent to him—

Mr. Leahy:—I object to any conversation.

By Mr. Kelleher:

Q.—Just tell the jury how you paid the bill. A.—In cash, which Mr. Kirkpatrick gave me.

Mr. Kelleher:—That is all—with the privilege of recalling the witness.

Mr. Leahy:—No questions.

THE COURT:—She may remain.

Mr. Kelleher:—Will you remain until after your brother takes the stand, please?

The Witness:—Yes.

(The witness left the stand and retired to the witness room.)

TESTIMONY OF SHERWOOD K. BOOTH

DIRECT EXAMINATION

By Mr. Kelleher:

Sherwood K. Booth said he lives in Arlington, Virginia.

Q.—Were you a member of Group Health Association in June, 1938? A.—I was.

Q.—On June 19, 1938, did you receive a telephone call from your sister? A.—I did.

Q.—What did you do as result of that call? A.—As a result of that call I went to the Sibley Hospital to see my sister and my brother-in-law who was going there for an emergency operation for appendicitis.

Q.—What was the name of your sister? A.—Mrs. Charles G. Hardin, Jr.

Q.—Will you tell us what occurred at the hospital when you arrived there? A.—I arrived at the hospital just a minute or so before my sister and my brother-in-law arrived there, and immediately upon their arrival I spoke to the night supervisor or the night superintendent—anyway, the person in charge—and her name was Miss Realini—to ascertain whether a Group Health surgeon would be permitted to operate on my brother-in-law. Miss Realini replied that Group Health—

Mr. Leahy:—I object to that, if your Honor please.

THE COURT:—Objection overruled. Can you identify the doctor in the case, if a doctor's name was mentioned?

Mr. Leahy:—Some young lady, he is talking about.

THE COURT:—This gentleman said that he inquired of this lady about the Group Health doctor. I was wondering whether the name of a particular doctor was mentioned.

By Mr. Kelleher:

Q.—Was the name of a particular doctor mentioned? A.—Yes; it was.

Q.—What was the name of the doctor? A.—The name of the doctor was Dr. Selders, who was at that time the chief surgeon on the staff of Group Health Association.

Q.—Will you continue with your testimony concerning this conversation with Miss Realini? A.—As soon as my brother-in-law arrived there I immediately went to the desk on his behalf to find out whether it would be agreeable to the hospital to have Dr. Selders operate on him. Miss Realini replied that she was very sorry, but that Group Health doctors were not permitted to operate in that hospital. I explained to her the emergency of the case, but from the circumstances she was well aware of that. But she said it did not make any difference whatsoever, regardless of the events; she was terribly sorry, but she was without authority to permit a Group Health doctor to come in there.

I mentioned the fact that Dr. Selders was the name of the doctor who was to do the operating. She again reaffirmed her previous statement and, as I recall, she had a slip of paper on the desk, on her side of the desk, and she referred to that, and upon doing so she again stated that she was awfully sorry, but Dr. Selders would not be permitted to operate.

Q.—Then what did you do, after this conversation? A.—Thereupon I, in her presence, immediately called up Dr. Selders on the telephone and explained the circumstances to him in the hope that—

Mr. Leahy:—I object.

THE COURT:—Just tell us what was said.

The Witness:—I called Dr. Selders on the 'phone, explained the circumstances to him, and that we wanted him to operate in this case, and in reply he stated—

Mr. Leahy:—I object to the conversation.

THE COURT:—Was the substance conveyed to this lady?

The Witness:—It was.

THE COURT:—I think you might state what you stated to the lady as coming from the doctor.

The Witness:—I mentioned to Dr. Selders that we would like—

Mr. Leahy:—I object to that. Just tell what you told the lady.

By Mr. Kelleher:

Q.—Did Dr. Selders request to speak to anybody?

THE COURT:—No. He can state what he reported to Miss Realini as to what Dr. Selders said.

After having this conversation, what did you report, if anything, to this lady?

The Witness:—I mentioned to Miss Realini that Dr. Selders said he could come there in ten minutes and operate on the patient. Thereupon Miss Realini replied that she was terribly sorry but, as she said before, he could not operate. Thereupon Dr. Selders asked me over the 'phone to hand the 'phone to Miss Realini.

Mr. Leahy:—I object.

THE COURT:—Yes. It is the conversation between these two people that should be given.

By Mr. Kelleher:

Q.—Did you tell Miss Realini that Dr. Selders wanted to speak to her? A.—Yes.

Q.—Did she take the telephone and speak to Dr. Selders? A.—Yes. I was sitting in front of Miss Realini and I handed the 'phone over to her and she spoke to Dr. Selders in my presence.

Q.—What did she say? A.—She told Dr. Selders, in a very congenial way, but very firmly, that she was terribly sorry, but

that he would not be permitted to operate in that hospital, being a Group Health doctor.

Q.—Did she have this slip of paper which you mentioned before? A.—She did. She still had that in front of her.

Q.—Was there anything more said? A.—I don't think so. The conversation, of course, was between them, and I heard her end of the conversation.

Q.—After this conversation did you receive another telephone call? A.—Yes. The 'phone was no more than hung up and it rang again and it was Dr. Selders calling back and he asked to speak to me.

Q.—Did you speak with him? A.—I did.

Q.—Did you tell Miss Realini what Dr. Selders said on this occasion? A.—I did.

Q.—Will you tell us what you told Miss Realini Dr. Selders said? A.—Yes. I told Miss Realini that Dr. Selders called again wanting to discuss the advisability of having the patient moved to Casualty Hospital; that Dr. Selders had told me that if the patient were moved there there was a reasonable likelihood that he could operate on the patient at Casualty Hospital he was not sure, but he thought he might be able to make such arrangements.

Q.—What did Miss Realini say? A.—Miss Realini did not have much to say. Of course she understood it was—

Mr. Leahy:—I object to the conclusion.

THE COURT:—Wh: did she say?

The Witness:—She had nothing more to say to that except that I mentioned to her that I was awfully sorry that the Group Health doctor could not operate, and she again explained her position, that she was the night supervisor of the hospital, but she had her orders as to those who were on the courtesy list, and she was sorry, but there was nothing she could do about it.

By Mr. Kelleher:

Q.—Did your sister talk with Dr. Selders over the telephone? A.—She did.

Q.—Was that in your presence and in the presence of Miss Realini? A.—That was in the presence of both of us; yes.

Q.—What did your sister say? A.—This was the second 'phone call with Dr. Selders, and my sister explained to Dr. Selders the situation, that the doctors had told her that he should be operated on immediately and that they were taking his blood count and preparing him for the operation, for whoever would operate on him, and explained to Dr. Selders the situation so he would realize the fact that it would not be reasonable to move the patient.

Q.—And in the presence of you and Miss Realini did she take any position one way or the other as to moving the patient from Sibney Memorial Hospital to Casualty?

THE COURT:—He has just said that. The witness just said she explained to Dr. Selders that the case was too urgent to consider moving him.

Is that about the substance of it?

The Witness:—Yes, your Honor.

By Mr. Kelleher:

Q.—Had you employed Dr. Bachrach to operate upon the patient prior to these telephone calls that you have just testified about? A.—I did not.

Q.—After these telephone calls did you authorize Dr. Bachrach to perform the operation? A.—Not specifically, for the reason that I was the brother-in-law of the person who was to be operated on. The final authorization naturally would be given by my sister, who was his wife.

Q.—Did she give that authorization? A.—After she talked to Dr. Selders the second time she went up and gave that authorization. However, I went upstairs also and stated to Dr. Bachrach that inasmuch as the Group Health doctor was not—

Mr. Leahy:—I object to the conversation.

THE COURT:—Yes. I think it is merely a question of whether Dr. Bachrach was to operate.

By Mr. Kelleher:

Q.—Do you know whether your sister had authorized Dr. Bachrach to operate upon the patient prior to these telephone calls with Dr. Selders? A.—I know she did not. It was understood, however, from my conversation with my sister, that this doctor, Dr. Bachrach, would be given the authority to operate in the event that we were unsuccessful in having the hospital's permission to have a Group Health doctor operate.

Mr. Kelleher:—That is all, Mr. Leahy.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Did you know Dr. Bachrach personally? A.—I did not.

Q.—Did you know that your brother-in-law was sick before you were notified by 'phone to that effect? A.—I did not.

Q.—As I understand it, then, you got a telephone message that your brother-in-law was sick and was at Sibley Hospital? A.—No. I received a telephone message on Sunday evening about 11 o'clock from my sister to the effect that they were leaving immediately to go to Sibley Hospital; that they had called in a local doctor; my brother-in-law was severely ill and they had called in a local doctor and found out it was appendicitis, and the doctor had advised her that he would have to be operated on immediately, and therefore she asked me—

THE COURT:—I do not think we need all these details.

By Mr. Leahy:

Q.—What time was it when you got to the hospital, as you recall? A.—I don't recall specifically the time, but I do know it was close to midnight on Sunday.

Q.—When you got there who was with your brother-in-law? A.—When I got there nobody was with my brother-in-law.

Q.—How long were you there before your brother-in-law came? A.—About a minute or two.

Q.—When he came who was with him? My sister; and at the same time Dr. Solet came in. I believe he had brought them over.

Q.—Any other doctor? A.—Concurrently this Dr. Bachrach came in, but I don't believe that he came along with them. I could not testify to that.

Q.—Was Dr. Bachrach there within a minute or two or three minutes? A.—He was there very, very shortly; yes.

Q.—In other words, it looked as though Dr. Bachrach, Dr. Solet, your sister and her husband all got there about the same time? A.—Approximately the same time. However, I believe that Dr. Solet and my sister and my brother-in-law were there first. Of course this was three years ago, and it is pretty hard to remember all the details.

Q.—But there was not any appreciable length of time? A.—No, sir.

Q.—In fact, while you were downstairs talking on the telephone Dr. Bachrach and Dr. Solet were up taking your brother-in-law's blood count, were they not? A.—I don't know what they were doing. I know they were upstairs.

Q.—Did you not say they were getting ready for the operation at that time? A.—That is right.

Q.—And Dr. Bachrach, while you were there talking to Dr. Selders, was upstairs with your sister and your brother-in-law? A.—That is right.

Q.—Did Miss Realini— A.—Excuse me. I am not sure that the doctor was with my brother-in-law. All I know is that they were all upstairs.

Q.—You got word, did you, that they were preparing the operating room and taking his blood count and things of that sort? A.—That is correct.

Q.—In fact, you got word that the operation was so imminent at the time that you did not feel that he should be moved from one hospital to the other? A.—That is correct.

Q.—Was Miss Realini—was that the name of the young lady with whom you were speaking? A.—Yes; it was.

Q.—Did you say she was night superintendent? A.—She was the nurse in charge in the evening. Her title was Night Supervisor or Night Superintendent. She was the person in charge.

Q.—When you chatted with her and asked her whether or not Dr. Selders could operate in Sibley Hospital, she told you that she was awfully sorry, but that he was not on the courtesy staff? A.—That is right, and she further stated that being a Group Health doctor he could not operate there.

Q.—She also stated to you that he was not on the courtesy staff? A.—That is correct.

Q.—Did you know whether or not he was on the courtesy staff before you went to the hospital? A.—I didn't; no. I had reason to feel, however—

Q.—Well, you did not know? A.—I did not know.

Q.—Do you know whether your sister knew whether he was on the courtesy staff when she went to the hospital?

Mr. Kelleher:—I object. How would this witness know that?

By Mr. Leahy:

Q.—Just yes or no. A.—Will you repeat that question, please?

Q.—Do you know whether or not your sister knew whether Dr. Selders was on the courtesy staff of Sibley when your brother-in-law went there? A.—She did not know, to my knowledge.

Q.—Did you know Dr. Solet before that evening? A.—I did not.

Q.—Is he a doctor in Arlington? A.—He was at that time, I understand.

Q.—Do you know whether or not he is still there? A.—I really don't know.

Q.—Dr. Bachrach operated on your brother-in-law, did he not? A.—That is correct.

Q.—And he was out in four or five days, was he? A.—In about a week's time, I believe. I am not sure as to the time.

Mr. Kelleher:—We now offer in evidence Exhibits 580, 581 and 582, which are the hospital records in the Hardin case.

THE COURT:—Very well. Are there any objections to these?

Mr. Leahy:—No special objection; no.

U. S. EXHIBIT 580

Mr. Lewin:

"SIBLEY MEMORIAL HOSPITAL
PATIENT'S RECORD

"Adm. No. 128467

"Adm. Date 6-19, 1938, at 11:45 P. M.

"Dis. No. G 3724

"Dis. Date 6-25-38

"Name Mr. Charles Hardin Rm. No. 201 M

"Street and No. 212 N Piedmont St. Arlington, Va.

"Occupation Salesman Age 25 Nationality Miss.

"Reference Mrs. Helen Hardin Relationship Wife

"Street and No. 1

"Doctor Bachrach Admitted by M. Realini

"DIAGNOSIS: Acute appendicitis

"Condition on Discharge Improved

"Operation: Appendectomy

"Record prepared by Menke, Intern

"Edited and approved Leo Solet, M.D. Attending Physician."

U. S. EXHIBIT 581

Mr. Lewin:

"SIBLEY MEMORIAL HOSPITAL
OPERATIVE RECORD

Case No. 128467

Date June 20, 1938

Name Mr. Charles Hardin Location 201M

Preoperative Diagnosis: Appendicitis

Postoperative Diagnosis: Same

Surgeon Dr. Bachrach

Anesthetist Dr. Katzman

Assistants Dr. Menke—Varner

Instrument Nurse Miss Kinsey

Suture Nurse Miss Kinsey

Anesthetic: gas—ether

Operation: Began 12:15 A. M. Closed 1:10 P. M.

Condition during anesthesia: Good

Immediate postoperative condition: Good

Operation: Appendectomy

Signature of Operator

L. Bachrach"

U. S. EXHIBIT 582

Mr. Lewin:

"SIBLEY MEMORIAL HOSPITAL
Pathological Laboratory

REPORT OF EXAMINATION OF TISSUE

For Dr. Bachrach Patient's name Mr. Charles Hardin

Date 6-23-38 Date received 6-20-38

Hospital Number 128467 Lab. Number 16467

Material Appendix 201 M

Clinical Diagnosis or comment Acute appendicitis

Sections: Frozen

Embedded

DIAGNOSIS: ACUTE CATARRHAL APPENDICITIS
TISSUE DESCRIPTION:

The appendix is highly congested and covered with dilated vessels as well as tortuous ones of long standing. The organ measures 8 cm. in length by 0.9 cm. in diameter and on section cuts with slight resistance revealing an ovoid, broadly dilated lumen filled with catarrhal exudate. The mucosa is partially eroded and the submucous and muscular coats are thickened and edematous. The picture presented is that of an acute exacerbation of a chronically inflamed organ.

Reported:

Oscar B. Hunter, M.D., Pathologist"

TESTIMONY OF JAMES ROBERT ADAMS
DIRECT EXAMINATION

By Mr. Kelleher:

James Robert Adams said he knows Miss Elizabeth Tew who in 1938 lived at 2127 California Street Northwest.

Q.—Will you tell the jury what occurred on the evening of Feb. 26, 1938? A.—About 7 o'clock in the evening I had a telephone call requesting that I go with Miss Tew and Miss O'Connor to the hospital. It seems that she had been seriously ill and it was necessary to go to the hospital under the doctor's orders. So I proceeded to dress and called a cab.

Q.—Where did she live? A.—Apartment 315, I believe it was; the same apartment house. I called a cab and assisted Miss Tew to the elevator and out into the cab and over to the hospital, and while arrangements were being made for her entry into the hospital I held Miss Tew and supported her and took her upstairs to the room assigned to her.

Q.—What hospital was this? A.—Garfield. I remained in the room for a few minutes and left the room while they prepared Miss Tew for bed. During that time I was outside in the lobby or the corridor of the hospital. I later reentered the room, after she had been placed in bed, and an intern came in and made an examination, at the time taking her blood pressure and asking questions. Some of them I did not overhear. I stayed there until about 8 o'clock, and along about 8:15 they gave her an injection of morphine and I remained in the room until about 10 o'clock, at which time Dr. Selders and Miss O'Connor came back into the room and said that the operation would not be performed that night. Shortly after that Dr. Dugan, another doctor, and a nurse came into the room and said that the privileges of the hospital had not been extended—

Mr. Leahy:—I object.

By Mr. Kelleher:

Q.—Who was Dr. Dugan? A.—I thought he was a hospital physician.

Mr. Lewin:—It is already in evidence that he was the assistant resident in surgery at Garfield Hospital at that time.

By Mr. Kelleher:

Q.—Will you now tell us what Dr. Dugan said? A.—Dr. Dugan said that the privileges of the hospital had not been extended to Dr. Selders, since he was a member of the Group Health Association, and that the operation could not be performed by Dr. Selders. He extended the facilities of the staff of Garfield Hospital. Miss Tew refused any of the staff surgeons.

Q.—What suggestion did Dr. Dugan make in that connection? A.—He asked at that time if Miss Tew would sign a release in order to leave the hospital. Upon advice she refused to sign a release, and then the release was read.

Q.—After Miss Tew had received the injection of morphine did she lose consciousness? A.—She lost absolute consciousness for about thirty minutes. Otherwise she was in what I would call a semi-stupor.

Q.—Was she conscious when Dr. Dugan came into the room? A.—She was in a stupefied condition.

Q.—Have you testified whether Miss Tew signed or declined to sign a release? A.—She refused to sign a release.

Q.—I show you Government Exhibit 584 for identification and ask you if you can identify that as the release which Dr. Dugan requested Miss Tew to sign. A.—I cannot identify it by the paper, but I can by the language of it.

Q.—Was it read out loud in your presence? A.—It was.

Q.—What occurred after Dr. Dugan left the room? A.—I went down to see Dr. Selders who was present and asked if he could—

Mr. Leahy:—I object to any conversation.

A.—(Continuing). It was the request of the doctor—

THE COURT:—Just a moment.

By Mr. Kelleher:

Q.—Just tell us what occurred in Miss Tew's room. A.—It was nothing, except she remained in a stupefied condition until about 11 o'clock, when Dr. Dugan returned.

Q.—What did Dr. Dugan say when he returned? A.—He again offered the services of the staff and suggested to Miss Tew that she secure the services of another surgeon before being operated on by Dr. Selders. We remained there until about 12 o'clock, at which time I left the room long enough for Miss Tew to be dressed and then took her down the hall, leaving the hospital. The nurse came with a wheel chair and took her to the front door. In the meantime a cab had been called and was waiting for us. It was necessary to set Miss Tew upon the steps of the hospital before putting her into the cab. She was in more or less of a nauseated condition and was unable to make the effort even to get into the cab.

Q.—How long did she stay out on the steps of the hospital? A.—About ten to fifteen minutes at least.

Q.—Was it a cold night? A.—It was very cold. The cab was heated, and we immediately proceeded back to 2127 California Street, but she was unconscious on the ride and remained in a stupefied condition until we got back there and she was assisted into her apartment, and while she was being prepared for bed I was in the kitchen cracking ice upon recommendation of the physician that an ice-bag be placed upon her.

CROSS EXAMINATION

By Mr. Leahy:

Q.—You stated that you had received a telephone call to go up to Miss Tew's apartment. Who was it that 'phoned you? A.—Miss Davis or Miss O'Connor.

Q.—Did you know Miss O'Connor? A.—Yes, sir.

Q.—How long have you known Miss O'Connor? A.—Since 1936.

Q.—How long have you known Miss Davis? A.—Miss Davis and Miss O'Connor are the same person.

Q.—Is it Mrs. O'Connor? A.—It was Mrs. I believe it is now Miss Davis; and at one time she was known as Miss O'Connor around the office where she worked.

Q.—In what office did she work? A.—Work Projects Administration.

Q.—Is that the place you worked in? A.—Yes.

Q.—In what capacity did you work there? A.—Junior Administrative Assistant.

Q.—To whom? A.—To Frank A. March, Director of the Project Control Division.

Q.—Had you known Miss Tew before? A.—I became acquainted with Miss Tew through Miss Davis, about a year or a year and a half before that; I think it was about a year.

Q.—Did you know Miss Tew pretty well? A.—Yes, sir.

Q.—Were you going with her? A.—No, sir.

Q.—Just a friend? A.—Yes.

Q.—Had you ever called on her before? A.—No, sir.

Q.—Just saw her around the office working? A.—Miss Tew did not work in the W. P. A., sir.

Q.—Did you just see her in the apartment house? A.—Yes, sir.

Q.—But you had never been friendly with her in the sense that you had called at the apartment? A.—She and Miss Davis had an apartment together at one time at 2000 Connecticut Avenue and also, later on, at 2127 California Street, and I visited the apartment at both places.

Q.—Miss Davis is the one who called you on the 'phone and asked you to go up to Miss Tew's apartment? A.—Yes.

Q.—She was not living then with Miss Tew? A.—Yes.

Q.—So Miss Davis called you from Miss Tew's apartment to come up? A.—Yes.

Q.—And asked if you were going to the hospital; is that right? A.—That they were going to the hospital, and asked if I would go over with them.

Q.—About what time was that? A.—About 7 o'clock in the evening, sir.

Q.—You were not in bed then, were you? A.—No, sir.

Q.—What date was it; do you remember? A.—Feb. 26, 1938.

Q.—Did they say what hospital they were going to? A.—After I got up there they told me they were going to Garfield.

Q.—Who had made the arrangements; do you know? A.—I was not present when the arrangements were made, sir.

Q.—You did not know who it was until you started for Garfield? A.—I understood that Dr. Selders had made the arrangements.

Q.—Who told you about that? A.—Miss Davis.

Q.—And you then went over to Garfield Hospital with Miss Tew? A.—Yes, sir.

Q.—Did you know Dr. Selders personally? A.—No, sir.

Q.—Had you ever seen him before that night? A.—I don't believe I had.

Q.—Were you familiar at all with the rules and regulations of this hospital? A.—To the extent that you have to be entered; that privileges are extended to outside doctors who are not on their staffs if they conform to the rules and regulations.

Q.—Did you know anything about the courtesy staff at the hospital? A.—No, sir.

Q.—Now, who entered Miss Tew at the hospital, the Garfield Hospital? A.—Miss Davis for Group Health group hospitalization. She had both cards. Miss Tew was a member of both organizations.

Q.—To whom were those credentials submitted? A.—I believe to the nurse at the entrance desk.

Q.—Now that nurse at the entering cage saw that she was a member of Group Health Association? A.—Yes.

Q.—And no question was raised at that time by her as to being a member of Group Health Association? A.—No, sir.

Q.—She was immediately assigned to a room? A.—Yes.

Q.—And preparations immediately begun to take care of her for an operation? A.—Yes.

Q.—Did you see any injection given to her? A.—Yes, morphine.

Q.—Did you see the intern give her that? A.—Yes.

Q.—Do you know who that intern was? A.—I couldn't tell his name.

Q.—Did you hear his name that night? A.—I thought Dr. Dugan. There were two interns that came in there in my presence. I don't know whether it was Dr. Dugan. I do know it wasn't the first intern that came in. I didn't hear either name mentioned prior to 10 o'clock.

Q.—Do you know which one it was that gave the injection? A.—The second one.

Q.—Was that Dr. Dugan? A.—I do not know, sir.

Q.—Do you know Dr. Dugan? A.—I heard his name given at 10 o'clock, as Dr. Dugan.

Q.—Was the man whom you heard referred to as Dr. Dugan the one that you saw giving the injection earlier? A.—I presume so.

Q.—And did he make an examination of Miss Tew? A.—Yes.

Q.—Do you recall when it was that he made this examination at Miss Tew's bedside, a half hour, an hour, or an hour and a half earlier? A.—I recall two examinations. One when the intern or doctor came in there; presumably an intern because he was dressed in hospital white. He took her blood pressure and asked her some questions. There was a second one who came in and made a more or less superficial examination of her.

Q.—Was that Dr. Dugan? A.—I am not positive.

Q.—Do you remember when you first saw the individual whom you later learned was Dr. Dugan? A.—Will you repeat your question?

Q.—Do you remember when you first saw the person whom you later learned was Dr. Dugan? A.—I believe I first saw him down in the room prior to 10 o'clock. I presume he was the one that gave the injection.

Q.—When was it that you first saw Dr. Selders there? A.—He met us in the lobby of the hospital and he immediately left to prepare himself for the operation.

Q.—He met you in the lobby at what time? A.—It was about 7:30 or 7:45 when we arrived there.

Q.—When did you see him the second time? A.—I didn't see him a second time until he came in the room about 10 o'clock.

Q.—And at that time was Dr. Dugan in the room? A.—Not immediately. Dr. Selders and Miss Davis came in first. Dr. Dugan and another doctor, whom I did not know by name, and a nurse, followed within a few minutes.

Q.—How many minutes do you mean, two or three? A.—That is all.

Q.—And that is when you heard Dr. Dugan say that Dr. Selders was not on the staff? A.—Yes.

Q.—And he couldn't operate because he was not on the staff? A.—Yes.

Q.—And Dr. Dugan said, "You can have anyone on the staff of Garfield to operate?" A.—Yes.

Q.—And at that time Miss Tew said, "No"; she wouldn't take anybody from the staff of Garfield? A.—Correct.

Q.—Were any names mentioned of doctors on the staff? A.—I believe there might have been one or two names of staff physicians.

Q.—You can't recall them now? A.—No.

Q.—How long do you think this conversation lasted in the room, when Dr. Dugan said you can have anybody on the staff of Garfield for the operation? A.—I doubt if it was much more than five minutes; it was at least five minutes but hardly much more than that.

Q.—Was that the time also that Dr. Dugan said he would like to have her sign the release? A.—Yes.

Q.—He told her it was perfectly all right for her to remain in the hospital, but that Dr. Selders, not being on their staff, couldn't operate there in the hospital? A.—I don't know that he made that statement; I don't remember.

Q.—Do you know why it was he asked her to sign the release? A.—I presume he wanted it in case anything happened. She was going to leave and he wanted the release because she told him she was going to leave, to free them of responsibility in case anything happened to her.

Q.—In other words, she said she was leaving the hospital; she would leave the hospital before she would permit any other member of the staff to operate on her? A.—I wouldn't remember whether she said that.

Q.—Didn't she say she would leave the hospital; that she would not permit any other doctor on the Garfield staff to operate on her? A.—She said she would not leave one of the doctors operate, if necessary she would leave the hospital. And she proceeded to leave the hospital.

Q.—How long after that? A.—Two hours.

Q.—And before she left the hospital did Dr. Dugan then say to her, "You can have anybody on the staff operate on you"? A.—That is right.

Q.—And she again said, "No," she would leave the hospital? A.—Yes.

Q.—Did Dr. Dugan advise her not to leave the hospital? A.—No, sir, I don't think he did.

Q.—Did he read over what he wished Miss Tew to sign? A.—He read aloud the release.

Q.—What? A.—He read aloud the release.

Q.—Do you remember that as he read the release you heard him say, as to the statement which was contained in the release, "I hereby acknowledge Miss Elizabeth Tew is leaving the Garfield Memorial Hospital against the advice of the attending physician, and that I assume no responsibility for the risk in so doing." Do you remember that? A.—If that is the language that I just saw in this document here, then that is what he read aloud.

Q.—Don't you remember that he advised against her leaving the hospital? A.—No, sir.

Q.—Do you remember any conversation that took place there? A.—That was about all the conversation amounted to; the fact that he came in and said that the privileges of the hospital had not been extended to Dr. Selders, and Dr. Selders could not operate; and then, on request, he read the release aloud. He asked her to sign the release first. She refused to sign the release, and then the release was read aloud.

Q.—Who told her not to sign it? A.—Dr. Selders and Miss Davis.

Q.—Dr. Selders was there all the time while this was going on? A.—Yes.

Q.—Do you remember about what time this was? A.—Just about ten o'clock.

Q.—Who is Miss Ruby M. Marsh? A.—I don't know her, sir. Mr. Leahy:—Have we that report, Exhibit 488 in evidence? Mr. Lewin:—No, it has not been offered in evidence yet.

By Mr. Leahy:

Q.—How long after this incident about her refusing to sign this release was it that she left Garfield Hospital? A.—About two hours.

Q.—So it was about midnight? A.—Yes.

Q.—Was it Miss Marsh that obtained for her the chair you spoke about? A.—I don't know her name, other than that she is a nurse, and a nurse obtained the chair.

Q.—You say she went outside? A.—Yes.

Q.—And it was a cold night? A.—Yes.

Q.—And she was on the porch? A.—Sitting on the steps of the hospital about ten or fifteen minutes.

Q.—Who was with her then? A.—Miss Davis and myself.

Q.—Had you ordered a cab? A.—We were proceeding to leave the hospital—the cab was waiting there. Miss Tew left the wheel chair at the door of the hospital. She got out there, and she was unable to go any further. She stayed on the steps there for ten or fifteen minutes.

Q.—Did you ask anybody to go back in the hospital with her? A.—No, sir.

Q.—You just sat there with her? A.—I was not sitting.

Q.—Was the cab waiting there in front of you? A.—Yes.

Q.—You didn't try to help her in the cab? A.—I was unable to get her in. She was nauseated and felt she was going to be sick.

Q.—Was she? A.—No, sir.

Q.—Did you get her home? A.—Yes.

Q.—What time did you reach home? A.—Ten or fifteen minutes later.

Q.—Was she able to get out of the cab? A.—We assisted her into the house and up to her apartment.

Q.—Did she have to sit on the apartment house steps ten or fifteen minutes? A.—No, sir.

Q.—She was able to get into her apartment? A.—With support.

Q.—Did you remain in that apartment that evening? A.—Yes.

Q.—How long did you remain there? A.—I would not want to say. I went out while Miss Davis was preparing her for bed, went out for some cracked ice in the kitchen.

Q.—Who was it said to crack the ice? A.—Dr. Selders had said that an ice pack should be given to her.

Q.—Was that while you were all up in the room? A.—No, sir; Dr. Selders returned to the room before he left the hospital.

Q.—Do you recall whether the intern came back at all into that room that night? A.—I don't recall anyone other than the group, as I have mentioned them, that came in after Dr. Selders and Miss Davis, about ten o'clock, and Dr. Dugan returning later. I don't recall any other intern coming in there.

Q.—You said something with reference to a doctor having made a suggestion that Miss Tew have another examination. A.—That was Dr. Dugan, about 11 o'clock. At that time he re-offered the facilities of the staff, and he made that suggestion.

Q.—You remember just before you left what he said? A.—He suggested that in any event that she should secure the services of another physician and surgeon.

Q.—Did he say "another physician and surgeon" or another examination? A.—He said another physician and surgeon.

Q.—You remember that distinctly? A.—Yes.

Q.—Did you go with Miss Tew when you brought her to her apartment that night? A.—Yes.

Q.—What time did you leave her apartment? A.—Approximately about a half hour, perhaps.

Q.—And she then had with her Miss O'Connor? A.—Yes.

Q.—And that is the end of it, so far as you know? A.—That was the end of it so far as that night was concerned.

TESTIMONY OF PEGGY O'CONNOR

By Mr. Kelleher:

Miss Peggy O'Connor, sometimes known as Miss Davis, said she lived with Miss Elizabeth Tew in February of 1938. Miss Tew became ill during that month, on the 19th.

Q.—What did you do when you learned she was ill? A.—I think I met her after work. She was at home in bed. I first called the Group Health medical doctor.

Q.—Was Miss Tew a member of that organization? A.—Yes, and later the medical doctor called the surgeon. He felt it was a case that called for an operation, and they in turn called Dr. Selders in that evening.

Q.—What was the name of the doctor? A.—That I can't recall.

Q.—Was it Dr. Richardson. A.—I can't recall.

Q.—But the surgeon was Dr. Selders? A.—Yes.

Q.—What occurred after that? A.—He made a thorough examination and said—

Mr. Leahy:—I object to what he said.

THE COURT:—Sustained.

THE WITNESS:—She had an acute case of appendicitis.

Mr. Leahy:—Same objection

THE COURT:—Do not repeat the conversation.

By Mr. Kelleher:

Q.—Was it on the 19th of February when she first became ill? A.—She became ill, I think, it was on a Saturday afternoon. I met her at work and took her home. On Sunday he was called in, this medical doctor, and the surgeon was called in within an hour after he came, and made this medical examination. He then stated that—

Mr. Leahy:—Objection.

Mr. Kelleher:—Don't tell us what Dr. Selders said.

By Mr. Kelleher:

Q.—After Dr. Selders saw her what occurred, do you know? What did you do and what was done? A.—He put an ice pack on her stomach and side.

Q.—Did she go to the hospital that night? A.—No, she remained there in the apartment four or five days, the exact number of days I am not sure about.

Q.—And then was Dr. Selders called again? A.—Yes, he was in to see her every day and the case had subsided, that was the statement he made.

Q.—And after he had seen her through the latter part of the week, what did you and Miss Tew do? A.—She became worse. I called someone at Group Health headquarters, someone connected with it at that time, and told them I thought something should be done. She had been lying there with soups and liquids and water, and I thought something should be done.

Q.—On February 26, did you and Miss Tew go to Garfield Hospital? A.—Yes, we did at Dr. Selders' direction.

Q.—Who arranged for the admission? A.—Dr. Selders.

Q.—Did you have any negotiations at the desk? A.—Yes, I did.

Q.—What were they? A.—I had credentials showing she was a member of Group Health. She was admitted and the room assigned to her. I took her to a room, Miss Marsh, the nurse and I.

Q.—Both of you? A.—Yes.

Q.—And were you there when an intern examined her? A.—Yes, I saw him talking with her about the case for a couple of minutes and then another doctor came in, I think Dr. Dugan.

Q.—What did he do? A.—He gave her a thorough examination—about a three minute examination—and then left the room and the nurse came in.

Q.—Then what occurred? A.—She had been given morphine, just how, I do not know; and she was under it and, in fact, she became unconscious, went out of her head. In forty minutes the nurse came in and stayed there a few minutes. I left the room and went down to the desk and inquired at the information desk, the switchboard operator, inquired as to where I could locate Dr. Selders. She said he was in the operating room. She handed me a phone and some one got Dr. Selders on the wire. He said, "We are in the operating room." I said, "I would like to talk to you." He said, "Come down if you wish. I will meet you."

Q.—Did you go? A.—Yes, but unfortunately they were in the operating room, both dressed for operation.

Q.—Did you go in the operating room? A.—Yes, but I had to come out immediately.

Q.—Who was in the operating room? A.—Dr. Dugan and Dr. Selders, both dressed for an operation. One was scrubbed for an operation.

Q.—What was said in that room? A.—I asked why they were prolonging the operation. Dr. Selders said he was not permitted to operate because he was a member of the staff of Group Health, and Dr. Dugan said, after examining this case, he didn't find it acute; and Dr. Selders repeated this statement, "He refuses to let me operate until he gets authority." I said "this is no time to argue whether it is acute or not acute. Dr. Selders has examined her and has pronounced it acute; and I wish something could be done about it." They walked to an ante room and discussed the pros and cons of some medical book that meant nothing to me; I couldn't understand it. In the meantime, let's see; I think Dr. Selders spoke to me. He said, "There is nothing I can do." I said, "Isn't this acute?" And he said, "Yes, it is definitely so."

Q.—Did Dr. Dugan suggest to you that some other doctor perform the operation? A.—Well, I left the operating room and went upstairs and Dr. Selders followed behind, with Dr. Dugan. While Dr. Dugan was coming, I said, "It isn't necessary for you to come along." I was infuriated by this time. I went to Miss Tew's room and I told Mr. Adams they were not going to allow Dr. Selders to operate. Dr. Dugan walked in and said he would like to talk with Miss Tew. In fact, he would like to offer the services of someone on their staff. At that time she was just coming out of a stupor there. She didn't know what she was doing. He wanted her to sign a release. I refused to let her sign the release. She said, "Must I sign this in order to leave?" He said, "No, it isn't necessary." With that he left the room. We waited outside approximately twenty minutes and she went back into a sleep and the nurse came in with an ice pack about twenty minutes afterward. I turned to ask them then if I could get an ambulance and I think the nurse, she said, "Yes, it will cost a fee of three dollars." I used the telephone. I said, "If you won't call a cab, may I call a cab?" which I did.

Q.—Did Dr. Dugan come into the room a second time? A.—After reading the release?

Q.—Yes. A.—That I cannot recall. There was so much commotion going on, I can't recall; so the cab arrived. I dressed Miss Tew; I didn't get any help. Mr. Adams stayed outside. I think he asked for a wheel chair; at least one was brought. They put her in it and wheeled her out to the main entrance and at the entrance she fainted on the steps.

Q.—How long was she on the steps? A.—Fifteen or twenty minutes, I would say, and she wasn't conscious until we got her to the apartment, and we practically carried her, Mr. Adams and myself, put an ice pack on her, and put her to bed.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Were you rooming with her at this time? A.—Yes.

Q.—How long had you been living with Miss Tew? A.—Let's see, approximately two years, I think.

Q.—Did you work in the same office together? A.—No, we did not.

Q.—Had you known Miss Tew a long time? A.—About six years.

Q.—What office were you employed in? A.—The Federal Works Agency.

Q.—And where was she employed? A.—In the Home Owners' Loan.

Q.—How long had you known Mr. Adams? A.—Four or five years.

Q.—Mr. Adams and you were good friends? A.—Very good.

Q.—Were you both going together at the time? A.—We were.

Q.—Who was it called Mr. Adams that night? A.—You mean the night Miss Tew went to the hospital?

Q.—Yes. A.—I think I did; I am not sure.

Q.—Miss Tew had been sick there for about a week? A.—Four or five days.

Q.—And some one of the doctors had diagnosed the case as appendicitis, when you first called the doctor in? A.—Yes, it was the Group Health medical doctor.

Q.—A week before that time he had pronounced it appendicitis? A.—I wouldn't say so definitely, that he did; I don't recall—this has been two or three years ago; my mind isn't very clear on it.

Q.—But you do know a Group Health doctor was called in to see Miss Tew? A.—Yes.

Q.—And he diagnosed her condition as requiring an operation? A.—Yes.

Q.—And for that reason you called Dr. Selders? A.—He called him, I didn't.

Q.—In any event, Dr. Selders left her in the apartment for approximately a week in that condition? A.—Four days. He saw her every day. The reason nothing was done was that he didn't have a hospital at that time to take her to. As soon as he was able to take her to Garfield he did.

Q.—Did he leave her in the apartment from the 19th of February until the 26th of February? A.—If that is the date she went to the hospital, yes.

Q.—And you told us yourself, regardless of the date, that she was sick for about a week? A.—Yes.

Q.—And you told us you were feeding her soups and broth for about a week? A.—Yes.

Q.—So it was upon your advice or Dr. Selders' that you thought you would move her to the hospital on the night of the 26th? A.—Dr. Selders'. She became quite ill that evening, at about 6 p. m.—6 or 7 p. m.

Q.—Did you make any arrangements at Garfield yourself? A.—I had no connection with the hospital, no.

Q.—Were you present when the arrangements were made with Garfield? A.—That is right. The doctor came in the apartment and said he had made the arrangements, but he would call me back and let me know definitely; I wasn't present when he talked with them.

Q.—So it was Dr. Selders that told you to take her to the hospital? A.—Yes.

Q.—And that was when you called Mr. Adams? A.—I believe he was there. I am not sure; he lived in the same building. I couldn't tell you whether he was in the apartment at the time or not.

Q.—And you assumed when Dr. Selders told you that he had made arrangements with Garfield that he had done so? A.—Yes.

Q.—Did he tell you that arrangements were made to put her in a room, or for him to operate on her? A.—I don't recall, other than I know when we went to the hospital, he told me to present the Group Health card at the desk. It was accepted and a room assigned.

Q.—Did you present any other card besides the Group Health card? A.—It seems to me like I did, but I am not sure.

Q.—But in any event no question was raised and the young lady was assigned to a room? A.—Yes.

Q.—The only question which arose there that evening was whether Dr. Selders had the privilege of the Courtesy Staff to operate there? A.—Yes.

Q.—And, of course, you naturally assumed he had such privilege? A.—Yes.

Q.—You wouldn't have gone there if you didn't so think? A.—No, sir.

Q.—And you wouldn't have advised your friend, if you knew Dr. Selders did not have such privilege to be operated on that hospital by him? A.—I wouldn't advise any one that way, would you?

Mr. Leahy:—You bet I wouldn't!

By Mr. Leahy:

Q.—Now, there came a time when it was found that Dr. Selders wanted to operate and Dr. Dugan raised the question he was not on the staff, the courtesy staff. A.—Yes.

Q.—And Miss Tew took the position that if Dr. Selders couldn't operate she would leave the hospital? A.—She didn't; I took it for her.

Q.—And you told them in no uncertain manner that unless Dr. Selders was permitted to operate on Miss Tew there at that hospital she would leave? A.—Yes.

Q.—And didn't Dr. Dugan advise against that? A.—No.
Q.—Didn't he say that it was not a good thing for her to leave the hospital? A.—Not to my recollection.
Q.—Do you recall having a release presented for Miss Tew to sign? A.—He read it at the foot of her bed; that is the release I am talking about.
Q.—Did you look at it? A.—I didn't; he read it. I don't think this is the correct form he read.
Q.—Won't you read it over carefully and see if it won't refresh your memory? A.—I don't remember this.
Q.—You do remember some kind of a paper presented to Miss Tew? A.—Yes.
Q.—And you advised against her signing it? A.—Yes.
Q.—And, of course, you read it before that? A.—No, I didn't.
Q.—Well, you heard it read. A.—She said, "Must I sign this to leave the hospital?" And I said, "She is not going to sign it."
Q.—Did she read it? A.—Apparently this is what she read, but I can't say; I didn't read it.
Q.—Don't you remember that he read the statement there to Miss Tew? A.—I am sorry; I can't admit it because I can't remember whether or not that is it.
Q.—Didn't he read, "I hereby acknowledge"—
Mr. Kelleher:—It is not in evidence.
By My Leahy:
Q.—I will ask you again if Dr. Dugan at that time didn't say—

Mr. Lewin:—We object to it. It is just repetition. He has already asked that question.

THE COURT:—Yes.

Mr. Leahy:—I would just like to ask the direct question: Didn't Dr. Dugan say that Miss Elizabeth Tew was leaving against the advice of the attending physician? A.—I don't recall Dr. Dugan saying that.

Q.—But at all events you told Miss Tew not to sign this release? A.—Yes.

Q.—Do you know what time that was? A.—Let's see. We went in there; she was in the room 40 minutes before she got any attention whatsoever; I was downstairs 20 minutes; that is an hour, and it was midnight when we got home.

Q.—Do you recall it was about 9:55 p. m. when all this occurred in the room? A.—Well, judging from the space we covered it could be, but I couldn't say.

Q.—How long after 9:55, if that was the time, did you remain in the hospital before you left? A.—Approximately an hour; an hour and fifteen minutes.

Q.—What time did you get home? A.—Close to midnight.

Q.—How long did it take to go by cab from Garfield to California Street? A.—I imagine about ten minutes.

Q.—Then it was approximately 11:30 p. m. when you started to leave Garfield? A.—I won't say definitely.

Q.—Did you call the cab from Garfield? A.—Yes.

Q.—Was the cab there before you started to leave Garfield? A.—The cab was waiting. He had to wait for her to come there.

Q.—She had fainted? A.—Yes.

Q.—Did she fall down when she fainted? A.—I think between Mr. Adams and I she fell; she slumped; we will put it that way.

Q.—Did you both sit on the steps there to hold her? A.—Yes.

Q.—You sat there, you on one side and Mr. Adams on the other? A.—I know she slumped on the steps of the hospital. We waited until she was ready to leave.

Q.—How long do you think you were there? A.—It seemed endless, but I would say ten or fifteen minutes.

Q.—Did Dr. Dugan there that evening twice offer to Miss Tew the services of any one on the staff of Garfield? A.—I don't recall whether he was in twice to render this service or not. I do recall mentioning several surgeons on the staff, and saying how competent they were, and asking for her selection; whether he appeared twice with that in mind I couldn't say.

Q.—But at that time you said "no"; if she couldn't have Dr. Selders she would leave the hospital? A.—That is right.

Mr. Leahy:—I think that is all.

Mr. Lewin:—There is one point that we might clear up as a basis for arguing this other matter. Let me ask if the witness is here.

Mr. Kelleher:—In the meantime, I offer in evidence Exhibit 584, which is the release.

THE COURT:—Any objection?

Mr. Leahy:—No.

THE COURT:—Admitted.

Mr. Kelleher:—I won't read the full release but I would like to show this. On the bottom of the release, which has been read by Mr. Leahy, appears the handwriting, the handwritten memorandum "Patient refused to sign release slip at 9:55 p. m., and in the margin also "Present but not signing"—

TESTIMONY OF ANNA MARY DENNINGER

The witness again identified Dr. Mann's signature on a document.

EXHIBIT U. S. 583

"SIBLEY MEMORIAL HOSPITAL

"1150 North Capitol Street,

"Washington, D. C.

"November 27, 1937.

"Dear Doctor:

"Dr. Raymond Everett Selders has requested the privilege of treating the following in Sibley Memorial Hospital:

"Medicine

"Minor and Major Surgical

"Normal and Abnormal Obstetrics

"Minor Gynecology

"Major Gynecology

"As a member of the Advisory Committee on Surgery will you kindly indicate your approval or disapproval at the bottom of this letter and return it to the office of the President of the Hospital before Tuesday.

"Very sincerely yours

"PAUL S. PUTZKE, M.D., Chairman.

"Applicant's credentials on file in the office of the President.

"Attention of the Committee is called to the fact that above applicant is one of the salaried physicians of the Home Owners Loan Corporation Group Health Association and that information as to his qualifications and correspondence in connection with his application will be found on file in the President's office available to members of the various committees concerned for their information.

"Not approved.

"J. T. MANN."

MARCH 4—MORNING

TESTIMONY OF WILLIAM F. PENNIMAN

FURTHER DIRECT EXAMINATION

By Mr. Kelleher:

Q.—Mr. Penniman, do you know to what hospital Miss Elizabeth Tew was taken? A.—Garfield.

Q.—Did you have a talk with Mr. Eisenman on Nov. 27, 1938? A.—I had a talk with Mr. Eisenman, I think about that date; the latter part of November.

Q.—Who is Dr. Eisenman? A.—Superintendent of Garfield.

Q.—What was the conversation you had with him? A.—It was quite lengthy; we went into a good deal of discussion about Group Health, et cetera.

Mr. Leahy:—May this be considered under the same objection?

The Witness (continuing):—And he told me the most important thing was that no hospital had the right to refuse admission to a patient in an emergency case and that no hospital had the right to refuse that patient the right to bring their own doctor, if it was an emergency, so long as such doctor was duly and properly licensed to practice medicine in the District of Columbia. Following that he told me that I could tell Dr. Brown, Medical Director, that in those cases which were emergency he could send such cases to Garfield and that Dr. Selders, who was regularly licensed to practice medicine in the District of Columbia, could attend them.

Q.—Was that permission ever formally revoked? A.—Yes; it was subsequently.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Do you recall when that permission was revoked? A.—I don't remember exactly the date; I remember there was a letter written to him in which it was stated that until the legality of Group Health was determined he would not have any privileges in the hospital.

Q.—Didn't that letter refer to ordinary courtesy privileges? A.—I don't recall that.

Q.—Was there any other revocation of the emergency privilege than the letter you just referred to, which you can now recall? A.—No, I think it was accepted as a revocation of the privileges that he had had.

Q.—That is the only revocation that you can recall—that letter? A.—Yes.

Q.—And that was dated Jan. 25, 1938? A.—That I couldn't recall; I don't remember the date.

Q.—Now, who accepted that? Did Dr. Selders accept that as a revocation of his privileges to bring into Garfield even an emergency case? A.—I assume he did; he didn't go back.

TESTIMONY OF CLARK PAUL HALSTEAD

DIRECT EXAMINATION

By Mr. Kelleher:

Dr. Clark Halstead said he is employed by Group Health Association.

Q.—When did you join Group Health Association? A.—August 1938.

Q.—Where did you attend for your education? A.—I did my premedical work at George Washington, transferred to Georgetown University; interned at Georgetown University Hospital.

Q.—When did you finish your internship there? A.—June 30, 1938.

Q.—After you joined Group Health Association did you apply to any of the local hospitals for courtesy privileges? A.—I did.

Q.—To what hospitals did you apply? A.—I applied to Georgetown Hospital, Garfield, Providence, Emergency Hospital and George Washington Hospital.

Q.—Did you apply to Sibley Hospital? A.—I did, I believe.

Q.—And when did you apply to these hospitals? A.—August 1939, with the exception of Garfield, which was October 1938.

Q.—And for what privileges did you apply? A.—General medicine and minor surgery.

Q.—What is minor surgery? A.—It is considered any type of minor operation. It is a rather broad term but excludes abdominal surgery or other major types of surgery and, of course, it would include many things; the general practitioner with certain experience is entitled to do certain types of minor surgery.

Q.—Would you say minor surgery embraces that surgery which any general practitioner is considered qualified to do? A.—Yes.

Q.—Prior to Dec. 20, 1938 did you receive word that your application for courtesy privileges had been granted? A.—No action was taken on any of them except, I believe, I was notified from Emergency Hospital that I was not admitted, but I don't recall the date.

Q.—Was it prior to Dec. 20, 1938? A.—I don't think so.

Q.—No action at all prior to that date? A.—No action at all.

CROSS EXAMINATION

By Dr. Leahy:

Q.—Doctor, when did you say you finished your intern training? A.—I believe it was June 30, 1938; the end of the fiscal year for internship ends on the 1st of July.

Q.—And then you immediately applied for the position with Group Health? A.—I did not; I didn't make any application; I made no application. I was approached by them.

Q.—Who was it that approached you? A.—Dr. Selders.

Q.—In August 1938? A.—I believe it was before that; I was intern at Georgetown Hospital. I didn't make any application. As I say, I handled a case in my service as intern in Georgetown, which was a fracture case, and later I was contacted by Dr. Selders, before I completed my internship.

Q.—You really began your employment with G. H. A. on what date? A.—August 1.

Q.—Did you personally make application to the hospitals? A.—Yes, through letter.

Q.—You didn't save any copies of those? A.—Unfortunately, I did not; they should be in the hospital records.

Q.—Did anybody for G. H. A. make any application for you to your knowledge at any of these hospitals? A.—I don't know what you mean.

Q.—Did Mr. Kirkpatrick make any application for you? A.—Certainly not; these applications were signed by myself.

Q.—But you do not know where the copies of those may be? A.—No, I do not.

Mr. Allen:—I wish to read Exhibit 72, a letter dated Oct. 30, 1937, from Dr. Conklin to Dr. Holman Taylor, Secretary, State Medical Association of Texas:

U. S. EXHIBIT 72

"Dear Dr. Taylor:

"I was very happy to hear from you and particularly glad to learn of your successful operations. It is indeed odd to have kidney stones without knowing it, but their removal, I am sure, will mean real satisfaction and the elimination of potential danger.

"The Group Health Association is progressing. October 30, tonight, there is a banquet at the Mayflower Hotel which will be addressed by Richard Cabot of Harvard University. Most all of the hospital superintendents have been invited to attend, some of whom, I believe, will fail to be represented at the gathering. Our president received a letter of invitation, also a ticket. Needless to say this will represent another vacant chair. The staff is made up, according to information at hand, of 5 doctors, in one of whom you may have an interest, due to the fact that the American Medical Directory states that he is a member of the State Medical Society of Texas. Raymond Everett Selders appears to have been born in 1892; graduated at the University of Oklahoma, 1927, etc., etc. He, I believe, will assume the surgical responsibilities.

"The clinic is located on the second floor of a building in the downtown section. The first floor is occupied by an electric light appliance concern. Reports show that they have received some financial assistance from the Federal Home Loan Bank Board. The setup, without the shadow of a doubt, seems to have the smiling approval of the various New Deal officials and the Secretary of Labor, on through.

"I am hoping that the residual soreness as a result of your operation will have completely vanished by the middle of November so that we all may have the advantage of your presence and counsel at the American Medical Association meeting of State Secretaries.

"With cordial regards, I am,

"Fraternally yours,
C. B. Conklin, M.D.,
Secretary."

The next is Exhibit 73-A, dated Nov. 4, 1937, written by Dr. Holman Taylor to Dr. C. B. Conklin, Secretary, Medical Society of the District of Columbia:

U. S. EXHIBIT 73-A

"Dear Dr. Conklin:

"I thank you for your favor of October 30, in reply to my letter of October 27, and having to do with the health insurance situation in the District of Columbia, just received.

"I note with interest that a member of the Harris County (Texas) Medical Society is a member of the staff of the institution which is to be set up in Washington as a beginner in 'State Medicine'; that, in fact, he will take charge of the surgery in the new set-up, Dr. Raymond Everett Selders.

"Please let me know just as soon as the situation has developed in the District of Columbia to such an extent that charges of unethical conduct may be successfully lodged against Dr. Selders. I will see that the facts in the case are laid before his society. I don't believe the members of that organization will stand for anything of this sort, but even so, they are very fair down there, and rather discriminating. They tend to their knitting like few other organizations of the sort with which I am acquainted. If we will give them the facts, they will do the buck; without the facts they will hardly do anything about it.

"I note your statement that the Group Health Association about which we have been writing, is about ready to go. Again I give it as my opinion that this organization has been inspired by some who are in high authority in our national government.

"With personal regards,

"Fraternally yours,
Holman Taylor,
Secretary."

The next exhibit, 538, is a letter dated Nov. 25, 1937, on the letterhead of the Columbia Hospital for Women, Washington, D. C., signed by P. M. Ashburn, M.C., Secretary of the Medical Board, addressed to the Secretary, Houston Medical Society, Houston, Texas:

U. S. EXHIBIT 538

"Sir:

"I am directed by the Medical Board of this hospital to seek your aid in determining the qualifications of Dr. Raymond E. Selders, who practiced in Houston from 1928 to 1935, for doing major and gynecological surgery and operative obstetrics.

"Dr. Selders is an employee of a medical cooperative or insurance organization recently formed by employees of the Home Owners Loan Corporation. This movement has received national attention and has excited much opposition in local medical circles. Dr. Selders, while apparently a generally well trained man, has not submitted evidence of the special training and experience usually demanded by this hospital of men seeking the privilege of doing operative work in gynecology and obstetrics.

"Because of the special circumstances of the particular case and the Board's desire to act in a fair and judicial manner, any assistance you can give it will be greatly appreciated and will be held confidential."

And the next is Exhibit 539, dated Dec. 2, 1937, a reply to Dr. Walter A. Coole, to Dr. Ashburn, Secretary, Medical Board, Columbia Hospital for Women:

U. S. EXHIBIT 539

"Dear Doctor Ashburn:

"Your letter of November 25 regarding the qualifications of Dr. Raymond E. Selders has been referred to me for answer.

"Dr. Selders is a member of this Society in good financial standing. His record here is clear and shows that he is academically and professionally well qualified. I have been given to understand that recently he completed his Masters Degree in Surgery at the University of Pennsylvania which should further qualify him.

"We have been recently informed that he is an employee of the Home Owners Loan Corporation in a contract medical capacity and our Board of Censors are at present investigating the source of this information.

"The Harris County Medical Society strongly condemns any such practice and if the allegations are found to be true, Dr. Selders will be subject to disciplinary action on the part of the Society.

"Further than this, I have no information."

The next is Exhibit 81, dated Jan. 14, 1938, on the letterhead of the Harris County Medical Society, signed by A. T. Talley, Chairman, Board of Censors, Harris County Medical Society, addressed to the Secretary, Medical Association of D. C.:

U. S. EXHIBIT 81

"Dear Doctor:

"The Harris County Medical Society, a component of the State Medical Association of Texas and the American Medical Association, is very anxious to know the medical status of the so-called Group Health Asso-

ciation, located there in Washington. We are especially anxious to know the ethical standing of the men who compose its staff as one of the staff members belongs to our local Society.

"Any information you are in position to give us will be appreciated."

At the bottom, and on the back in pencil is a letter which has been identified as having been written by Dr. Conklin. It is identical with Exhibit 80, which I will read.

Mr. Lewin:—It is a rough copy?

Mr. Allen:—Rough, in handwriting.

Exhibit 80 is dated Jan. 19, 1938 and is a letter from Dr. Conklin, Secretary, to Dr. A. T. Talley, Chairman, Board of Censors, Harris County Medical Society:

U. S. EXHIBIT 80

"In re: H. O. L. C., Group
Health Association

"Dear Doctor Talley:

"In reply to your letter of Jan. 14, 1938 I would state that two members of this Society accepted employment; one at \$2,400 to take all calls, another at \$4,800. The latter resigned from H. O. L. C. after his 'trial' before an appropriate committee of the Society for violation of provisions of the Society's Constitution lasted one night. The other continued; his hearing is now completed. It would seem that he will lose his membership. It must be noted that much praise was given him by the full-time governmental attorneys who represented him.

"I am enclosing certain available mimeographed information. Should you wish any further data please communicate with me."

The next is Exhibit 540, a letter dated Jan. 31, 1938 on the letterhead of the Harris County Medical Society, from A. T. Talley, Chairman, Board of Censors, Harris County Medical Society, addressed to Dr. Raymond E. Selders, 2445 Fifteenth Street N.W., Washington, D.C.:

U. S. EXHIBIT 540

"Dear Doctor:

"At a business meeting of the Harris County Medical Society, Jan. 26, 1938, the Board of Censors reported that it had received a communication from the Secretary of the District of Columbia Society through Dr. Holman Taylor, Secretary of the State Medical Association of Texas at Fort Worth, that a member of the Harris County Medical Society had accepted a position on the Surgical Staff of the so-called Group Health Association made up of Federal employees of the H. O. L. C., located in Washington, D. C. (No name was mentioned.) The Board of Censors stated from their interpretation of the Code of Ethics of the American Medical Association, under which we practice, that it was unethical for one of our members to accept a position of this kind. This interpretation was upheld by a unanimous vote of the Society.

"Hoping you will continue to be with us and that we may hear from you immediately, I am,

"Sincerely,"

The next is 541, dated Feb. 10, 1938 from Dr. Raymond E. Selders to Dr. A. T. Talley, Chairman, Board of Censors, Harris County Medical Society, Houston, Texas. The entire letter has not been admitted in evidence; only one paragraph.

U. S. EXHIBIT 541

"It will be greatly appreciated if I may have from you a frank statement of the grounds on which the action which your letter discloses were taken. It seems to me that I am entitled, under the circumstances, to a full expression of the views of the membership which brought forth what you have described as a unanimous vote of the Society."

Mr. Allen:—The next is Exhibit 545, dated April 15, 1938, from Dr. Walter A. Coole to Dr. Raymond E. Selders, Group Health Association, Washington, D. C. In lieu of reading that exhibit which I mentioned, I wish to read an excerpt from the minutes of the Harris County Medical Society dated Jan. 26, 1938. That is Exhibit 556. I should also like to state that the minutes are only offered and not the attachments thereto, some of which are marked separately.

This is the report of "Boards and Committees":

U. S. EXHIBIT 556

"Dr. A. T. Talley, Chairman of the Board of Censors, reported upon an appeal from a decree of the Adjudication Committee, the approval of two new members for membership, and the matter of one of our members affiliating with a contract organization in Washington, D. C. Motion made, seconded and carried that this report be accepted. Report attached."

Mr. Allen:—Now, I wish to read an excerpt from Exhibit 558, which is the regular business meeting of the Harris County Medical Society, dated March 30, 1938:

U. S. EXHIBIT 558

"Dr. A. T. Talley, reporting for the Board of Censors, preferred formal charges of unethical practice against Dr. Raymond E. Selders. These charges are attached hereto and made a part of these minutes."

Now, we will read Exhibit 545, a letter dated April 15, 1938, from Dr. Coole to Dr. Selders.

U. S. EXHIBIT 545

"Dear Doctor Selders:

"This is to inform you that formal charges, copy of which were sent to you, were read by the Board of Censors at the last regular Business Meeting of the Harris County Medical Society, March 30, 1938.

"These charges shall be submitted to the Society in executive session at the next Regular Business meeting, April 27, 1938, for action by the Society.

"In accordance with the By Laws and Constitution of the Society, you may conduct your own defense, or select some other member to conduct it for you. If you should be absent, or fail to appoint some member, the president shall appoint a member to defend you.

"I am in receipt of your answer to these charges and shall turn them over to the member appointed to defend you should you be absent.

"Sincerely yours,

"Walter A. Coole, M.D.,

"Secretary."

Mr. Allen:—I will read Exhibit 543-A, a letter dated March 9, 1938, signed by three members of the Board of Censors. It reads:

U. S. EXHIBIT 543-A

"Mr. President and Members,
Harris County Medical Society.

"The Board of Censors of your Society does hereby formally prefer charges of unethical practice against one of your members, Dr. Raymond E. Selders.

"This incident charges him with accepting a position on the surgical staff of a group health association, made up of Federal employees of the Home Owners Loan Corporation, located in Washington, D. C. This type of practice is unethical as judged by Article VI, Section 3 of the American Medical Association's Code of Ethics, in that:

"(1) The compensation is inadequate to assure good medical service.

"(2) It interferes with reasonable competition among the doctors in the city of Washington, D. C.

"(3) It interferes with the free choice of a physician by the patient.

"(4) It is contrary to sound public policy.

"Respectfully submitted:

"A. T. Talley, M.D., Chairman.

"John H. Foster, M.D.

"C. M. Warner, M.D."

The next I will read is Exhibit 560, Minutes of the Harris County Medical Society, Regular Business Meeting, April 27, 1938:

U. S. EXHIBIT 560

"The President announced an executive session. Assembly Hall was cleared at 8:30 p. m.

"Dr. J. C. Alexander was appointed by the President to act as defender to formal charges filed against Dr. Raymond E. Selders.

"The formal charges as set forth in the minutes of the Business Meeting of March 30, were read by the Secretary.

"The President asked the Defense, 'What is your answer—Guilty or Not Guilty?'

"*Dr. J. C. Alexander:*—Not Guilty. Is Dr. Selders a member in good standing of this Society?

"*Secretary:*—Dr. Selders is on the rolls of the Society as a suspended member, his dues having expired April 1st.

"*Dr. J. C. Alexander:*—I will make the motion that these charges be deferred inasmuch as Dr. Selders is not a member in good standing.

"*Dr. William E. Ramsay:*—We have no other option, other than to proceed with this trial.

"*Dr. A. T. Talley:*—There is no question about the status of Dr. Selders. As a suspended member on the rolls of the Society, he is under the discipline of the Society; however, I wish to offer this resolution:

"Dr. Raymond E. Selders, a member of our Society, was indicted by the Board of Censors for unethical practice upon a complaint from the District of Columbia Society, through Dr. Holman Taylor, Secretary of the State Medical Association of Texas, that he had accepted a position on the surgical staff to do contract practice for a Group Health Association, made up of Federal employees of the H. O. L. C. in Washington, D. C.

"Since reading the indictment to the Society at the March Business Meeting, the Board of Censors has had an opportunity to study the By-Laws of the American Medical Association in reference to this matter and we find in Chapter IX, Section 1, pertaining to duties of standing committees and councils, words which according to our interpretation mean that in any controversy between a constituent association and a member or members or another constituent association, the Judicial Council has original jurisdiction in adjudicating the controversy. Therefore, according to this By-Law, the controversy between the District of Columbia and Dr. Selders, who is a member of the State Medical Association of Texas, both constituent associations, should be referred by this Society directly to the Judicial Council of the American Medical Association for adjudication.

"The Board of Censors moves that this be done."

"*Dr. J. C. Alexander:*—Will the Chairman of the Board of Censors quote this authority?"

I will not read it; it is quoted.

"The President called for a vote upon the motion of the Board of Censors. The motion carried by a vote of 41 in favor of the motion and 4 against it."

And without reading the minutes, if it is agreeable to counsel, may it be understood that it was referred to the American Medical Association and was returned by the American Medical Association to the Harris County Medical Society?

Mr. Leahy:—Yes; sure.

Mr. Allen:—Next I will read the Minutes of the Special Business Meeting, Nov. 23, 1938, of the Harris County Medical Society, Exhibit 563:

U. S. EXHIBIT 563

"Meeting called to order by Dr. John T. Moore, President.

"Dr. A. T. Talley presented the following resolution of the Board of Censors:

"The Board of Censors, Drs. A. T. Talley, John H. Foster, and Clyde M. Warner, met with your President, Dr. John T. Moore, the Secretary, Dr. Walter A. Coole, the District Counselor, Dr. Judson L. Taylor, and the legal representative of Dr. Raymond E. Selders, Dr. J. C. Alexander, Nov. 21, 1938."

"The meeting was called to order and a very free and frank discussion was held regarding the Dr. Raymond E. Selders matter, which has been pending in our Society for some time.

"The conclusion reached by the Board of Censors was agreed to by all those present, that due to the various legal questions involved in the case, the Board of Censors recommends to the Society:

"That the charges of unethical practice against Raymond E. Selders, now lying on the table, be brought before the Society and dismissed without prejudice."

"Motion was made by Dr. John Zell Gaston, seconded by Dr. William E. Priester, and duly carried, that the resolution of the Board of Censors be adopted.

"Dr. Talley presented the following resolution of the Board of Censors: "That the check of \$24 tendered the Society by Dr. Raymond E. Selders to pay his 1938 dues be accepted."

"Motion was made by Dr. B. T. Van Zant, seconded by Dr. Dawes, and carried, that the resolution of the Board of Censors be adopted.

"Letter of transfer from the Harris County Medical Society was read by the Secretary from Dr. Raymond E. Selders.

"Motion by Dr. A. T. Talley, seconded by Dr. Priester, that the letter of transfer be voted upon at the next regular business meeting, Nov. 30, 1938. Motion carried."

The next is Exhibit 564, dated Nov. 30, 1938, "Unfinished Business," regular business meeting, Harris County Medical Society:

U. S. EXHIBIT 564

"Voting on the application of Dr. Raymond E. Selders for transfer, Vote by ballot 52 yes, 42 no that Dr. Selders be granted a transfer."

Mr. Lewin:—I now offer in evidence Exhibit marked 585, which purports to be a letter from Dr. Thomas E. Neill, President, District Medical Society, to the Superintendent of the Homeopathic Hospital, dated April 23, 1938. I call attention of the Court that Dr. Neill's signature has already been proved by specimens which are in evidence, and I will ask the Court to exercise its discretion in comparing the signatures. The letter was obtained by us and produced from the Homeopathic Hospital, from its files.

Mr. Leahy:—No special objection.

THE COURT:—It will be admitted.

Mr. Lewin:—May I characterize it without reading it? It is simply an invitation by President Neill to the hospitals to attend a meeting in April of 1938. There has been other testimony with regard to it.

Mr. Richardson:—State the purpose of it.

Mr. Lewin:—I better read it then.

U. S. EXHIBIT 585

"Dear Mrs. Treasure:

"The Executive Committee of the Medical Society of the District of Columbia believes that a joint meeting of the Presidents of the Boards of Directors of the several hospitals, together with their Chairman of the Medical Staffs, and Superintendents, and a few members of the Medical Society, for a round table discussion of our common problems, may result in a fuller and better understanding, especially in preserving the best professional care for our community.

"You are, therefore, cordially invited to be present on Tuesday, April 26, 1938, at 8 p. m., in the Library of the Medical Society Building, 1718 M Street, N. W. This meeting is entirely for our mutual understanding and not for publication.

"Very sincerely yours,

"Thomas E. Neill, M.D.,
"President."

TESTIMONY OF GRACE BRENNEN

DIRECT EXAMINATION

By Mr. Lewin:

Grace Brennen said she is secretary of Dr. Jerome Crowley.

Q.—I show you an exhibit marked 307, which purports to be some questions and answers—the questions in typewriting and the answers in longhand, and I call your attention to the answers to question 8, and question 11, and ask you whose writing that is in. *A.*—Dr. Crowley's.

Q.—Is the rest of the handwriting Dr. Crowley's? *A.*—No, unless he used a very bad pen.

TESTIMONY OF JOHN PAUL FOLEY

DIRECT EXAMINATION

John Paul Foley said he is Assistant Secretary of the Commission on Licensure.

Q.—Just what is that commission? *A.*—That commission is a body of men created by an Act of Congress to regulate the healing art practice in the District of Columbia.

He produced the original application of Thomas E. Mattingly for licensure.

Mr. Leahy:—Objection is raised, if your Honor pleases, to Exhibit 587.

By Mr. Leahy:

Q.—Is it Mr. Foley or Dr. Foley? *A.*—Mr. Foley.

Q.—Mr. Foley, when did you go to work for the Board of Licensure? *A.*—1935.

Q.—Then all you know about this particular document, which has been identified as 586, is that in accordance with the mandate of this subpoena you withdrew this from the records of your office and produced it? *A.*—Yes.

Mr. Leahy:—Objection to 586.

Mr. Lewin:—Exhibit 586 is one of the formal original records of this public body, the Commission of Licensure.

By Mr. Lewin:

Q.—That is true, is it not, Mr. Foley? *A.*—Yes.

Mr. Lewin:—No further questions. We submit it to your Honor. (Thereupon, Court and counsel conferred at the bench.)

TESTIMONY OF HARRIET AUSTIN

DIRECT EXAMINATION

By Mr. Lewin:

Harriet A. Austin lives in Chevy Chase, Maryland. In September 1938 she lived in Foxhall Village.

Q.—Were you entitled to privileges then in Group Health Association? *A.*—Well, not until after this accident.

Q.—Did you say you had an accident? When did you have that? *A.*—I can't remember. That accident spoiled my memory.

Q.—It spoiled your memory? Would you say it was in September of 1938? *A.*—I guess about that.

Q.—Can you remember where it happened? *A.*—Well, it was down on Pennsylvania Avenue. The street car was waiting there and it took me a half hour to get home, and I was in a hurry—

Mr. Leahy:—If the accident occurred before she became entitled to G. H. A. service, it is immaterial.

By Mr. Lewin:

Q.—At that time you had a daughter, didn't you, Mrs. Austin? *A.*—Yes.

Q.—What was her name? *A.*—Edwina Avery.

Q.—Was she a member of Group Health Association? *A.*—Yes.

Q.—And were you dependent upon her? *A.*—Yes.

Q.—At the time of the accident, that is true, isn't it? *A.*—Yes.

Q.—So that at the time of the accident, although you were not a member yourself of Group Health Association, you were a dependent of a member: that is right? *A.*—Yes.

Q.—Now, when you were interrupted you were telling us about an accident. Will you continue to do so? *A.*—I started over toward the street car, and the car came down the hill, and turned right around quick—

THE COURT:—We don't want to go into the details. She was injured?

Mr. Lewin:—His Honor doesn't want to hear anything more about that.

By Mr. Lewin:

Q.—What happened after you were struck by the car? *A.*—I didn't know for a while; they got me to the hospital.

Q.—What hospital did they take you to? *A.*—Emergency Hospital.

Q.—Here in Washington? *A.*—Yes.

Q.—What happened when you got to the hospital? *A.*—They first put me in a bed and took my clothes off, and examined me.

Q.—Who examined you, a young doctor there? *A.*—I don't know. I didn't know very much about it.

Q.—Did they give you any treatment? *A.*—No.

Q.—They did not? *A.*—Did not.

Q.—And did you ask for anybody? *A.*—I told them I would like to send word to my daughter.

Q.—That is Mrs. Avery? *A.*—Yes.

Q.—And did your daughter come there? *A.*—She and her husband came right down.

Q.—What happened after that? Were you taken from the hospital then? *A.*—Yes.

Q.—Shortly after they came? A.—Yes, not very long after.
Q.—And were you taken away in an ambulance? A.—In an ambulance, yes, Hines Company ambulance.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Do you remember the year? A.—I don't know whether I could do that; my memory was destroyed at that time.
Q.—Do you remember the name of anybody at the hospital? A.—At the Emergency?
Q.—Yes. A.—No, I had never been there before.
Q.—Do you know whether they took you in a room? A.—Yes, they put me in almost a corridor; curtains around it.
Q.—Did they examine you? A.—There was one person, they told me afterwards; I didn't know very much about it, anyway.
Q.—You didn't know much what happened, did you? A.—No.

TESTIMONY OF EDWINA AVERY

DIRECT EXAMINATION

By Mr. Kelleher:

Edwina Austin Avery said she is Mrs. Austin's daughter. She was an employee of the Department of Agriculture in 1938.
Q.—Were you also a member of Group Health? A.—Yes.
Q.—Under your membership, was your mother entitled to benefit from that organization? A.—That is right.
Q.—And was this true in September 1938? A.—That is right.
Q.—On Sept. 7, 1938?
Mr. Leahy:—Don't lead.
Mr. Kelleher:—All right. I was just trying to do what you suggested; to save time.
Mr. Leahy:—You were not worrying about doing what I had suggested.

By Mr. Lewin:

Q.—What happened on Sept. 7, 1938? A.—I was rather late coming home from the office that evening and I was home a very short time when the telephone rang. I imagine the time would be after 6:30, the telephone rang, and I was informed by a woman's voice—

Mr. Leahy:—Object to anything she was told.

THE COURT:—Yes.

By Mr. Kelleher:

Q.—What did you do as a result of that telephone call? A.—I went to the Emergency Hospital, because I had been informed—

Mr. Leahy:—Same objection.

Mr. Kelleher:—Don't repeat the conversation.

The Witness:—Went to the Emergency Hospital and found my mother in the intake department of the Emergency. I found that she had—

Mr. Leahy:—I object; it must be based on hearsay.

Mr. Kelleher:—All right.

By Mr. Kelleher:

Q.—Did you talk with the intern at the hospital? A.—I talked with the intern at the Emergency as soon as I found the one who had examined mother and found that he had examined her, and that he had stated that there were no broken bones he could find; that there was no concussion, but that she was suffering badly from bruises and cuts. I immediately asked to have my own doctor brought in. This man said that there was another intern who wished to see her, a Dr. Harris, and I said, "How soon?" Naturally I was very much upset. The doctor said it would probably be an hour, that the doctor was already in the hospital, but that he had to eat his dinner. I wasn't anxious to wait an hour to have my mother further examined, and continued to insist on having my own doctor come in. He said I could phone him. I immediately went to the phone I was directed to and called Dr. Selders. Dr. Selders informed me—

Mr. Leahy:—I object to any conversation.

THE COURT:—Yes. Don't tell the conversation.

By Mr. Kelleher:

Q.—Did you ask Dr. Selders to come over?

Mr. Leahy:—We object; the Court has just ruled on that.

THE COURT:—Don't state what Dr. Selders said. She may answer as to whether she requested Dr. Selders to come.

The Witness:—I asked Dr. Selders to come immediately, and found out that he could not, and that I should go to the hospital authorities to make arrangements for his coming. I immediately went to the superintendent's office, was told that it was after hours, and that the general superintendent was not there. I was referred to the night superintendent, a doctor named McKeever—I believe his name was; I went to see Dr. McKeever and asked to have my doctor brought in.

Q.—Did you explain any circumstances? A.—I explained that the case was an emergency case, and that my mother was at that time in the intake department, having no attention whatsoever, except that one intern had looked her over. Can I say what the doctor told me?

Q.—Yes, proceed. What did Dr. McKeever say? A.—Dr. McKeever wanted to know who my doctor was. I said, "Dr. Selders." He said he didn't know him. I explained that he was Dr. Raymond E. Selders, the Medical Director of Group Health, of which I was a member. He looked in a file over in the corner and came back and said that Dr. Selders' name was not in their list. I said, "Just what does that mean?" He said that Dr. Selders would not be admitted to their hospital. I said, "Well, my mother—" Just then my husband came in and heard that remark and said something. I spoke up and said, "I have explained this to Dr. McKeever. This is an emergency and my mother is an emergency case, and it is my understanding in emergencies we can have our own doctor in."

Dr. McKeever said he was sorry, it didn't make any difference whether it was emergency or not. Dr. Selders couldn't come in. I said, "But I thought the whole point in this controversy was that we were to have the free choice of physicians"; that he was my surgeon and I wanted Dr. Selders. He said, "I am sorry." My husband said, "Perhaps he is working under orders." I said, "Is that so?" He said, "Yes." I said, "Perhaps it would be good for me to go to the superintendent." He said, "No, it wouldn't do any good to see him; the orders would be the same." I said, "I want my surgeon to look over my mother." The doctor said he could do so in the intake department but as far as giving any orders or doing any work, treating her, it would not be permitted. I said the best thing I could do would be to find out from Dr. Selders what he would recommend.

Q.—Before you leave that conversation, did Dr. McKeever suggest any other doctor? A.—Yes, he did. He went over to the corner when I said this about the free choice of physicians. He said, "We have a whole list of doctors here. You can have your free choice." I said, "I suppose I will go over and close my eyes and go down the list." He said, "You can move your mother to any hospital in the city if you wish." I said, "Could we be assured we would receive any different treatment in any other hospital?" He said, "No." I called Dr. Selders again at that time.

Q.—Without telling what Dr. Selders said to you, will you tell the jury what you told Dr. Selders?

Mr. Leahy:—I object to that.

THE COURT:—I don't think that is competent; sustained.

By Mr. Kelleher:

Q.—What did you do after you talked with Dr. Selders? A.—I went back to see my mother and found her in a very high state of—in fact, near nervous collapse, because of the treatment she had been subjected to. It had now been something like two and a half or three hours, and she was without treatment; and she was insisting on being taken home. She wanted to get home, because of the action—

Mr. Leahy:—I object to the qualification by the witness.

THE COURT:—Yes; let us get along.

By Mr. Kelleher:

Q.—All right, what did you do? A.—I went back and talked again to the intern and found that this Dr. Harris had examined her in the meantime, while I was talking to the superintendent, and I talked to both these doctors and they both assured me there were no broken bones and, so far as they could see, no concussion, although they could make no definite statement on that, but because of conditions there I made the decision to move my mother that night.

Q.—Did you do so? A.—I did, as soon as I could get an ambulance to take her home when she was examined by her own surgeon.

Q.—About what time did you get her home? A.—Between 9 and 10 o'clock.

Mr. Kelleher:—No further questions.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Are you still employed by the Agriculture Department? A.—Yes.

Q.—And when did you join G. H. A.? A.—February of 1938.

Q.—Did you ever hold office in G. H. A.? A.—Yes.

Q.—What office do you hold? A.—I am at present one of the Board of Directors.

Q.—How long have you been on the Board of Directors of G. H. A.? A.—One year, a little over. Our election is in January.

Q.—So you are presently one of the Board of Directors, or is it Board of Trustees? A.—Board of Trustees. Board of Trustees or Directors.

Q.—When was it that this accident occurred, if you recall? A.—In September, the early part of September, the 7th. Late in the evening, during the heavy traffic hours.

Q.—And you would say it was about what time? A.—It must have been—in fact, I could give you the exact time, because I happened to look. The call came at 5:19, but they didn't call me until 6:35.

Q.—Were you home? A.—I wasn't at home, and there was no call until 6:35, because my maid was home and there was no call.

Q.—All you know about that is what you heard from your maid? A.—Yes, but I do know this: I asked the girl when she telephoned me what time my mother was brought in. She said 5:30. I said, "Why didn't you call me?" and she said they had been having difficulty, or something.

Q.—Were you living at Foxhall Village at the time? A.—Yes.

Q.—And you immediately went down to the hospital? A.—Yes.

Q.—And you found that an intern had examined your mother? A.—Yes.

Q.—And he said he wanted another doctor to look her over? A.—He didn't say he wanted another doctor. He said another doctor should do it.

Q.—What was his name? A.—Harris.

Q.—And what was the other intern's name? A.—I do not know.

Q.—Did you ask him? A.—No, but I remember "Dr. Harris," because he introduced him to me.

Q.—How long were you talking to Dr. McKeever? A.—Well, you see, I got to the hospital about ten minutes to seven, I presume. I was talking to the intern and nurses and my mother—It might have been 20 minutes, 25; perhaps not that long; I couldn't be sure.

Q.—And in the meantime, while you were talking to Dr. McKeever, Dr. Harris had also examined her? A.—Yes.

Q.—And they both stated, as far as they could determine without x-ray, there were no broken bones or anything of that kind? A.—Yes.

Q.—Do you recall what position Dr. McKeever had in that hospital at that time? A.—I was told he was the assistant night superintendent. The night superintendent. He is the assistant superintendent and the night superintendent.

Q.—Did you know Dr. Selders pretty well at that time? A.—Only as you would know your physician. I am rather a healthy specimen and I had not much occasion to meet him.

Q.—Did you know him? A.—Yes.

Q.—How many times do you think you had talked with him before?

Mr. Lewin:—I think that is immaterial.

THE COURT:—I think so.

Mr. Leahy:—I just want to know.

Mr. Lewin:—I know you do, but it is immaterial, and I object to it on that ground.

THE COURT:—It seems immaterial, unless you have some object.

Mr. Leahy:—It is only preliminary.

THE COURT:—Sustained.

Mr. Leahy:—I don't want to transgress your Honor's ruling, but may I approach the bench?

THE COURT:—Yes.

(Thereupon counsel for all parties approached the bench.)

By Mr. Leahy:

Q.—You had talked with Dr. Selders, had you not? A.—Yes.

Q.—How many times had you discussed the matters with him?

A.—Discussed matters?

Q.—Yes. A.—Anything at all?

Q.—Yes. A.—On numerous occasions, I imagine.

Q.—Most of these matters were with reference to the controversy which had existed between the hospitals and G. H. A.; isn't that true? A.—No.

Q.—Had you ever discussed that? A.—I never had until we discussed it on the telephone that night.

Q.—With whom had you discussed the matter of emergency calls? A.—Dr. Selders told me that night; he said the superintendent would give me the right to have my own doctor there because it was an emergency.

Q.—Was this before you talked with Dr. McKeever? A.—Yes, he had instructed me to see the superintendent.

Q.—Did you know at the time that Dr. Selders was not on the courtesy staff of the Emergency Hospital? A.—I don't think I knew it; I don't know why I should have.

Q.—Did you know what he meant when he said that this was an emergency case, and when you said to Dr. McKeever, "It is my understanding that I have the right to my own doctor if it is an emergency case"? A.—I would think the case was an emergency, and my understanding of the word, so far as the dictionary definition of it was concerned, from that it was certainly an emergency case. Is that what you are trying to bring out?

Q.—That is what your understanding was? A.—Yes.

Q.—Did they offer to have any doctor in the hospital look your mother over? A.—No, not in the hospital.

Q.—Did you look in the list to see what doctors were there? A.—No.

Q.—Did there seem to be quite a number? A.—It was a filing cabinet; one of those that turns around, but about this time I was rather upset myself.

Q.—Did you then talk to Dr. Harris when you got back to the intake department? A.—Yes.

Q.—And after receiving the word that there were no bruises, broken bones— A.—(Interposing) There were serious bruises and cuts.

Q.—But no broken bones? A.—That is correct.

Q.—Then you called for an ambulance and took your mother home? A.—I asked Dr. Harris about an ambulance. He said they had no such service; then I got in touch with a private ambulance.

Q.—Was that Mr. Hines? A.—Yes.

Q.—And then did Dr. Halstead see your mother at home that evening? A.—Dr. Halstead came immediately.

MARCH 4—AFTERNOON

TESTIMONY OF LOUIS F. THOMPSON

DIRECT EXAMINATION

By Mr. Kelleher:

Louis F. Thompson said he was employed with the Home Owners Loan Corporation in March 1938, temporarily assigned to assist in setting up the records of the Group Health Association.

Q.—I show you Exhibit 463 to 468, inclusive, for identification, and ask you whether you signed Mr. R. T. Berry's signature on those letters? A.—With my initials under the signature; yes, sir.

TESTIMONY OF KENNETH D. ARMSTRONG

DIRECT EXAMINATION

By Mr. Lewin:

Kenneth D. Armstrong said he was in May of 1929 a notary public of the District of Columbia. He identified the signature of Dr. Thomas E. Mattingly.

TESTIMONY OF SAMUEL H. ROGERS

DIRECT EXAMINATION

By Mr. Lewin:

Samuel H. Rogers said he was president of the Board of Directors of Casualty Hospital in 1938. He identified signatures, minutes, roster of the staff, committees, etc.

TESTIMONY OF DR. FRANCIS X. RICHARDSON

DIRECT EXAMINATION

By Mr. Lewin:

Q.—When you were on the stand before, I believe you testified that you resigned from your position with Group Health Association on July 15, 1938? A.—Yes, sir.

Q.—And I believe we identified your written resignation? A.—Yes, sir.

Q.—Dated July 15, 1938? A.—Yes, sir.

Q.—Now, without stating what anybody else said to you, tell the jury what was the immediate reason that you had for resigning when you did. A.—The reason that I resigned was because of the conversation which I had with these men.

Q.—Without telling us about that conversation, what was the reason that resulted from it that caused you to put in your resignation? A.—I hardly see how I can answer that question without discussing what was said.

Q.—But you are not permitted to do so. We have got to get your answer from your own mental processes.

Mr. Leahy:—Ask him the direct question.

By Mr. Lewin:

Q.—Did you resign from Group Health Association on that date because you were afraid you might lose your hospital privileges? A.—Yes, sir.

Q.—That was your reason? A.—Yes.

CROSS EXAMINATION

By Mr. Leahy:

Q.—You told us you went to work for G. H. A. some time in the year 1937, did you not? A.—Yes, sir.

Q.—You had privileges in what hospitals? A.—Sibley, Providence and Garfield.

Q.—And you had them, did you not, on July 15, 1938? A.—Yes, sir.

Mr. Lewin:—May it please the Court, before we approach the bench on the offer which has already been made, I would like to make some additional offers and then we can approach the bench in one fell swoop.

THE COURT:—Very well.

Mr. Lewin now offered additional exhibits.

(The jury withdrew from the court room. Counsel approached the bench and conferred with the Court.)

Mr. Kelleher then offered sections from the Proceedings of the House of Delegates of the American Medical Association for 1938, report of the Secretary, report of the Reference Committee on Reports of Board of Trustees and Secretary, page 58, and the official action with respect to this report, appearing on page 60. the Report of the Board of Trustees, marked in red pencil on pages 7, 8, 29, 30 and 31, together with the portion of the Report of the Reference Committee on the Reports of the Board of Trustees and Secretary appearing on pages 58, 59 and 60, and the action of the House of Delegates on the report of the Reference Committee, appearing on page 60. He offered also the report of the proceedings of the House of Delegates in 1931. The portion of the Report of the Board of Trustees, appearing on page 19, together with the portion of the Report of the Reference Committee on Reports of the Board of Trustees and Secretaries, appearing on page 35, and the action of the House of Delegates approving the Report of the Reference Committee, appearing on page 35; also the portion of the Report of the Judicial Council, appearing on page 24, together with the portion of the Report of the Reference Committee on Rules and Order of Business, appearing on page 40, and the action of the House of Delegates on the latter report, appearing on page 40. He offered also the report of the proceedings of the House of Delegates for 1932, the portion of the Report of the Board of Trustees appearing on pages 15 and 16, together with the portion of the Report of the Reference Committee on Reports of Board of Trustees and Secretary, appearing on page 46, and the action on the latter report by the House of Delegates, appearing on page 48; also the report of the Reference Committee on Medical Education appearing on page 40.

Mr. Kelleher also offered the portion of the report of the Reference Committee on Medical Education, appearing on page 40, and the action of the House of Delegates on the report of that committee, appearing on page 41. Then he offered the report of the proceedings of the House of Delegates for 1933—from that report, in addition to what has already been offered and received, the resolution of Mundt, appearing at page 50, together with the Report of the Reference Committee on the Mundt Resolution, appearing at page 56, and the action of the House of Delegates on the report of the Reference Committee appearing on page 57.

Next he offered the report of the proceedings of the House of Delegates for 1934, the Report of the Special Committee appearing on page 55, together with the action of the House of Delegates dealing with the report, appearing on page 55. He also offered the proceedings of the House of Delegates for 1935, 1936 and 1937; the portion of the report of the Judicial Council appearing on page 30; so much of the Report of the Reference Committee on Reports of Officers, to which the Report of the Judicial Council was referred, pages 40 and 41 of the Proceedings; the action of the House of Delegates upon that portion of the Report of the Reference Committee, appearing on page 41; the portion of the Report of the Council on Medical Education and Hospitals, appearing on page 31; the portion of the Report of the Reference Committee on Medical Education appearing on page 37; the action of the House of Delegates upon the report of said Reference Committee, appearing on page 38; that portion of the Report of the Reference Committee on Medical

Economics appearing on page 46; the action of the House of Delegates upon the aforesaid portion of the report of said Reference Committee, appearing on page 47; that portion of the Special Report of the Bureau of Medical Economics appearing on pages 56, 59 and 60; that portion of the Report of the Reference Committee on Medical Economics appearing on page 63, and the action of the House of Delegates on the said portion of the report of said Committee, appearing on page 64.

The Government also offered in evidence the proceedings of the House of Delegates for 1936: These portions of the Report of the Board of Trustees appearing on pages 7, 20, and 23, that portion of the Report of Reference Committee on Legislation and Public Relations, to which the portion of the Report of the Board of Trustees appearing on page 23 was referred, appearing on page 51; those portions of the Report of the Judicial Council appearing on pages 36 and 37; those portions of the Report of Reference Committee on Reports of Officers, to which Reference Committee the Report of the Judicial Council was referred, appearing on page 47, and the action of the House of Delegates on said portions of the Report of said Reference Committee, appearing on page 48; that portion of the Report of the Council on Medical Education and Hospitals, appearing on page 38; that portion of the Report of Reference Committee on Medical Education appearing on page 45 and the action of the House of Delegates on said report, appearing on pages 45 and 46; that portion of the Proceedings entitled "Membership in County and State Associations for Members of Staffs of Hospitals," appearing on page 60.

The Government also offered the proceedings of the House of Delegates for 1937: The portion of the Report of the Board of Trustees appearing on pages 22, 23, 24, and 25, that portion of the Report of Reference Committee on Legislation and Public Relations, appearing on page 68; the action of the House of Delegates on that portion of the report of said Reference Committee appearing on page 68; that portion of the report of the Judicial Council appearing on pages 39 and 40; the Report of Reference Committee on Amendments to the Constitution and By-Laws, appearing on page 74; that portion of the Report of the Council on Medical Education and Hospitals, appearing on page 41; that portion of the Proceedings entitled "Proposed Amendments to the Principles of Medical Ethics," appearing on page 53; that portion of the Report of Reference Committee on Amendments to Constitution and By-Laws, appearing on page 64 and the action of the House of Delegates on said portion of the Report of said Reference Committee, appearing on page 65.

Mr. Lewin:—The Government would like to reserve the right, at the appropriate time, to ask your Honor to extend to all of the defendants as to whom a prima facie case may have been made out certain of the evidence which was offered against individual defendants.

THE COURT:—That will come later.

Mr. Lewin:—I should like now to read to the jury U. S. Exhibit 587.

Mr. Leahy:—May it be the instruction, your Honor, that this is admissible only against the writer of the letter?

THE COURT:—Yes; I think so.

U. S. EXHIBIT 587

Mr. Lewin:—This is a letter from the defendant Thomas E. Mattingly addressed to William R. Beall, Foreman, Special Grand Jury, dated Nov. 13, 1938:

"Gentlemen of the Grand Jury:

"I hope that you will not think that this second communication implies any fear on my part that my first letter did not or will not get just consideration and appropriate action. Rather it is written to provide you gentlemen with specific data, whereby I hope to persuade you (even should the Public Prosecutor object) that you, as a fact finding body, could not in justice, honesty or fair play ignore my plea as a reputable physician, a native son and a life long resident of the District of Columbia, for a hearing. I purposely add the comment, 'even should the Public Prosecutor object,' because I am fearfully of the belief that he will use every device at his command to keep you from learning the whole truth, undistorted by political prejudice and intellectual dishonesty. It is my personal opinion that if the Public Prosecutor had knowledge or even a well founded suspicion, that the testimony of a witness subpoenaed before you, might weaken or break his case, he would not be above the legalistic trickery of attempting to persuade you, 'that the status of the witness had already been investigated and such testimony as they might be able to give, is both irrelevant and inconsequential.'

"Because I have an abiding faith in your civic honesty, your democratic concept of justice and your staunch, incorruptible courage, I promise if allowed to appear before you and under your sovereign protection, to acquaint you with what is in the hearts and minds of this community of physicians which has motivated us to do as we have done. I am sure you will agree, that before you can with honesty and conscience indict us, you must make every effort to

ascertain the true reasons behind this concerted but spontaneous action of a preponderant majority of the physicians of Washington. Only when and if you have weighed and considered those motives, can you return a true and uncorruptible verdict. Because I trust you, have faith in you, I promise if given an opportunity to appear before you to truthful answers [sic] without any evasion or reservation whatsoever.

"That you might know beyond any reasonable doubt and despite any objections on the part of the Public Prosecutor that my testimony is both relevant and consequential, I frankly admit the following acts of professional leadership, successfully accomplished.

"1. I personally raised the question and forced the issue of compelling wavering or undecided hospitals to deny courtesy privileges to staff members of G. H. A. I likewise successfully argued the point in an Executive Session of the Medical Society that we had ample precedent to discipline any member of our society found guilty of secretly aiding G. H. A. in obtaining its objectives by subterfuge. The threat of this action alone enjoined the clandestine cooperation of several members suspected of such cooperation, though it must be noted that these members were never openly named because such suspicion we had, was hearsay evidence only, and as such was not admissible.

"2. I successfully used my position as a member of the Medical Council to prevent Dr. Raymond Selders from receiving courtesy privileges at Sibley Hospital.

"3. I was the author, sponsor and lone defender of the defeated substitute motion which would have punished Dr. Scandifio with suspension, instead of expulsion from the Medical Society.

"Obediently,
"Thomas E. Mattingly, M.D."

May it please the court, with the reservation of the right to introduce at the next session such items of evidence as we may have overlooked, the Government at this time rests.

THE GOVERNMENT RESTS

THE COURT:—Have there not been some letters and papers that have gone in recently that ought to be read?

Mr. Lewin:—No; I do not think so. Lots of them were cumulative things that we did not expect to read.

THE COURT:—I thought if you did want to read them I would like to take the time to do it now.

Mr. Lewin:—No, your Honor. We do not plan to read them unless counsel for the defendants want them read.

THE COURT:—I suppose counsel for the defendants are ready to proceed?

Mr. Leahy:—I would like to proceed to get a little rest, your Honor.

THE COURT:—Members of the jury, counsel have conferred with me, anticipating that the Government would probably close its case today, and have indicated a desire, on both sides, to do some work outside of the court in order to prepare for the next turn in the case. After discussing it with them it perhaps is not only fair to them but probably, in the end, it will also save some time, if I do give them a day for that purpose. So I am excusing you and adjourning the case until Thursday morning.

MARCH 6—MORNING

TESTIMONY OF FRED O. COE

DIRECT EXAMINATION

By Mr. Kelleher:

Q.—You have been on the stand before, have you not? A.—Yes, sir.

Q.—You are from Georgetown University Hospital? A.—Yes.

Q.—And secretary of the Executive Staff and were during 1938? A.—Yes.

The witness identified his letter to Dr. Raymond E. Selders, dated March 4, 1938.

(Here followed extended discussion at the bench over admission of a carbon of a letter from Holman Taylor to the Board of Censors of Harris Co. Medical Society taken from Dr. Leland's file. It was not admitted.)

(A letter from Dr. Leland to Dr. Saville was admitted.)

TESTIMONY OF HELEN E. SWANSON

DIRECT EXAMINATION

By Mr. Kelleher:

Helen E. Swanson said she is employed by George Washington University Hospital as Secretary to the Medical Director, Dr. Bloedorn.

(She identified roster of the hospital, committees, staffs, etc., also a record of membership of the staff in the District of Columbia Medical Society. All were received in evidence.)

Also received were Conklin letters of July 29, 1937, and December 2, 1937, together with enclosures.

Attorneys for the prosecution notified the Court of certain corrections in the record.

MOTION FOR A DIRECTED VERDICT ON BEHALF OF THE DEFENDANTS

OPENING ARGUMENT ON BEHALF OF THE DEFENDANTS WILLIAM E. LEAHY

Mr. Leahy:—If you Honor please, we wish to interpose at this time a motion for a directed verdict as to all of the defendants on the entire case as made out by the prosecution up to this time. I thought that perhaps in the economy of time and also in a more orderly presentation of the case I might present to your Honor the case with reference to certain of the defendants first. I mean by that, the individual defendants.

LEON ALPHONSE MARTEL

First, I would bring your Honor's attention to the defendant, Leon Alphonse Martel. I have looked over the record in this case carefully with reference to any testimony which might relate to him in any manner, even most remotely, to show that he was engaged in any unlawful conspiracy such as is detailed or outlined in the indictment. I find no evidence whatsoever which could connect him in any way with the conspiracy. For that reason I say that as to the defendant Leon Alphonse Martel there is no evidence to show that he is in any wise connected with the conspiracy, and therefore that as to him the motion is proper.

R. G. LELAND

Take the one immediately before that—Dr. R. G. Leland. There is no evidence in the case, as I recall it, other than the letters which were written in the shape of answers by two men who worked in the Bureau of Medical Economics. Those letters went in under the background theory of the indictment. They were not offered in proof of the charge of the main case. In other words, they were introduced on the theory on which your Honor admitted them, that they tended toward establishing those allegations in the indictment which set forth the general background, but not in any way in the charging part of the indictment itself. There is no letter other than the one which was presented to your Honor this morning in the shape of a green carbon copy which shows any connection of Dr. Leland personally with this conspiracy. If I am wrong about that I shall be glad to be corrected, because my recollection, and the search which I have made of the many documents in the case, is to the end that Dr. Leland never personally wrote these letters, but that those in his department wrote them, and as I understand, the question was put under his authorization and direction as he was the general supervisor of that department. These letters relate in no wise to the charge of conspiracy as cast, and relate entirely to that portion of the indictment which concerns the background. Therefore there is nothing moved up from the foundation which was laid in the shape of background into the charging part of the indictment itself in so far as Dr. Leland is concerned.

The letter which was introduced this morning, written in December 1937, merely shows that there had come to Dr. Leland's attention this bit of information that the Comptroller General had ruled that a loan made by H. O. L. C. was improper or illegal. Now, certainly on that information which had come to him it cannot be charged that he had first knowledge of the scope of the conspiracy and, secondly, that he had entered into the conspiracy for the purposes charged in the indictment.

MORRIS FISHBEIN

Now, if we move up further we find Dr. Fishbein in the same list. There is no evidence that Dr. Fishbein wrote anything in this case except, as I recall that some time in the fall of 1938 he wrote a letter to a Dr. Hammerly in which he stated that Hammerly's letter had been referred by him, Dr. Fishbein, to another bureau of the American Medical Association because it was the interested bureau.

The only other evidence in the case, as far as Dr. Fishbein is concerned, is the evidence that he was the editor of THE JOURNAL. It may be stated or argued that because Dr. Fishbein was editor of THE JOURNAL and because THE JOURNAL in October printed an article which was written by Dr. Woodward, that therefore Dr. Fishbein had knowledge of this entire conspiracy as alleged in the indictment; that he entered into the same; that he continued a member of the alleged conspiracy, and that he is chargeable with all of the allegations against all of the conspirators in this case.

There is absolutely no evidence against him in the shape of any writing on his part. There is nothing whatsoever to indicate that he knew anything about the conspiracy. The article came into THE JOURNAL as other articles come into THE JOURNAL. If it happened to concern G. H. A. that does not mean that Dr. Fishbein is chargeable with the scheme or com-

bination that is alleged in this indictment and that he entered into it and continued therein as a conspirator from that point down. There is not a line in the record to connect any one of those three defendants in any way, shape, or form with the conspiracy as outlined here.

DR. WALLACE YATER

If we pass now to page 3, we have Dr. Yater. There is no evidence against Dr. Yater of any activity whatsoever except a lone motion which he made or which was reported to have been made by him in one of the minutes introduced in evidence. Beyond that there is no line whatsoever of evidence, as I recall it, which connects Dr. Yater in any way, shape, or form as a conspirator in this case. The evidence is entirely silent except for that single motion.

WILLIAM JOSEPH STANTON

The same is true with reference to the defendant William Joseph Stanton. I believe he made a motion at one time in one of the meetings of the District Medical Society that there should be a committee appointed to go out to the American Medical Association and see what could be done with reference to G. H. A., and report back.

EDWARD HIRAM REEDE

There is no evidence against Dr. Reede whatsoever, except that he sat in the trial of Dr. Scandiffo. That trial was had, if your Honor please, by the Executive Committee of the District Medical Society. Dr. Reede was a member of the Executive Committee. There is nothing which Dr. Reede said in any meeting; there is no action which he took; there is no conduct which can be charged to him whatsoever in relation to anything done with respect to any of the acts which the Government offers as ground for the proof of this conspiracy, save and except that he sat there as a member of the committee which tried Dr. Scandiffo.

As I recall it, there is in evidence at this time the constitution and by-laws of the District of Columbia Medical Society. If there is not, we have in evidence the report which was made in connection with the Scandiffo case which is the evidence on which and through which the conduct of Dr. Reede must be examined, analyzed and read to determine whether or not he has any connection whatsoever with this conspiracy.

The Executive Committee, under the constitution, is the one which is charged with the examination of charges preferred or recommended against any member of the District Medical Society or any question of discipline involved. The Executive Committee does not originate the charges, but they come over to that committee from the committee which has been known or identified as the C. C. & I. M. Committee.

In this case there came in the ordinary course of procedure and in accordance with the District Medical Society's constitution and by-laws information in the shape of a recommended charge against Drs. Scandiffo and Lee. Dr. Reede, in accordance with the duties placed on the Executive Committee, sat in the meetings which heard evidence in the Scandiffo case.

There is no evidence whatsoever to charge Dr. Reede with any knowledge that that particular disciplinary trial which was had with reference to Scandiffo had any connection whatsoever with any particular combination, scheme or confederacy under this indictment.

If an individual defendant can be held responsible for a single isolated act which the prosecution picks out as an act which fits into a picture, and then charges that individual defendant with the entire picture, then no one would dare to do anything or could legally do anything in connection with such a charge of conspiracy.

But the prosecution must go one step further. First, they must prove the underlying conspiracy. Having proved the underlying conspiracy, they must bring the knowledge of that home to the individual defendant charged. Having brought the knowledge of it home, then they must go one step further up the ladder and prove that, pursuant to that knowledge and with full possession of it, that individual defendant did something in the furtherance thereof. Merely to prove that an individual defendant did an isolated act which later on, under the scheme or theory of the prosecution, might have fitted into the general picture, does not bring criminal responsibility on that individual defendant solely because he did only that isolated act. They have no proof that Dr. Reede or Dr. Stanton or Dr. Yater had any knowledge of the general picture as presented and painted in this indictment. They only prove that with respect to each an isolated act was done. It was done for the specific, definite purpose not of the general conspiracy, but to complete, we have

shown, the isolated act for which that particular individual at that time was either responsible or in the conduct of which he was engaged.

For instance, Dr. Reede was engaged in the trial of Dr. Scandiffo. Dr. Stanton was engaged in making a motion, because he wanted a definite thing done, according to the motion; he wanted to find out the attitude of the American Medical Association, whether the American Medical Association would cooperate or assist.

Dr. Yater made a motion which is so unimportant that there could not be charged to him any knowledge whatsoever if a conspiracy or any act done in furtherance of it.

What I wish to state to the court—and perhaps I am doing it very poorly—is, emphatically, that the prosecution cannot hope or expect to hold individual defendants in this charge of conspiracy unless they first prove the underlying charge of conspiracy applicable to each one of them. Then, having proved that, they must go one step further and show that that defendant, with full knowledge of that particular conspiracy, then and there did the individual act or a few acts or three acts, whatever the individual defendant may have done in furtherance of and in pursuance of that conspiracy.

Furthermore, they must prove that it was done with the intention of furthering the conspiracy. If, for instance, an individual defendant may have committed an act which he was under obligation to perform, and in the performance of which he was engaged, and the result of that may have an interpretation placed on it by the prosecution construing it to be in furtherance of the conspiracy, nevertheless, unless they go one step further and prove that the individual defendant intended that act to further the conspiracy when he did it, the act is not binding against him as a conspirator and it is not evidence that he was such.

In no place in this proof will it be found that in this sweeping charge which they have made, this drag-net against all the individual defendants solely and only because they may have done individual acts, do they prove that there was the cohesion which we find where the other conspirators gather or assemble together. They have taken the individual blocks, set one up against another, and they ask your Honor to believe that those cease to be individual blocks, and that they are all one board, charged against all those who have taken any part whatsoever therein.

Now, as I recall the testimony against Dr. Young it relates only and solely to the point that he was on a credentials committee, or on some committee, of the Eastern Dispensary & Casualty Hospital during a portion, if not all, of the time covered by this combination, which is charged.

They don't charge that Young in this charge of conspiracy with having done anything more than that in connection with the Dr. Selders' application to the Eastern Dispensary, it was denied; and that he was on some committee in Casualty Hospital which had come before it the question of that application in some form or other. A good deal of debate was had in connection with the criminal responsibility of the hospitals, as hospitals, in this connection before any of that evidence came in. Now, we find a rather amazing situation with the hospitals. It is very bothersome: bothersome as a matter of law, and bothersome because of the confusion about it in the record, and it leaves counsel in the situation where it is difficult by taking any portion of the evidence and directing the Court's attention to it, to show we depend upon this particular piece of evidence or that, but if this record discloses one thing above another, it is this: that each hospital is a separate, distinct, legal entity. That hospitals, as hospitals, as separate, distinct, legal entities are charged with being conspirators. Their staff are not charged as conspirators, either general, special or courtesy staffs are not charged; their various executive committees or councils, or boards of directors, or trustees are not charged. It is the hospital qua hospital, as a legal entity, which is charged as a conspirator in this case. Therefore, the hospital, as a hospital, a legal entity, can be criminally bound only if the hospital as a hospital and legal entity acts.

The second thing which is clear in this record is that the administration of the hospitals, as such, and as corporate entities, is had through responsible administrative lay boards. The medical staff can do nothing to bind the hospital as a hospital. I don't care whether you call it an executive committee; whether you call it a council; an advisory board, a medical staff, or by what name it is identified, the fact of the matter is that the executive committee of doctors, the medical staffs, courtesy or regular, had no more power to bind the hospital in a corporate act than a stranger has to do the same thing, and there isn't a single corporate act of the hospital which has

been taken in this case, and which has been proved in this case except ones made by the administrative lay board of the hospital; and I think it is a fair statement to make to the Court—I don't wish to misrepresent the testimony or mislead—but I think I cannot be criticized for making the statement if I say that the boards of the hospitals mentioned in this indictment are appointed, not by any medical staff, not by any courtesy staff, not by any recommending committee of doctors, but by a lay administrative board. Therefore, the corporate act, the hospital act, binding any hospital here, to determine whether or not it is a conspirator, is the act of the administrative board; and there isn't a line of evidence which charges a single member of the administrative board in this case with any act done with knowledge of this conspiracy, or in furtherance of it.

We have as the administrative boards perhaps imposition—let us put it for the sake of argument, imposition by the medical staff—maybe there was a quiet little understanding in the medical staff that they would recommend to the administrative board that Dr. Selders should not be appointed to the staff. Let us take it the full way, the way the prosecution would like to have it presented—that there was no foundation in fact or inference for the rejection of Dr. Selders to the staffs of the hospitals, notwithstanding which these little executive groups, or a membership committee—advisory in jurisdiction—possibly, as a result of such agreement among themselves, with no right or reason—recommended to the administrative boards that Dr. Selders be rejected, and the administrative boards follow that recommendation, and the hospital acts through its administrative board, and says Selders is rejected. Does that make the hospital a conspirator? Of course not. The hospital may have been imposed on, but before the hospital can become a conspirator it must have known of the conspiracy; it must have acted in furtherance of the conspiracy, and intentionally so. Therefore, if an administrative board has been imposed on by anybody which may recommend to it such action, and the administrative board follows that advice, then it is in the situation, perhaps, of having accepted bad advice, but that doesn't make it criminally responsible as a conspirator, and there isn't a single line in the case which shows any hospital, through its administrative board, with full knowledge of this conspiracy, of its scope, its purposes, and intent, intentionally took any act with respect to any member of this staff knowingly intending to further or do anything in connection with this conspiracy itself.

Now, those points were not before your Honor when the broad question was argued as to whether or not the hospitals could be brought in as conspirators. They cannot be so brought in because Dr. Smith happens to be on the staff of the hospital, and Dr. Smith is a member of the Medical Society, and Dr. Smith says something against Dr. Selders. That does not bind the hospital as such. It cannot be if an executive board acts in a certain manner in making a recommendation and some, or if all, of the executive committee members, whether on the medical staff or board of the hospital, and being members of the American Medical Association or District Medical Society. They must be one step further and show that the responsible binding officials, with authority to bind the hospital, have bound it in some way with knowledge of this conspiracy, in scope, intent and purpose, and having that full and complete knowledge had cooperated in the manner charged to accomplish the illegal end intentionally and knowingly.

Now, with that fundamentally in the case, with reference to the lack of proof binding the hospitals as conspirators in this case, simply because some member happened to write a letter, or someone else on a particular staff who may like the title on the staff and uses it in a particular letter, transports information which went from the hospital to a particular one of these G. H. A. members. That doesn't bind the hospital, nor make the hospital a conspirator in this case. Now, again bringing that thought back to the analysis of the testimony which concerns Dr. Young, we have here only that he acted as a member of an executive committee, or maybe as chairman—I can't recall which at this moment—but in any event he acted in a responsible position in some connection with the hospital to which he was attached. Maybe he was chief of staff; maybe chairman of the executive committee; maybe he was anything we want him to be, the point is what has he done? We know that the executive committee was composed of certain members of the profession. There hasn't even been an intimation, that with respect to that hospital, anything was done so far as changing the rules and regulations of it is concerned. We know that for fifty years that Eastern Dispensary had a regulation with regard to the right of the members of the medical profession to practice on its professional staff. Can

there be any doubt about that testimony? We know that on this particular committee which passed on this application we had a couple of doctors against whom the prosecution has not had the temerity to charge them with the conspiracy. We know that Dr. Magruder MacDonald, Coroner of the District of Columbia, was on that committee, and that out of that committee came a recommendation against Dr. Selder's appointment.

Therefore, not merely is it true that there was a conspiracy, but the hospital itself becomes a conspirator. I submit we cannot go that far in the most enthusiastic support of the indictment. We cannot take it and say an indictment for a conspiracy is difficult to prove and can be established, in most instances, only by circumstantial proof and, therefore, every circumstance we offer ought to be construed as a sanction, and *prima facie*, one to establish those charges. We cannot do that. After all, each one of these defendants has a right involved in this case, a most serious and sacred right, so far as he is concerned. It doesn't seem to mean much when we come to take circumstances in this case, in the shape of documents, as to what these hospitals have done in the past. They don't want to have the Court take into consideration the presumption we have already mentioned, and through which this evidence must be strained under the law, and that is if these acts could have been done just as well in pursuance not of a conspiracy but of a duty, lawfully imposed on a defendant, then we cannot distort the act done into one done in furtherance of a conspiracy where there is nothing in the evidence to color it whatsoever.

Now, what did Dr. Young do?

THE QUESTIONNAIRE

Where is there anything in the proof to show his knowledge of the conspiracy? They pick up a questionnaire. They say, "There is the proof." Dr. Young was asked a question and he answered it. Now, there is no particular sanctity with which we surround a written document which causes its contents to be judged under different rules of law than the ordinary spoken word and, suppose in this instance, Dr. Warfield, who was the member of the committee on hospitals in the District Medical Society, had met Dr. Young in the street and said, "Doctor, how many men have you over there on the staff who are members of the District Medical Society, and how many are not"? Suppose he said, "Well, you know, for fifty years we have had a rule and under that rule usually the only doctors who can qualify are members of some recognized society." Does that make him know all that is said by the committee as such and by every member of it? Does that make him a conspirator in the sense that first he gave an answer of that sort to Dr. Warfield? He didn't invite it. He was asked the question, and I hope we still have the right to answer questions. I hope we don't have to evade them or play dumb when a question is asked about G. H. A. I hope that when someone meets another on the street, or writes a letter, that such person to whom the question is propounded or letter addressed will not be required to ignore or evade it, or not be permitted to give a true answer to it, or sit on a cloud like some cherub. If he answers honestly, as most men are presumed to answer, and do answer, if such answer is critical of G. H. A., does that make him a conspirator? Of course, that doesn't make him the subject of complete and full knowledge of this conspiracy as charged within the four corners of this indictment.

Now then, does that answer that had been given mean, not only, "Do you know about G. H. A., and all this, but when you answered that question you did it for one reason"? Just notice the stretch to which they push the Court. See how they try to make that as qualifying evidence against Dr. Young, and Dr. Young states—and where I say "Dr. Young," it is applicable to all the individual defendants—they say that because he made that answer that Dr. Young had only one purpose in his mind. That he made it with the intent in some way to assist or aid in the furtherance of the charges contained in this indictment. In other words, to hinder, impede, destroy—use any verb you may wish—G. H. A.

That is a long jump, if your Honor please, in the line of logic and reason. Because Dr. Young made those answers on the questionnaire, which are answers of fact: they were not lies, were not misrepresentations; they were not concealments; because he told the truth, this one doctor who was a member of a society committee—and I hope the District Medical Society has the right to be interested in the hospitals which they have built up and maintained for fifty years before somebody thought about G. H. A. I still hope the District Medical Society will under the Court's ruling not be shut off or barred from having some interest in the standards of our hospitals simply because of G. H. A.—and simply because the chairman of the hospital

writes a series of questions indicative of only one purpose, to obtain information, the accuracy of which if it be enclosed in a letter or the person to whom it is addressed answers those questions, therefore this prosecution says that the person who answered those questions had but one thing in mind, and that was an intent to further the charge as laid down in this indictment, to hurt G. H. A. Now then, let us go another step further. If there is one presumption which must be admitted, and which cannot be contradicted in any way under the law, it is this: that if we objectively segregate an act done, and all there is before the examiner is the act done, and we put on that act the microscope of the law, and we try to find its motives, and we find that we can under that examination and the analysis have a reason which comports with honesty of purpose in its performance just as well as we can find one which under the interpretation of those charging that act against the person, that it was done with improper motive, then the act must be construed along the line of honesty of purpose, because most men do act honestly and uprightly, and in accordance with the law; and when a charge of this kind is made against men who have spent lives without any implication of crime against them, it is only fair that they should have the benefits in this case, as in any ordinary case, of the protection which the same law gives to them for the violation of which they are being prosecuted.

Now, all the way through, if the Court please, and I say this as seriously as I ever said anything, I can't comprehend why it is that even in the argument on questions of admission of evidence, the prosecution won't grant to a single one in the American Medical Association, the District Medical Society, any single hospital, anybody in this wide world, any honesty of purpose in criticizing G. H. A. They are beset, they are simply overwhelmed, they are befuddled with the idea that if anybody criticized G. H. A. they are convicted by their very act—he is a crook, a criminal; and he had the basest of motives when he did it.

Now, take Dr. Young—using him as an example. They won't give to the executive committee which recommended against Dr. Selders any honesty of purpose; that, in fact, those people did in fact investigate him. Perhaps they did find out a little something about Dr. Selders, and perhaps those men who hold high positions in the District of Columbia and in this community, who have honorably, for a number of years, served the hospitals to which they are attached by being members of their staff, were not actuated by these evil motives. Perhaps they did, after investigating Dr. Selders, tell those hospitals, the standards of which they have maintained through the years, that they could not in justice to the patients, the public and the profession admit Dr. Selders to the privileges for which he made application. Now, that is the presumption with which we start out. Why should we say that Dr. Magruder MacDonald, because he has not been mentioned as a conspirator, why should your Honor be asked, if he did reject Dr. Selders' application, that he did so because he wanted to kick Dr. Selders out regardless of whether he was qualified or not, or because he was a member of G. H. A.?

If it wasn't in this forum, and if that information came to your Honor on the street, you would immediately say, "Dr. Magruder MacDonald had some reason for doing it. Let's find out the reason for it." Do we know? No. The prosecution leaves this evidence suspended in the air, and wants the jury to guess or accept an interpretation which will be so ably argued by the prosecution to them, and that is the danger against which the law protects, with reference to conspirators, particularly in this sort of a case where only circumstantial evidenced is urged against them, because, after all, the verdict will be based, not on the evidence and the reasonable inferences to be drawn from it, but the verdict will be based on those inferences which counsel on one side or the other, through his ability so to do, will persuade the jury they should draw. That is not the kind of a verdict we ought to have in any case. I submit you cannot find in the evidence against Dr. Young a common purpose to hinder, or destroy, G. H. A., or do anything to G. H. A., with any or between the other defendants in this case, in any way, shape, or form; and I say that is likewise true with reference to Dr. Yater, Reede, Martel, and Leland, and Dr. Fishbein of the American Medical Association. As to them the evidence is so sketchy as to be negligible, and any inferences to be drawn against them are so stretched beyond logic and reason that it would not be fair to hold those men in against this mass of documentary proof, in connection with which they have their evidence brought out against them. So far as Dr. Fishbein, for instance, is concerned, the District Medical Society may be swept out of existence; he doesn't

know it exists; there isn't a line of evidence that he ever heard of the District Medical Society. He never talked to one; he never wrote to one; he never did any act with reference to any other act which the District Medical Society did or any of its members did. The same is true with reference to Dr. Leland. You can wipe the District Medical Society right off the list of those societies in existence, so far as Dr. Leland is concerned. He just doesn't know about it, but they wish to confuse the record by bringing in under this background theory this testimony in the shape of documents written by Laux and Simons in response to inquiries from people all over the United States with reference to various forms of practice of medicine, which were springing up in communities, in which those particular inquiries came from.

DR. A. C. CHRISTIE

Now, if we pass from that point on to the other defendants in this case—I am not going to name them name by name—but let us take Dr. Christie. Dr. Christie seconded a motion; that is what he did; he seconded a motion, but they will say to your Honor, "Yes" that is all, "but it was the resolution of Dr. Wilson," and that resolution they have considered to be so important that they have quoted it in the indictment.

There isn't another thing Dr. Christie did; that is everything he did. They have not proved that he was active in any way, shape, or form, in connection with anything else done in furtherance of this conspiracy, but in that lone, isolated act.

Now, let us examine that resolution, because we have heard so much of it; it is considered so important. What was the result of that resolution? They say it was adopted. That doesn't give it any more force or effect than it had by its terms. It was a resolution to go to a committee for examination, study, and report back. That is all it was. The Society couldn't take any affirmative step in the furtherance of the conspiracy, or in buying a dozen eggs, under that resolution. It couldn't have incurred an obligation under the law on the strength of that resolution. The only reason that it is in the indictment—and we know why it is there—is because it sounds bad. It may be good advertising, propaganda—and the indictment is not above propaganda in the case—because if we can find something in the resolution that sounds bad, something which the District Medical Society was doing against Group Health, we will spread it. It is just the same sort of a resolution which we make here before your Honor when we ask your Honor to take under advisement and study some action on a matter which is before the Court. I am asking your Honor now for a directed verdict. I am asking your Honor to take it under advisement as you sit here and listen. Am I doing something now to persuade your Honor to join a conspiracy against G. H. A. because, forsooth, I am asking that the conspiracy charge here be dismissed? The terms of that particular resolution do not do more than ask another committee of the District Medical Society to study and report back, and Dr. Christie seconded that kind of a motion. Negative action. In no way positive, save and except that whatever was done in that case would be done not in pursuance of that resolution but after careful study by a committee of the American Medical Association. Your Honor knows what that study brought forth. It brought forth the resolution of December 1st, and now they criticize that because they say it is camouflage. We did nothing except with the basest of motives, and with only one objective; to destroy G. H. A.

That is everything Dr. Christie has done, and because he seconded a motion for the adoption of a resolution which looked toward careful study and deliberation on the part of a committee he, therefore, now is charged with the full knowledge of this conspiracy, and the intention which he had in seconding that motion was to further this conspiracy, as alleged in this indictment.

Now, of course, one more thing: if any isolated act done by any single member charged as a conspirator is prima facie proof that the individual is a conspirator, why, we might just as well wipe out of the books the rules of evidence, and I know of no armor plate which anyone can wear to protect himself securely against being charged with being a conspirator. Now, let us come down to the entire case, including all of these defendants whose names have not yet been brought individually to the attention of the Court. I am going into the corporate defendant for a moment. Let us take the Washington Academy of Surgeons. What proof is there in this case that the Washington Academy ever joined in the conspiracy whatsoever? There is proof here that the Washington Academy of Surgeons had referred to it for its report the question of Dr. Selders' qualifications, and

they recommended back that Dr. Selders didn't have the qualifications which would warrant his admission to the staff of the hospitals which had made the request for the information. That is all there is. That leaves the record in this shape; if they wish us to guess then our guess is as good as theirs as to why Dr. Selders didn't have the qualifications, and if it is to be made a guess then the guess which is based on the common experience of mankind with respect to responsible individuals charged with the performance of a duty must prevail.

I don't know on what theory the prosecution can move this Court to think that every motion which is made by any human being which came in contact with G. H. A. transformed that individual from the honest, upright, reputable citizen, which he has always been, into a base conspirator to accomplish the destruction of G. H. A.

Your Honor knows that if the report of the Washington Academy of Surgeons can be considered to have been made with an honest purpose, after investigation made to advise those who have made the inquiry as to the doctor's qualifications, that interpretation must, under the law, be adopted. We do not have to go further than a case which was tried here in our own Court, in which Justice Letts had before him the same question which I am presenting to your Honor now and which he disposed of on a motion for a directed verdict. It is only a few Honor please. It is the case of *U. S. v. and Helpers, Local 639, of the International Brotherhood of Teamsters, Drivers, Stablemen and Helpers of America*. He said this:

"It would be impossible for me in a few words to review the evidence in this case, or to announce any conclusions on the many questions of law that have been presented in argument of counsel, or to deal with the construction of these various acts which have been read.

"I have approached this matter from what I thought to be the fundamental ground, indeed an elementary ground, and have searched the evidence to determine whether or not the Government has shown criminal purpose.

"I realize that intent, being a condition of the mind, is not always, perhaps seldom, susceptible of direct and positive proof. It is a matter of inference from facts and circumstances appearing in the evidence. The inferences, I think, lack the inference that arises from circumstances in the consideration of criminal procedure, but not only indicates guilt but it might be inconsistent with any rational theory of innocence."

Now, that is the burden this prosecution has sustained in the interpretation of the evidence presented to your Honor, as *prima facie* proof of guilt. It must be rationally inconsistent with innocence.

"Here, of course, the intention sought to be shown is that the defendants entered into an unlawful plan to interfere with commerce and trade. We are not dealing with the subject as we would if it were an action for injunction, where only civil rights are involved; but here we are dealing with criminal elements. It seems to me that the evidence clearly shows that all these defendants did is just as consistent with innocence as with guilt, and in order to send this case to the jury, it would be necessary for me to find, in finding a *prima facie* case, that the evidence did preponderate at least in favor of the Government theory.

"I am of the impression—"

And then the Court proceeds to examine a piece of evidence that came in:

"I think we might determine the purpose and intention which underlay the conduct in the light of what had been barred with respect to this jurisdictional question, and the knowledge which the defendant had of the outcome of it.

"Therefore, all told, I am of the opinion that the Government has failed to make out a case by the substantial evidence which would justify this court in allowing a verdict to stand upon it. According I will call the jury and sustain the motion of the defendants to direct the verdict."

Now then, isn't it just as consistent with the theory of innocence on the part of the Academy of Surgeons to say that those men who are listed—the finest surgeons in the District of Columbia; every doctor who practices surgery generally is on it—to say that they acted innocently rather than to sweep that aside, and with reference to this prosecution, and for its purposes say that every last one of them has suddenly transformed himself into an individual who would stoop to disqualify a qualified surgeon solely in pursuance of this conspiracy? I think, if your Honor please, to have charged the Academy of Surgeons in this case is an insult. I think it is groundless and baseless, on the evidence; and I think it is an attempt to smear these individuals so that perhaps by that smear the Court will weigh the evidence through that dark smear cast upon them instead of the law.

There isn't a single thing against this Academy of Surgeons as a separate organization of individuals which justifies the inference that at any time they had knowledge of this conspiracy or that they knowingly and intentionally did what

they did—and they did nothing but make an investigation of a man whom the prosecution has not dared to put on the stand—with any legal intent or purpose.

HARRIS COUNTY MEDICAL SOCIETY

Now then, let us come to the Harris County Medical Society. That is all made out by and through correspondence, once more; inquiries back and forth. Now, I take it, if your Honor please, that if this Harris County Medical Society had a right to do what it did, then it could do what it did under the law, and unless they can show that that act was done intentionally and purposely in furtherance of a conspiracy, which was illegal in scope, then the Harris County Medical Society had a right to do just what it did do. Now, the Harris County Medical Society had a right to write to the District Medical Society in Washington in order to obtain information about one of its members, and the District Medical Society had a right to write to the Harris County Medical Society. If this were a suit for libel, qualified privilege would lie.

Now, we find correspondence back and forth, and we find an investigation being made into the Harris County situation with reference to Selders joining in the work which they considered to be unethical. If it is unethical then they had a right to discipline any one of their members and if such disciplinary action was not done in the furtherance of a conspiracy, then they had the right to do everything, which they did, and they finally did nothing. That is the amazing thing in the case. They write, after their examination, as to whether or not they can do anything; they write to the American Medical Association; and there is correspondence back and forth, and finally neither side takes jurisdiction with reference to Selders, and Dr. Selders was never disturbed. Now, here is what they are charged with: they are charged with having done nothing save make an honest investigation to see whether they can do anything, and they are finally advised they cannot, and dropped the proceedings.

Therefore, they are charged here because they made an investigation and after that investigation, upon being advised by one of their members, they decided nothing could be done. Now, because people study as to what to do, write letters, chat about it; therefore they have joined a conspiracy to accomplish the purposes as charged in this indictment. I submit that first of all the very essence is a combination, an agreement and breathing together, a meeting of the minds, on a common purpose; and if you analyze this testimony you will find a floundering around. What they did was to try to determine whether they could do anything. There was no agreement at all; one saying one thing and another another thing. Now they ask your Honor to, because John Brown expresses one opinion, and John Smith says, "No," to hold one. Which one? Are we to be bound by John Brown because the prosecution asks that, or is it John Smith; or does it come once more to this: that under the law after all in a meeting of a society members thereof have the right to express their views and the membership is bound only by the act of the society as a society, and what was said by members in a meeting is not binding upon the membership as a whole, until it is reduced to the action of the society.

AMERICAN MEDICAL ASSOCIATION

Now, if your Honor please, I want to seriously bring to the Court's attention the evidence against the American Medical Association. I presume there were 225 to 250 documents introduced in this case against the American Medical Association, and the individual defendants, officers thereof.

We said we have documents, perhaps some sixty to eighty, which were signed by Dr. West. We have some fifteen or twenty signed by members of the Dr. Leland Bureau. We find an examination made of the Washington hospitals in which on the report thereof to the hospitals is attached the so-called Mundt resolution, but I say this to your Honor and I think it is a fair presentation of the evidence: 90 per cent of that testimony was introduced on the background theory: these resolutions about which your Honor just heard this morning. They are all reports to the house of delegates made by the various bureaus of the American Medical Association to the house, or by the committees referred to, resulting in the adoption by the house of delegates. They are all back in 1934, 1935, and 1936. Now, certainly we are not going to be charged with a conspiracy entered into Jan. 1, 1937, and in doing acts in furtherance of that conspiracy at a time when Group Health was not even organized; and, remember this, your Honor, the American Medical Association had the undoubted right to do every single act which it is charged was done in those years.

Section 3 of the Anti-trust Act has no jurisdiction outside of the District of Columbia, and when the American Medical Association met in its House of Delegates and adopted resolutions, it was doing what it had a right to do. Every letter which was written was written in accordance with that right, which it had the right to do. And the American Medical Association cannot be dragged by the hind legs into this case unless you find that the American Medical Association, as such a distinct corporate entity, bound itself by some corporate act to get into this conspiracy.

Now, what do we find?

Ninety per cent, as I have said to your Honor, was on this background of this conspiracy which your Honor admitted on the theory it established some *prima facie* proof. Therefore ninety per cent of this evidence has nothing whatsoever to do with the conspiracy itself.

Now, then, we have a meeting on November 6 in Chicago between two members of the District Medical Society, Dr. Hooe and Dr. McGovern, who had gone out to Chicago for advice in connection with the G. H. A. matter, upon the resolution which I advised your Honor some time ago was introduced by Dr. Stanton. We have the article of October 2 in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Now, those two pieces of evidence, outside of some letters which were written, to the effect that we have opposed G. H. A., and statements made, such as "We have opposed G. H. A.," are the only evidence in this case against the American Medical Association.

Now, remembering again, that the American Medical Association has the right to do in forty-eight states of the United States, just what it did, it had the right to write the article it did, and distribute it in forty-eight states of the United States, it had the right everywhere in this country, I mean, in the continental United States, except the District of Columbia, to do what it pleased so far as the Anti-trust Act was concerned, excepting only in the District of Columbia under Section 3.

Therefore, your Honor ought to find that unless, beyond a reasonable doubt, there is evidence in this case *prima facie* to hold the American Medical Association in it, that it ought not to be dragged into it.

In other words, in deciding that question you cannot give to the statements made and the acts done by the American Medical Association the same quantum of evil interpretation which the prosecution argues as to all for the reason that with respect to all of it they had this undoubted right to do what they did.

Now, what was done?

Dr. Woodward wrote an article, and he wrote that article in October 1937. We have this meeting on Nov. 6, 1937. You will find that the sum and substance of the meeting in November 1937 in Chicago was "go back and employ attorneys and act on legal advice." Now, that is everything there is, I say.

They say "Ah, but the two met."

Suppose they did!

The evidence is that the District Medical Society is a constituent member of the American Medical Association. What is more natural than that a constituent association would go to seek the advice of the national officers who have had the broader experience of having filtered into them the problems from the entire United States?

Now, then, is that evidence, if your Honor please, that the American Medical Association joined a conspiracy in November, November the 6th, that is, after the publication of this article? Remember that the argument is made, and it was made to your Honor before all this evidence was in, it was made that that article was one of the worst conditions in the conspiracy that could possibly be shown. And yet we have, a month later, Dr. Woodward sitting in that same conference with Dr. West, and what came out of it? These conspirators seeking the end and object and purpose of this conspiracy as outlined in this indictment?

What did they say? "Go back and hire a lawyer and follow his advice."

I submit, we cannot make out this evidence, or torture into it some claim that the American Medical Association, as an association, has joined this conspiracy when the last act we have of this American Medical Association is that act where on November 6 they told the representatives of the District Medical Society to go back to Washington and employ counsel.

And I still wish to bring to your Honor's attention the fact that Dr. Woodward in the publication of that article had the right to publish it. He didn't have the right to publish it in the sense I have just discussed it, your Honor, but he had the constitutional right to do it. And before they can construe that as an act done in connection with a conspirator, they must first find that Dr. Woodward knew about this conspiracy.

Now, what did Dr. Woodward know? Your Honor recalls the testimony. He came down here early in June, just before the convention at Atlantic City of the American Medical Association. Dr. Zimmerman testified to the time. He came down here and he tried to get some information about the G. H. A. and he couldn't. They told him nothing. And he went down to the convention, returned, and in October he writes an article setting forth his views with reference to G. H. A. which are based upon, as is shown in the article itself, absolute statutory proof, the proof of the articles of incorporation; and he as a responsible official writes what his views are with reference to G. H. A., in a medical association journal whose circulation is among doctors, to advise the profession of what his views are with reference to the G. H. A. Does that mean that the American Medical Association joined the conspiracy by that act? Are they arguing that the American Medical Association committed that act in furtherance of a conspiracy?

If your Honor please, and I want to insist upon that point, you cannot piecemeal this conspiracy. This conspiracy if it is a picture puzzle, has been put together; and when you want to hold a conspirator or one party in, you cannot take something out of the picture puzzle and say here it is. That doesn't make the conspiracy. This conspiracy is *one*—nothing else! They have detailed the three manners, the three ways, in which this conspiracy is supposed to be accomplished; By the denial of the right of consultation; by the refusal of admission to hospitals; and by the difficulty thrown in the way of G. H. A. on membership in staffs, both their own staffs and the staffs of hospitals. On October 2 there hadn't anything developed. Everything that happened happened after Dr. Woodward wrote his article. Nothing was done with respect to anything up to October 2 except they start pulling out these statements made in the minutes of meetings of the District Medical Society. That doesn't bring home the knowledge of a single one of them to anybody in connection with the American Medical Association; and they didn't bring the knowledge of the American Medical Association as such. Now, merely bringing the knowledge of something done to a single individual of the American Medical Association does not bring responsibility on the American Medical Association as such, an independent corporate entity, if the Court please.

Now, what else do we find besides the article and the meeting of November 6? This is a conspiracy, if your Honor please. Let us examine it coolly and calmly in the light of what the law says. Woodward is called by the Medical Society in November 1938. Here is the conspirator. Here is the man who is so evil and vile a conspirator that he has written this terrible article about which there cannot be a possibility of justification. And when he goes to the society he is called upon to make a talk at the meeting. G. H. A. is being discussed. The prosecution is saying that G. H. A. was the subject of destruction in that meeting. If there was any way they could pronounce its death knell, they wanted to do so. And here is the arch conspirator, the man who spread all over and through the United States this destructive article. It didn't go through the United States. It went to its members. It is a medical journal. It isn't a funny sheet. Woodward stands up in that meeting, as late as November, and counsels them to get counsel and to be advised by their counsel. Now, it is an easy thing to charge all these people in this gigantic conspiracy. It is an easy thing to evolve a theory in one's mind when sitting calmly down at a table.

It is an easy thing to hurl at the faces of those others the vilest of imputations which motivates such conduct, but when you come to prove it calmly, when we come to examine the proof after it has been introduced, and when we come to say "Let us wait just a minute. Let us see if this particular individual is the kind of individual to do the things you say about him. Or let us see if after all, he isn't a man just as you and I, entitled to your likes and dislikes, entitled to act in accordance with his likes and dislikes just so long as he doesn't impinge illegally upon the rights of another so to do."

And we find right here that this worst of conspirators, if your Honor please, having written an article on October 2, on November 6 counsels legal advice for the members of the District Medical Society and then in conjunction with that when he is in Washington and invited to say a word at the District Medical Society he renews that advice.

And does that sound like a conspirator acting in furtherance of a conspiracy? Or does it sound like the attempt of a pleader to drag by the heels into an indictment the names of men who should not be entered as conspirators and men who in no wise bound the American Medical Association?

You remember when Laux was on the stand. I asked him whether or not he had any right, or his bureau had any right to fix the policy of the American Medical Association. And

what was his reply? "The policies of the American Medical Association and the acts which bind the American Medical Association appear in the action of the House of Delegates, or of those done by the Board of Trustees within the jurisdiction allotted to them under the constitution." There isn't a single act in a single House of Delegates report which binds the American Medical Association with respect to a single thing on G. H. A. They quit in 1936. They go back to 1931, in one instance. And all of that evidence your Honor let in under the background theory. Ninety per cent of the evidence in here is on the background theory. "Ah," but they say "we have Dr. West. Now we switch from Woodward over to West as the arch conspirator."

Dr. West was the general manager of the American Medical Association and in three or four letters and in the conference of Nov. 6, 1937 in Chicago he said "We have opposed G. H. A." I am going to ask your Honor to think of the situation in the Apex case. I wonder what this prosecution would do if they had the evidence which the prosecution had in the Apex case. I wonder if they have in this case now the proof that these doctors went down and sat down in the G. H. A. clinic. I wonder if they could have the evidence or what they would say about it if they had it, that the American Medical Association sent a crowd down there and said "We camp right here in your clinic. We are going to break up your X-ray apparatus. We are going to see to it that you don't allow anybody in here. We are going to prevent everything that is done in this clinic." That is what they did in the Apex case with reference to the hosiery factory. We didn't do that. They assaulted, they committed crimes, they broke up the necessary machinery, they prevented hundreds of thousands of pairs of hosiery being sent out in interstate commerce. I wonder if the prosecution in this case had that kind of proof what they would be saying to this jury.

And what did the Supreme Court say about it? The Supreme Court said "Unless those acts were done with an intent to interfere with interstate commerce, there is no jurisdiction to proceed under the Sherman Anti-trust Act. And if those men did what they did not with an intent to interfere with interstate commerce, we don't care what their intentions may have been so long as the evidence does not show their intent was to restrain interstate commerce." The Court had no jurisdiction to proceed. And yet that case had to go clear to the Supreme Court to decide what everybody knows, outside of the heat of a trial, what common sense tells us. In this case you cannot tell me where anything Dr. West wrote is anything more than the truth. Has Dr. West no longer the right to be opposed to anything except what the prosecution wants or likes? What has Dr. West done in the evidence to oppose G. H. A.? Point to a single act. Show me a single thing Dr. West has done which shows an intent to restrain trade in the District of Columbia. If your Honor please, in the face of cases which the Supreme Court has dealt with, take the last case, if your Honor please, which the Court had before it, the case on the jurisdictional dispute, just what this dispute is if you want to make it that—they are making it a dispute in this case between the—I don't know the phrase they wish to place upon it—payment for service as against prepayment on a cost basis.

There is a dispute that existed. Have you found a single act done, if your Honor please, tending toward the restraint of trade in the District of Columbia? Except acts which they must interpret to be such. Can you point to a single positive act done by a single defendant in this case which tends to restrain trade in the District of Columbia? Every single act which any one of these defendants has been charged with doing requires for its completion the independent act or conduct of a stranger or a third person. The restraint of hospitals is predicated upon the December 1 resolution. That December 1 resolution is not self executing. It depends for its effectiveness, if at all, upon the independent action of third persons, to wit, hospitals. And those hospitals may do or may not do anything they choose about that December 1 resolution. Is there a single threat in this case that they would do anything to a hospital if the December 1 resolution was not complied with. But the prosecution say "Oh, we must guess there was." No, we don't. We don't guess in criminal cases. We prove.

Now, then, where do you find, if your Honor please, anything that compares to what was shown in the direct proof in such cases as the Hutcheson case or in the Apex case? In the Hutcheson case where they sat down there and just prevented interstate traffic moving; they had their little jurisdictional disputes among themselves, but they pushed it to the extent that they would not permit the interstate traffic in the transportation or shipment of beer. Where do you find anything like that in this case?

Let us get down to the reasoning which the Supreme Court has approved. And if your Honor please, I want to press firmly upon the Court at this time that if we are a trade organization, if we are engaged in trade, it doesn't matter so far as the Sherman Anti-trust Act is concerned and the Clayton Act, or the Norris-LaGuardia Act whether you pin the label on this side "labor organization" or whether I pin the label on this side "trade organization." We are engaged in trade. Our trade is the performance of our service, for a price. That is what they have stigmatized it. They have brought it out of the dignity of a profession down to the commercial plane of trade, sale and barter of medical care for a price. That is our business. We are engaged in trade. The Court of Appeals said so. All right then, if we are tradesmen, we have the right of tradesmen, and they cannot push us into an indictment upon one theory and say they hold us out of it upon another.

They cannot say we have violated the law, the anti-trust law, with the one hand, when they know they can produce from the files the other which says that under that theory you certainly have certain protection. The Clayton Act did it and under the Hutcheson case the Norris-LaGuardia Act says that in a dispute or controversy of this kind they cannot move against us. Now, let us have no doubt of that, if your Honor please. I have here this Hutcheson case and also the pronouncement of the Supreme Court.

Mr. Lewin:—Are you making this argument seriously?

Mr. Leahy:—You bet I am. Don't think I am standing here exercising my lungs.

Mr. Lewin:—I was afraid you were.

Mr. Leahy:—You are afraid of a lot of things that you don't know yet.

Let me give this to your Honor. He says, if your Honor please, am I making this seriously.

I am not going to read to your Honor the Clayton Act. Your Honor knows what that says. This is the LaGuardia Act:

"No restraining order or injunction shall be granted by any court of the United States, or a judge or the judges thereof, in any case between an employer and employees, or between employers and employees, or between employees, or between persons employed and persons seeking employment, involving, or growing out of, a dispute concerning terms or conditions of employment, unless necessary to prevent irreparable injury to property, or to a property right."

"and no such restraining order or injunction shall prohibit any person or persons, whether singly or in concert, from terminating any relation of employment, or from ceasing to perform any work or labor, or from recommending, advising or persuading others by peaceful means so to do; or from attending at any place where any such person or persons may lawfully be, for the purpose of peacefully obtaining or communicating information, or from peacefully persuading any person to work or to abstain from working; or from ceasing to patronize,"

and so forth.

"Whereas under prevailing economic conditions, developed with the aid of governmental authority for owners of property to organize in the corporate and other forms of ownership association, the individual unorganized worker is commonly helpless to exercise actual liberty of contract and to protect his freedom of labor, and thereby to obtain acceptable terms and conditions of employment, wherefore, though he should be free to decline to associate with his fellows, it is necessary, that he have full freedom of association, self organization, and designation of representatives of his own choosing, to negotiate the terms and conditions of his employment, and that he shall be free from the interference, restraint, or coercion of employers of labor, or their agents, in the designation of such representatives or in self organization or in other concerted activities."

Now, with reference to that, here is what the Court says:

"Were then the acts charged against the defendants prohibited or permitted by these three interlacing statutes?"

That is the Sherman Antitrust Act, the Clayton Act and the LaGuardia Act.

"If the facts laid in the indictment come within the conduct enumerated in Section 20 of the Clayton Act they do not constitute a crime within the general terms of the Sherman Law because of the explicit command of that section that such conduct shall not be 'considered or held to be violations of any law of the United States.'"

Now, if your Honor please, that phrase, the phrase "labor organization which is organized not for profit"—we have here a trade organization organized not for profit.

Now, if they say that it is a wide stretch to appeal to the Clayton Act in this particular, I say it is no wider stretch than they made when they appealed to the Sherman Act to make us a trade organization.

Mr. Lewin:—You mean when the Court of Appeals said it.

Mr. Leahy:—I meant you made it.

Now, if we are a trade organization, we are a trade organization. Now, he seems to say "Oh, well, you aren't a labor organization." Well, what are we? Our service is labor.

They so state it. They have offered evidence in here of the hospitals. Because the hospital report of the Emergency Hospital says that the business done shows it is one of the big business organizations of the District of Columbia. In other words, we are all in trade.

But you cannot separate the difference. The Court of Appeals has said we frequently call a bricklayer or a boot-maker a trade. And there is no doubt in the common law all the way down, trades or engaged in trade. It doesn't make any difference so far as the protection of the law is concerned.

If the Sherman Law says you can do it to the bricklayer or the paperhanger or the painter, and now the Court of Appeals has said that trade is so broad as to include the practice of medicine, then I say, your Honor, we have a right to protection under the Clayton Act.

Now, what does it say?

Remember, the hospitals are just as much engaged in trade. Here are three groups all engaged in the conspiracy.

"So long as a union acts in its self-interest and does not combine with non-labor groups, the licit and the illicit under Section 20 are not to be distinguished by any judgment regarding the wisdom or unwisdom, the rightness or wrongness, the selfishness or unselfishness of the end of which the particular union activities are the means."

Now, if your Honor please, so long as a union acts, a union is a trade association. That is all it is. A trade organization.

So long as a trade organization acts in its self-interest—and that is all that was done here under any charge—and does not combine with non-trade organization groups, the licit and the illicit under Section 20 are not to be distinguished by any judgment regarding the wisdom or unwisdom, the rightness or wrongness, the selfishness or unselfishness of the end of which the particular union activities are the means.

Now, I say if we are what they have pronounced us to be, if we are this trade organization, if the word "trade" means what the Court of Appeals has said it means, and if all it means is that actually we are just simply a labor organization—because that is all we do—we aren't engaged in any other activity, it is a nonprofit organization—and I say that you cannot stretch the law in order to strike us on the rebound and deny us the defense of the law to which we are entitled against attack.

The Court just went further in another decision involving a milk dispute between producers and the union, the drivers; out in Chicago.

What did the Court do there? It protected a milkman. Perhaps we aren't as high as a milkman. Perhaps the doctor ought not to receive quite so much protection under the law as the man who milks cows. Perhaps the dairyman engaged in trade is engaged in a trade which they will gladly give the protection of the law to. They didn't, even there. But the Supreme Court said they must.

Now, if the producer of milk, the ordinary dairy, is entitled to the protection of the Norris-LaGuardia Act, all three acts placed together, the trilogy of them, and if the Court of Appeals upon their urgency his pronounced that we are tradesmen, then upon what theory does this stretch of the imagination of the prosecution bring us to the point that it is out of the question that we should have any protection under the law? We are out in a plain or an island of utter abandonment where we have no rights left except to do the best we can where they hurl these charges against us.

I submit upon that theory as the case now stands they have proved it. They have proved us to be tradesmen. They have introduced evidence here before this jury that hospitals are nothing more than trade institutions; trade institutions for one purpose it was brought out, that is, for the care of the sick. And we think we have the right to the protection of a trade organization which the Clayton Act and the Norris-LaGuardia Act give to us.

I have already talked longer than I expected, if your Honor please, on this argument. But I say there has been no proof whatsoever here that the American Medical Association is in any way joined in the conspiracy. The only acts which they have brought forth as the acts of the American Medical Association relate only to the background theory. The acts which they have brought forward are so nullified by other acts which they find, for instance, with reference to the defendant Woodward, with reference to the defendant West—there is nothing which he did, absolutely nothing is shown which he did. He said, "We have opposed it." They have a right to oppose it, if your Honor please. The mere stating of opposition is not stating with the knowledge of a conspiracy which not yet had ever been formed according to the theory of the prosecution. And when we come down and in the same sort of analysis of the testimony in this case, we find that not an act is urged against Leland. Well, how is he responsible here? What has he done?

Every single letter relates to the background of the conspiracy. Because someone writes him a letter and he answers back:

"I have just been advised that the Comptroller General has declared the H. O. L. C. loan illegal,"—

probably it was published in the newspapers. He states some friend advised him of it. Can he be held as a conspirator with a knowledge of this?

Take Dr. Fishbein. Not a thing against him. But they ask your Honor to hold individually these members for a full knowledge of this conspiracy or for joint acts of their own with others in the performance of acts in the furtherance of this conspiracy. Now, simply because Dr. Fishbein happened to be the editor of the American Medical Association, Dr. Woodward was the head of another bureau, and Dr. West was the general manager, I submit there is no law which can be appealed to to state there was any conspiracy in this case such as is outlined in the indictment, and such as these defendants should be held in as prima facie defendants.

And for that reason, if your Honor please, we ask for a directed verdict, particularly with reference to those particular defendants whom I have mentioned; generally one and all of them; more particularly, as we have just stated, with reference to the individuals corporate and associated defendants, and in a group as to each and all.

And if your Honor please, we have prepared here the formal motions with reference to certain allegations in this indictment which I should like to file and present the other side without going over, to take up the Court's time further with them but will hand them to counsel.

There is a copy attached to each, and we will distribute them to the prosecution.

(The motions referred to are as follows:)

IN THE DISTRICT COURT OF THE UNITED STATES		
FOR THE DISTRICT OF COLUMBIA		
UNITED STATES OF AMERICA,)	
	Plaintiff,	
vs.	)	No. 63,221
AMERICAN MEDICAL ASSOCIATION, et al.,)	
	Defendants.)

MOTION OF DEFENDANTS FOR A DIRECTED VERDICT

Come now the defendants American Medical Association, The Medical Society of the District of Columbia, Harris County Medical Society, Washington Academy of Surgeons, Arthur Carlisle Christie, Coursen Baxter Conklin, James Bayard Gregg Custis, William Dick Cutter, Morris Fishbein, Robert Arthur Hooe, Roscoe Genung Leland, Leon Alphonse Martel, Thomas Ernest Mattingly, Francis Xavier McGovern, Thomas Edwin Neill, Edward Hiram Reece, William Mercer Sprigg, William Joseph Stanton, John Ogle Warfield Jr., Olin West, William Creighton Woodward, Wallace Mason Yater, Joseph Rogers Young and Prentiss Willson, by their attorneys and move the Court to direct the jury in the above entitled cause to return a verdict of not guilty as to each and all of the aforesaid defendants.

And for cause therefor defendants state that no sufficient case has been made out against them and each of them under the indictment herein returned, to warrant and support a verdict on all or any of the charges alleged in said indictment.

Edward M. Burke,
William E. Leahy,
Seth W. Richardson,
Charles S. Baker,
Warren E. Magee,
John E. Laskey,
Attorneys for Defendants.

Similar motions were introduced covering the charges of restraint of Group Health Assn., Inc., restraint of its members, restraint of its doctors, restraint of other doctors, restraint of the Washington hospitals.

MARCH 6—AFTER RECESS

ARGUMENT ON BEHALF OF THE UNITED STATES IN OPPOSITION TO MOTION FOR A DIRECTED VERDICT

JOHN H. LEWIN

Mr. Lewin:—May it please the court, I take it that the purpose of any argument of this kind is to assist the court in arriving at conclusions, and I will try to bear that in mind in making my remarks. I certainly do not believe that it could help the court in any way for me to reargue the demurrer which was argued before your Honor for about a day, I believe, and then reargued in the Court of Appeals and decided. I do not think it could help the court for me to even dignify with an answer any far-fetched contention that the specific statutory exemption of labor unions in certain situations set forth in

the Clayton Act and with regard to procedure under the Norris-LaGuardia Act, would have any possible application here. And unless the court wants to hear me on an issue like that, I am not going to argue that.

THE COURT:—I am inclined to think that I am bound by the ruling of the Court of Appeals.

Mr. Lewin:—Yes. I do think that I might assist your Honor in calling the court's attention to an extremely pertinent decision, an extremely recent decision, from the highest legal authority of the land, the Supreme Court of the United States, which was handed down on Monday last, and which corroborates and sanctions and affirms the soundness of the Court of Appeals' decision in this case and clarifies the issues that are before your Honor.

That case is entitled *Fashion Originators' Guild of America, Inc., v. Federal Trade Commission*, and the opinion in the case is by Mr. Justice Black, and he speaks for a unanimous court. The case was decided March 3, 1941.

Now, there are some superficial differences between that case and this, and I want now to concede them.

The victims in that case, the people whose activities were restrained, were not medical cooperatives seeking to distribute services of that character to hospitals or doctors pursuing the economic side of their calling and gathering in their fees. But I take it that the fact that the victims in that case were manufacturers of ladies' dresses makes no difference here if we admit that the Court of Appeals has once and for all determined for the purposes of this case that the Sherman Act, Section 3, applies to restraint upon the activities of the victims in this case; but I must allude to it because I think that maybe we will save time if I do it.

It is true that the victims of the conspiracy were doing different things. Now, what did the actors do in the *Fashion Originators' Guild* case? They did things very similar to the things which the evidence in this case overwhelmingly establishes that the defendants indulged in. And to make good on that point, let me read to your Honor what the court said on that:

"Some of the members of the combination design, manufacture, sell and distribute women's garments—chiefly dresses. Others are manufacturers, converters or dyers of textiles from which these garments are made. *Fashion Originators' Guild of America (FOGA)*, an organization controlled by these groups, is the instrument through which petitioners work to accomplish the purposes condemned by the Commission."

That is, the Federal Trade Commission. The case came up from the Federal Trade Commission.

"The garment manufacturers claim to be creators of original and distinctive designs of fashionable clothes for women, and the textile manufacturers claim to be creators of similar original fabric designs. After these designs enter the channels of trade, other manufacturers systematically make and sell copies of them, the copies usually selling at prices lower than the garments copied. Petitioners call this practice of copying unethical and immoral,"—

I pause to ask if that has not a familiar ring in this case. You find it in every Sherman Act case including the case at bar. The way to reach your victim in a sanctimonious way is to use this term "unethical." Here they were a little more honest than the defendants in the case at bar, because they added to it the claim that these people were immoral. So they were unethical in the sense that they were doing something which the petitioners did not like in competition with them, and the claim is also that they were immoral, and they "give it the name of 'style piracy.'"

"and although they admit that their 'original creations' are neither copyrighted nor patented, and indeed assert that existing legislation affords them no protection against copyists, they nevertheless urge that sale of copied designs constitutes an unfair trade practice and a tortious invasion of their rights. Because of these alleged wrongs, petitioners, while continuing to compete with one another in many respects,"—

as in the case at bar—"combined among themselves to combat"—

Has that a familiar ring in this case? You remember in my reading of the minutes how on every page there was some plan offered by one of these defendants and the co-conspirators to combat.

"and, if possible, destroy all competition from the sale of garments which are copies of their 'original creations.' They admit that to destroy such competition they have in combination purposely boycotted and declined to sell their products to retailers who follow a policy of selling garments copied by other manufacturers from designs put out by Guild members."

They are simply going to withhold their trade. None of the members of our little group are going to have anything to do with these people whom they brand as unethical, or will not serve on their staffs, and they say, "We will not consult

with them. We won't even let them use our hospitals"—which their resolution says the defendants have built up, although they are private concerns.

"As a result of their efforts, approximately 12,000 retailers throughout the country have signed agreements to 'cooperate' "—

I ask if that has a familiar ring. In getting the hospitals to cooperate, formal resolutions were passed in this case designed for that very objective

"with the Guild's boycott program, but more than half of these signed the agreements only because constrained by threats that Guild members would not sell to retailers who failed to yield to their demands"—

Oh, how similar to the overwhelming evidence here! What does the court do with that sort of situation, which is a plain, ordinary selfish boycott? We don't like you. We don't like your business methods. Your competition hurts us. We will therefore take a sanctimonious Better Than Thou attitude and brand you as unethical, and we will employ this agency to discipline our members to boycott you, and we won't deal with you or sell, assist, or lend our countenance in any way to anybody who does deal with you.

This is what the court says about that

"Not only does the plan in the respects above discussed thus conflict with the principles of the Clayton Act; the findings of the Commission bring petitioners' combination in its entirety well within the inhibition of the policies declared by the Sherman Act itself. Section 1 of that Act makes illegal every contract, combination or conspiracy in restraint of trade or commerce among the several states; Section 2 makes illegal every combination or conspiracy which monopolizes or attempts to monopolize any part of that trade or commerce. Under the Sherman Act 'competition not combination, should be the law of trade,'"

Citing the *National Cotton Oil Case*—

"And among the many respects in which the Guild's plan runs contrary to the policy of the Sherman Act are these: it narrows the outlets to which garment and textile manufacturers can sell and the sources from which retailers can buy"—

Citing the *Montague case* and the *Standard Sanitary Manufacturing Company case*—

"subjects all retailers and manufacturers who decline to comply with the Guild's program to an organized boycott"—

What does the court cite? The very thing that Judge Groner cited in upholding the indictment in this case—the *Eastern States Retail Lumber Dealers' Association* against the United States, the famous *White List case*—

"takes away the freedom of action of members by requiring each to reveal to the Guild the intimate details of their individual affairs"—

Citing the case of the *United States versus American Linseed Oil Company*—

"and has both as its necessary tendency and as its purpose and effect the direct suppression of competition from the sale of unregistered textiles and copied designs. In addition to all this, the combination is in reality an extra-governmental agency, which prescribes rules for the regulation and restraint of interstate commerce, and provides extra-judicial tribunals for determination and punishment of violations,"—

Such tribunals, if you please, presided over by private individuals, like the defendant E. Hiram Reede, and a private tribunal known as the *Judicial Council*, a private corporation of A. M. A. which passes on a man's right to live and move and have his being and make a living and pursue his calling— "for determination and punishment of violations, and thus 'trenches upon the power of the national legislature and violates the statute.'"

How close that is to the issues in this case. That is all they were doing—punishing infractions of their rules. And this is the position of the Government in this case and it always has been

"Nor is it determinative in considering the policy of the Sherman Act that petitioners may not yet have achieved a complete monopoly. For 'it is sufficient if it really tends to that end and to deprive the public of the advantages which flow from free competition.'"

Citing a host of cases—

"But petitioners further argue that their boycott and restraint of interstate trade is not within the ban of the policies of the Sherman and Clayton Acts because 'the practices of FOGA were reasonable and necessary to protect the manufacturer, laborer, retailer and consumer against the devastating evils growing from the pirating of original designs and had in fact benefited all four.' The Commission declined to hear much of the evidence that petitioners desired to offer on this subject. As we have pointed out, however, the aim of petitioners' combination was the intentional destruction of one type of manufacture and sale which competed with Guild members. The purpose and object of this combination, its potential power, its tendency to monopoly, the coercion it could and did practice upon a rival method of competition, all brought it within the

policy of the prohibition declared by the Sherman and Clayton acts. For this reason, the principles announced in *Appalachian Coals, Inc., v. United States* . . . have no application here."

Just apply that language to our case—

"the aim of petitioners' combination"—

And they wrote it themselves over and over again—

"its potential power"—

Can anybody doubt it?

"its tendency to monopoly, the coercion it could and did practice upon a rival method of competition"—

It did what?

"brought it within the policy of the prohibition declared by the Sherman and Clayton Acts."

"Under these circumstances it was not error to refuse to hear evidence, for the reasonableness of the methods pursued by the combination to accomplish its unlawful object is no more material than would be the reasonableness of the prices fixed by unlawful combination."

Once you have that type of boycott described there—and that description is on all fours with the type that we have here, or, if anything, ours is worse—then it is not error to refuse to hear evidence on any claim of reasonableness of their motives or methods, and it is

"no more material than would be the reasonableness of the prices fixed by unlawful combination."

And the court cites the Trenton Potteries Company case and the Socony-Vacuum Oil Company case in support of that proposition.

Here is an interesting feature, too:

"Nor can the unlawful combination be justified upon the argument that systematic copying of dress designs is itself tortious, or should now be declared so by us."

Here was this absolutely groundless claim that Group Health Association was illegal and was violating Federal statutes.

"In the first place, whether or not given conduct is tortious is a question of state law. . . . In the second place, even if copying were an acknowledged tort under the law of every state, that situation would not justify petitioners in combining together to regulate and restrain interstate commerce in violation of Federal law."

If we are going to cite recent cases, it seems to me that is the case that applies to ours, and it bears out exactly the holding, as I understand it, of the Court of Appeals in this case. The Court of Appeals said that the indictment as drawn makes out, in and of itself, a violation of the Sherman law. If the facts establish that, then the defendants may be convicted. That is the only issue here—whether there is sufficient evidence to justify this jury in saying that the boycott described in the indictment was carried out as planned. That is the only issue.

I cannot believe for one moment that it would help the court for me to discuss the evidence against all the defendants in this case. If I do that it is going to take me days. I cannot believe that your Honor can have any doubts about the *prima facie* evidence against many of the defendants.

Under the evidence before your Honor the boycott described in the indictment was planned and put into effect by somebody; and it must be too clear for argument that it was certainly done by the District Medical Society and the American Medical Association and the rest of the ringleaders, because it must be axiomatic that corporations like the American Medical Association and the District Medical Society cannot perform acts of this kind without the intervention of a human agency. The grand jury has pointed out the ringleaders, the individuals that carried out this boycott for the corporations. So perhaps I ought to dwell on those defendants upon whom Mr. Leahy dwelt.

I will discuss, for instance, as an example, the evidence against Dr. Leland. It is an awfully easy job assigned to me, because Mr. Leahy has laid himself wide open. Without a shadow of justification he says that the only evidence in this case against Leland is composed of letters not written by him, but by some subordinates, and relating to the background of the conspiracy. I propose to demonstrate that that statement is completely inaccurate from the beginning to the end.

But before I embark on that rather agreeable task, let me call your Honor's attention to a little more law, and that law involves these principles:

All members of an illegal conspiracy do not have to know everything about the conspiracy or everything that everybody else has done in the conspiracy. That is also Hornbook law. It is enough if, knowing the general common design, he adds his little bit toward its accomplishment. If he put his brick

in the wall he does not have to know the extent of the wall; he does not have to know the extent of the activities of the others or even the names of the others.

Says the Court of Appeals of the Third Circuit:

"Common design is the essence of conspiracy. A crime may be committed whether or not the parties comprehend its entire scope, whether they act separately or together by the same or different means, known or unknown to some of them, but ever leading to the same unlawful result."

Citing cases—

"All conspirators need not be acquainted with one another, nor need they have originally conceived or participated in the conception of the conspiracy. Those who come in later and cooperate in the common effort to obtain the unlawful results become parties thereto and assume responsibility for all done before."

Citing cases—

"Nor does the mere fact that the conspirators individually or in groups perform different tasks to a common end split up the conspiracy into several different conspiracies."

And of course the cases are legion that bear out these principles. And with those principles in mind let us turn to the part which was performed by Dr. Leland and which the evidence shows was performed by him.

First, let me deal with the subject of background. Those allegations of background alleged in the indictment were not put in there for ornament, and the Court of Appeals, in passing upon the indictment, did not take them as ornament. The Court of Appeals commented upon that background and said that those allegations were relevant to the statement of the crime; that they had something to do with the statement of the crime, and that it is only in the light of those facts that you can clearly understand the significance of the later acts.

And so I differ from my friend when he says that the background has nothing to do with the case. The law is against him on that. The background is asserted and is relevant in this case, because it shows the common design, the plan which the American Medical Association was carrying out for years against competition of this kind with a fee-for-service object; and their later activities in the District of Columbia are simply a later step in that complete master design. When they pushed that master design into the District of Columbia then the Federal law fell upon them.

The indictment alleges as a part of this plan and design the power whereby the defendants were able to exercise their will upon their victims here:

"Defendant American Medical Association maintains a bureau known as the Bureau of Medical Economics, which concerns itself with the economic organization of the practice of medicine. The said Bureau of Medical Economics has taken a leading part in carrying out defendant American Medical Association's policy of opposing, discouraging, and suppressing Group medical practice on a risk-sharing prepayment basis."

The evidence shows that the head of that organization which was taking this leading part in the master plan, was a doctor of medicine—yes, a doctor of medicine, and also a doctor of economics, not practicing medicine but practicing birth control—not with human beings but with economic ideas. And this Bureau of Medical Economics was really a birth-control clinic for experimentation and for freedom of thought; and this background evidence which is in the case shows that this doctor-economist had been busily engaged for years in active suppression and opposition against plans of this character. He had been damning the Ross-Loos Clinic and the Trinity Hospital and four or five or six other instances of this kind of practice up and down the land. And, just as typical of what that background evidence against him is, when the Cincinnati, Ohio, Medical Society writes and tells him that a Dr. Cook has gone out to the Ross-Loos Clinic and has become interested in this way of rendering medical service and plans to do the same thing in Ohio and, further, that this group that belonged to the local society had banded together and passed repressive resolutions against him, to the effect—

"Does practice under a prepayment group plan, such as is being here proposed and which does not include all of the local qualified physicians of the community, but restricts itself to a small group, constitute a violation of Article 6, Section 2, of the Principles of Ethics of the American Medical Association?"

"Shall membership in the Academy of Medicine of Cincinnati be withheld from physicians who are practicing in violation of this rule?"

He was going to kick them out, just like Lee and Scandifio.

"Shall violation of this rule by a member of the Academy constitute sufficient reason for termination of his membership?"

There it is again. They were going to have another one of the trials, and they passed these repressive resolutions and sent them to Leland for his information and advice—because they

all go back to this Alma Mater, this American Medical Association, because they are afraid of it and because they are willing to use its power, and so they dutifully write in reporting their restrictive practices.

I say that is typical of this background evidence which the Court of Appeals said was relevant upon the issue of whether or not these defendants violated the law.

Now, let us come to the District of Columbia Society and refute right from the documents that are in evidence this claim of Mr. Leahy that there is nothing in the evidence with reference to that.

I wish I had jotted down what he said. He said something to this effect, that the only evidence in the record with regard to Leland is this background material, and not a bit of it had to do with the District of Columbia. I believe at one time, in the heat of his excitement, he said:

"There is no evidence that the defendant Leland knew about the District Medical Society, even."

Well, let us see. Here is Mr. Leahy's statement:

"Every letter relating to Leland relates to the background of the conspiracy. There is nothing against him except answers that were written in the background, and he did not even write them. He does not know, from this record, that there was a District Medical Society. He, just on this record, did not even know of it."

That is the claim that is put forth in seriousness before your Honor by Mr. Leahy.

Let us see what he did in the District of Columbia to carry out this policy that he has been carrying out throughout the United States.

Major General Ireland, your Honor may remember, learned about Group Health and about its perfectly innocent attempt to get a good medical director, Colonel Jones, and General Ireland took upon himself to write to the defendant Cutter and gave him that information and gave him Ireland's impressions of what Jones had said, although Jones denied it. He said that Jones got the impression that this was an entering wedge to socialized medicine, and that he was dropping it like a hot cake. He said,

"Just treat this information as if it blew in your window, as I do not want to be the person to embarrass the Surgeon General if there should be any embarrassment. Some of the prominent doctors in Washington are going to be wised up. It has just come to my knowledge and I am going to drop it on your desk."

That letter goes not only to Cutter, but as result of it he began his enforcing of the Mundt Resolution against five of the hospitals. But it shows on its face that it goes to Dr. Leland. And I don't know where you could find more fertile ground for that seed to rest than in that birth-control clinic of prepayment plans. They think so much of it and it is so important to them, that bit of information, that copies are made of it and we have a separate copy in the evidence that comes from the Leland file, made for him, and it has his name at the top.

Then the American Medical Association gets exercised about it and they have formal proceedings with regard to it, and in their proceedings we find this:

"The following paragraph of a communication which Dr. West received from a physician in Washington was read"—

And they quote it.

"The Group Health service affair of the Home Owners Loan Corporation has already been incorporated and our Executive Committee had a meeting with some of their representatives last night and it certainly looks bad. It was brought out that it was possible for them to borrow money from the Home Owners Loan Corporation when and if necessary at any time for purposes in regard to the health problem. It was also brought out that there are 200 branches scattered throughout the United States," and so forth.

"Just what is going to come out of the whole affair it is impossible to predict at this time, but there are going to be some conferences in an attempt to go along with this outfit if it is possible to do so to save our faces."

Mr. Leahy:—You do not mean to tell the court that that is an A. M. A. document?

Mr. Lewin:—I do indeed.

Mr. Leahy:—You know that was not written by the A. M. A.

Mr. Lewin:—Just wait a minute. I am going to tell the court who wrote. It was written by Dr. Herbst to Dr. West and was put by West before the Board of Trustees of the A. M. A. and copied into their minutes. I don't get funny with this evidence, my friend. I don't misstate evidence. I have never been guilty of it, to my knowledge.

Mr. Leahy:—Just tell the court who wrote it.

Mr. Lewin:—I am going to tell the court plenty about it:

"Dr. Woodward reported information secured from a Washington physician over the telephone and by letter concerning this matter, and there was considerable discussion as to what the action of the A. M. A. should be. . . . After the discussion the following action was taken:

"Dr. Bloss moved that the Editor"—

That is the defendant Fishbein—

"and the Secretary and General Manager"—

Here is a doctor-editor and a doctor-general manager—

"be authorized to proceed to inform the profession of the country as to the efforts of the H. O. L. C. to enter into the practice of medicine and as to the present status of the proposal to organize cooperatives by the Government."

I will come back to that again, because there is the germ from which came Dr. Woodward's, Dr. West's and Dr. Fishbein's A. M. A. articles which Mr. Leahy says in his argument started everything.

"It was moved, and the motion was seconded by Dr. Bloss and carried, that Drs. Woodward and Leland be requested to go to Washington to see what they can learn and to try to advise the Medical Society of the District of Columbia, if that Society is willing to accept advice."

Oh, no! Leland had nothing to do with the District Medical Society! He knew nothing about it.

Here is a formal resolution of the Board of Trustees authorizing him to go to Washington to advise with the District Medical Society about this particular matter, the matter being outlined in the Herbst letter to the Board of Trustees, which has just been read. Now, what happened? Did he go to Washington pursuant to that authorization? Indeed he did. He came to Washington on several occasions in connection with this matter, as the evidence shows.

"I had a long conference with a committee of the Medical Society of the District of Columbia about the cooperative movement being promoted by groups of Government employees."

This is not the meeting in November where Hooe and McGovern were together at that time. This is another one. This is as early as July 14:

"The District Society is apparently very much agitated about the matter, but, as a matter of fact, there was very little that I could offer them in the way of suggestions as to what they might or should do. In accordance with authorization given by the Board of Trustees I have asked Dr. Woodward and Dr. Leland to go"—

Where?

"to Washington"—

What for?

"for the purpose of conferring with the Medical Society of the District of Columbia, and they are to have a conference with the official representatives of the Society in Washington."

And later I will come to his statement which he made time and time again to the headquarters staff—which means the Doctor-Editor and Doctor-Manager, the Doctor-Lawyer, the Doctor-Economist and the Doctor-Policeman. The headquarters staff had done everything in their power to oppose and combat this organization.

All right. We have got him authorized to go and we have got the Doctor-Manager to go. Did he go? Here is a telegram from the Doctor-Lawyer dated July 13, 1937:

"Leland and I arrived Capitol Limited Wednesday Stop Leave it to your judgment to arrange a conference at which all essential persons will be present Stop It will apparently be necessary for the Society to employ counsel to guide it and presence of that counsel at conference is essential Stop If regular counsel is not available his representative or other counsel should be present Stop Please arrange so that we can leave Washington not later than Thursday afternoon July fifteen Stop Time of conference immaterial to us We shall be at the Mayflower."

That is signed by the defendant Woodward.

That was July 13, 1937. On July 14, 1937 Woodward and Leland were here pursuant to that authority and in conference with the rest of the confederates with regard to suppressing Group Health. How do we know that? This same Dr. Leland who, his counsel tells you in all sincerity, I hope, did not even know there was a District Medical Society, had already received, June 5, 1937, this communication from Dr. Conklin—and will you keep in mind that with this communication he received that mimeographed confidential prospectus. Dr. Conklin wrote him as follows:

"I am enclosing herewith a plan that has recently come to our attention for development of prepayment medical service in Governmental bureaus. The potentialities of such a plan, if and when it is put in force in the capital city, should be readily understood."

"With hopes that I will have the pleasant opportunity of seeing you during the coming week, I am,

"Sincerely yours,
C. B. Conklin, M.D., Secretary."

He has gotten his plan. It was read to the jury—this "entering wedge to socialized medicine," as they called it. He has gotten authority to come down and see what he can do. He is a man that has been able to do wonders in these other cases. That is his job, and we know he came. What transpired at that meeting? It was not at the District Medical Society; it was at some club, I think. The committee that had charge of this particular job met at the Metropolitan Club, I think. I am not sure of that. But here is an A. M. A. representative stationed in Washington whom we find reporting religiously through the summer to Dr. Woodward in an effort to give him ammunition that he can use in writing this attack in the October 2 issue of THE JOURNAL—John F. Hayes. He writes and says:

"I attended the special meeting of the District Medical Society on the night of July 29. This special meeting was called for the purpose of hearing the report of the special subcommittee appointed to secure facts and information regarding the Group Health Association, Inc. . . .

"Dr. Sprigg read a formal and somewhat lifeless report reviewing the facts and information which had been obtained regarding the Group Health Association, Inc. Nearly all of his facts were substantially the facts which you and Dr. Leland had supplied to the group which attended the meeting here about two weeks ago."

I am not going to bore the court by reading the minutes of the July 29 meeting and showing you that long report which Sprigg's subcommittee had prepared and which Sprigg offered then; but there is testimony that nothing was in that report that Woodward and Leland had not supplied them with. So you may very well say that Leland was the author of it.

Does it simply rest on hearsay evidence that Dr. Leland was here? Oh, no. The meeting is heralded by Dr. Conklin. He tells his anxious confrères that help is coming from the mother—Woodward and Leland are arriving on July 12 to assist them. And then on July 27 he says what they propose. Woodward had a suggestion that quo warranto proceedings might be brought. They snatched at anything to gain their end. They were not satisfied to leave the enforcement of the law in the hands of law-enforcement agencies, but they were going to institute and did initiate this whole abortive attempt which they call of questionable legality—questioned by themselves for their own ends, stimulated by them.

But what does Leland suggest? Leland suggests another means. And I call your Honor's attention again to the indictment. Your Honor knows those cases which the Court of Appeals cited showing that the means need not be alleged at all. The indictment alleges certain specific means and also other means; and another means which is perfectly clear from this evidence was a belated attempt to urge competition with Group Health Association.

I wish I could take the time to trace that for you. But, oh, it is lurid!

First, there are contentions on the part of the defendant that it has been their fault, that the low-income group has not been properly take care of; that they have been backward. You remember the exhortation for them to wake up or otherwise they would get this socialized medicine that they feared so much, if they insisted on practicing repressive tactics.

And so, after Group Health Association had shown them the way—this horrible, unethical thing, as they would have you believe—they themselves decided to run in competition with it and combat it in that way. They use those very words. A number of them said the best way to combat it would be to set up another rival organization and enter into competition against it.

In April of 1938 they had a committee headed by Dr. Riddick to formulate a group prepayment plan just like Group Health, except it was the Medical Society's. Awfully unethical for anybody else to do it, but all right for us. Well, Dr. Leland is the man that gave them that assistance.

THE COURT:—That is what you advocate—competition, isn't it?

Mr. Lewin:—Free competition, but not the kind of competition this was.

Mr. Leahy:—Where is the evidence that Dr. Leland did that?

Mr. Lewin:—Here it is. Give me the minutes of July 27. He had a very amusing little plan.

THE COURT:—I am more interested in hearing you on the evidence against the individual defendants.

Mr. Lewin:—Yes, I am working now on Dr. Leland.

THE COURT:—So far as the law is concerned the law is laid down for me by the Court of Appeals, and there is no purpose in reading that.

Mr. Lewin:—I am not going to read law; I am going into the evidence concerning Dr. Leland. Here is what the minutes of the July 27 special meeting as reported by Dr. Conklin show to have occurred:

"The Secretary"—that was Dr. Conklin—"explained just what had been suggested by Doctors Woodward and Leland at the time of their visit." That was the July 14 visit, when they came to see what could be done with G. H. A.

"Dr. Woodward would advise quo warranto proceedings." "Dr. Leland had given a sketchy verbal outline of a plan whereby a pool of money could be created, and from this pool the care of the sick could be financed."

Well, the boys snatched at that; that sounded good, and so Conklin wrote out to get more details about it. First of all, I ought to tell you that Dr. West thought that was a good idea. He discussed a cooperative plan at the Metropolitan Club, and then went back and reneged on it. Maybe it wasn't wise for them to start anything in the nation's Capital; it might do some good.

Mr. Richardson:—Is that what he said? Are you making this up?

Mr. Lewin:—I am characterizing it. I am telling you what Leland did.

August 18, this man Leland writes back to Conklin:

"Dear Mr. Conklin:

"Since your letter arrived just as I was leaving the office for my vacation, I have had no opportunity to answer it until today.

"The suggestion which I made at the committee meeting"

Now, here is Leland's statement of what he said when he was here:

"is, in my opinion, a very simple one, involving nothing but cash payments to those who wish to participate. It is based largely on the type of arrangement that has been in effect for many years and operated by health and accident insurance companies."

Of course it was horrible for the G. H. A. to do that; a terrible thing for them to do, but it was all right for the A. M. A. and was suggested by this very man Dr. Leland.

"Briefly the plan would be for any group who desired to spread the cost of medical care to organize a benefit association or a mutual insurance company. The dues or premiums per member would depend on the amount of benefits to be provided. Benefits would be paid in cash to the beneficiary. They should be limited to \$250 or \$400 or \$500 in any one year, but the benefit for any one illness should not exceed 75 to 80 per cent of the total amount of the medical and hospital bills for that illness.

"There would be no medical panel; every member would have the right to choose any physician in the District of Columbia or anywhere else in the United States; there would be no designation of approved hospitals; the patient would be perfectly free to choose his own hospital or go to the hospital to which his physician ordinarily takes his patients. Patients in hospitals would submit their bills to the organization according to the regular schedule of charges.

"The sole function of the organization would be to collect the dues or premiums from the members and to pay in cash to the members the amount of claims for medical or hospital services incurred for any single illness. Physicians and hospitals would then take their chances on collecting from the patients the amounts paid them for claims. There should be some sort of an identification card to indicate that the patient is a member of the organization. This would serve only to apprise the physician or the hospital that the patient would be reimbursed up to 75 or 80 per cent for the services rendered."

Here is the profession that is above all question of finance. "Physicians would then take their chances on collecting from the patient the amount paid them for claims. There should be some sort of an identification card" and,

"If the District Medical Society chose, it might authorize a 10 or 15 per cent reduction from the regular fees for members of such an organization, providing such an organization would be willing to make a settlement with the patient and physician or hospital jointly."

That doesn't sound anything like "finances" and "trade," does it?

"This is being done in some places and apparently works entirely satisfactory. In Iowa, for example, the reimbursement to members for the cost of hospitalization is made by check payable jointly to the member and the hospital. This affords an opportunity for the hospital to collect, since the member cannot cash the check without the signature of the hospital.

"If there are any further details in connection with this which you desire, I shall be glad to do my best to clarify such points as may not be entirely clear."

And that was signed by Leland, and he sent a copy to this same gentleman, Dr. Woodward, who came down with him.

All right now, on July 16 this same Woodward, this same Leland joined with Woodward in presenting a report to Dr.

West. On what subject? "Group Health, Inc., an apparent affiliate of the Home Owners Loan Corporation."

There it is in the evidence. Isn't there any evidence in the record that he knew anything about the situation?

THE COURT:—You don't need to read that.

Mr. Lewin:—I am not going to read it; I will see if there is anything else.

Mr. Kelleher (to Mr. Lewin):—Read the conclusion.

Mr. Lewin:—I will read you the last sentence:

"It (Group Health) is obnoxious to public policy for obvious reasons."

Who determines public opinion? Will you define it, and tell us what you mean by public opinion?

"We," says the American Medical Association, "simply reserve that indefinite standard for our own use, so we can turn it on any outfit we wish, without giving any explanation for it."

Your Honor well knows that if there had been a tribunal set up by law delegated with any such rule-making power as to brand organizations as contrary to public policy the whole statute would be unconstitutional, because lacking in limitation upon the delegation of power. I am not going to cover that.

Here is the conference Mr. Leahy talked about. I don't believe he talked for it, but Leland was right there. Here it is, Nov. 6, 1937, affirmative proof that he and Dr. Woodward and Dr. West sat there with Drs. Hooe and McGovern. Why were they sitting there? Hooe started off by reading something that indicated why they were there. He read the standing resolution which seems so innocent to my friend. This was it. The Medical Society of the District of Columbia, at its regular meeting held Nov. 3, 1937 adopted the following resolution:

"That the President of the Medical Society of the District of Columbia appoint a committee of two members to go to Chicago as promptly as practicable to lay before the proper officials of the American Medical Association the views of this Society with regard to the activities of Group Health Association, including:

"1. That inasmuch as the movement threatens to be nationwide in its scope, and affects every component organization of the American Medical Association, it is the duty of the American Medical Association to oppose immediately with all its might this entering and possibly illegal wedge to the socialization of medicine.

"2. That in view of the tremendous import of the Group Health Association movement to the membership of the Medical Society of the District of Columbia, and also the profession at large and to the public, it is the opinion of the Medical Society of the District of Columbia that it is the duty of the American Medical Association to combat vigorously Group Health Association, Incorporated.

"3. That the Medical Society of the District of Columbia waives any question of regional interference by the American Medical Association.

"4. That the American Medical Association give a definite and immediate expression of its intended action in this matter."

Mr. Lewin:—That was the resolution passed by the Society which was submitted by Dr. Stanton.

Now, there follows the transcript of the plottings that occurred at that meeting; and again it is my pleasure to correct my brother when he says that all that came out of that was some advice to get legal counsel. The doctors who left the District of Columbia to go out there for advice and assistance laid their cards on the table. They even went so far as to tell Leland and the others about these hospital boycotts. That was at the Sunday night meeting, it must have been October 31. They all met together and decided to put pressure on the hospital staffs. They wanted to know whether that was risky. One spoke up and said, "That is reasonable. Will the hospitals do it?" Woodward said it might invite some Congressional action if they did that. The propriety of doing the thing was not questioned by them; the question was whether the hospitals would do it. I just point that out as showing there was a thoroughgoing discussion of the whole issue; of the plottings right there in the presence of Dr. Leland.

Mr. Leahy:—Now, you know that is a misreading of the evidence.

Mr. Lewin:—No, it is not. You can't talk to me that way, because I have it right here.

Mr. Leahy:—I can talk to you that way and tell you that it is not that way.

Mr. Lewin:—I will not be challenged and not make good on it. Give me the part about the Lee and Scandifio expulsion proceedings gone into at that meeting.

THE COURT:—Pass on to something else.

Mr. Lewin:—Is your Honor satisfied with my statement? Here it is:

"The operation of Group Health Association began on Monday last. Two members who contracted with Group Health were members of the District Medical Society. The third had sent in his application which had been withdrawn within the past ten days. There was nothing to be done about this third member at the present time."

That was Dr. Hulburt.

"The resignations of the other two were received by the Medical Society of the District of Columbia within the week. A letter was sent to each of them asking him to appear before the Compensation, Contract and Industrial Medicine Committee. They did not appear but the Committee received a communication from one of them. The Committee unanimously recommended to the Executive Committee of the Medical Society of the District of Columbia that disciplinary measures be taken.

"Dr. Woodward raised the question as to whether the notice to these members had told them of the charges that were to be preferred against them and stressed the necessity for following strictly the procedure as laid down in the constitution and by-laws of the Medical Society of the District of Columbia. Further discussion was deferred to a time when it could be gone into in detail by Dr. Woodward.

"Dr. Hooe: In the matter of the H. O. L. C., what is your future program?

"Dr. West: It is just exactly the same as it has been all the time. We shall continue fighting it in every way we can. We are going to get all the help we can get. We are at least going to keep on until we are instructed otherwise."

Mr. Lewin:—Then here is what Dr. Hooe says:

"Dr. Hooe: Executive Committee recommended that a letter be addressed to the Medical Boards of the various affiliated hospitals in Washington, calling attention to the H. O. L. C. health group, insisting that the hospitals take cognizance of it, and, among other things, calling attention to the fact that the physicians employed by such group are not acceptable to the Medical Society of the District of Columbia.

"In reply to Dr. McGovern's question as to how far the Medical Society of the District of Columbia might go in controlling the hospitals, Dr. West expressed some doubt that the Society can effect such control."

There weren't any plottings at all there.

Taking up Dr. West's expressed doubts as to whether the Society could control the hospitals, Dr. Hooe asked:

"Is it not, in your opinion, most reasonable that the hospitals should acquiesce in this matter?

"Dr. West: It is reasonable that they should do it but as to whether or not they will, that's another question. Suppose they don't?"

and then there is more of the same sort of thing. A complete exposé of what was going on there in the presence of Leland.

Now, there were a few other documents in regard to Leland. One, Woodward writes to Conklin August 18, copy to Leland. He says:

"Dear Dr. Conklin:

"I thank you for your letter of August 14, stating the present position of the Medical Society of the District of Columbia with reference to the Group Health Association.

"I understand from your letter that everything that was said and done by Dr. Leland and me in the course of our recent conference with the Committee then having the Group Health Association under consideration is now before the Committee duly appointed to study the matter. If there is anything in what either of us said or did that was obscure and that calls for explanation or elaboration, we shall be glad to undertake to explain or elaborate it for the information and guidance of the Committee. Neither of us has at the present time any further proposal looking toward forestalling the growth of the Group Health Association or toward preventing the organization and growth or similar groups in the District of Columbia."

Now, what is the upshot of all this? I can't go along all day on one defendant. What is the upshot of it? It means perhaps that Leland did not suggest the blood-curdling things as did some of the others. It might be that a jury in its exercise of discretion might feel they would wish to relieve him, but certainly can anybody seriously argue, in the light of all that contemporaneous, documentary evidence that Leland did not know about this plan; that he did not confer with the rest of the conspirators, and that he did not hear and make suggestions with regard to it? It is just impossible for any serious, bona fide argument to be made, and so I say to your Honor, your task with regard to Leland is simple.

Now, a word in regard to Fishbein; and I wish I could take more time on this. The testimony with regard to Fishbein rests so largely on that A. M. A. article. You will recall when the Board of Trustees, when they authorized Woodward and Leland to come here to Washington to advise, authorized West and Fishbein to make this announcement to the public, or the profession generally; that was it, the profession generally with regard to H. O. L. C. Now, what happened? The way they had to bring this out to the profession generally was through THE JOURNAL, and who, if you please, was the editor of THE JOURNAL, and responsible for every line that went into THE JOURNAL. The defendant Fishbein.

Now the evidence shows that it is perfectly clear he passed himself upon that specific issue. The same Dr. Woodward was assigned the task of writing up the draft of the article, and he wrote up that draft and then the evidence shows he sent that

draft to the defendants West and Fishbein with a written communication in which he called their attention to the fact that they had been authorized to do such a thing, and here it was.

Now then, my friend Mr. Leahy, who accuses me of misstating the evidence, tells you there isn't a line as to Dr. Fishbein. There is a letter back from Dr. Fishbein. This is what Dr. Woodward sent to the Board of Trustees of the A. M. A.:

"At the meeting of the Executive Committee of the Board of Trustees of the American Medical Association, June 29, 1937, a resolution was adopted authorizing the editor and the secretary and general manager to inform the medical profession of the country as to the ethics of the Home Owners Loan Corporation to enter upon the practice of medicine and as to the present status of the proposal to organize cooperatives by the Government. In response to your request for information concerning the matter, I submit the following report."

And it is signed by Dr. Woodward. The memorandum is for "Dr. West and Dr. Fishbein." It says:

"To avoid possible conflict on my part with the attached canons of professional ethics of the American Bar Association, I am submitting the accompanying material to you in the form of a report."

That is Dr. Woodward; he is lawyer and doctor.

"If you decide to publish it, I hope that my letter will be published along with it so as to make my status clear. If you think the letter should be addressed to you or either of you, change can be made accordingly."

"The minutes of the meeting of the Executive Committee, June 29, 1937, show the adoption of the following resolution:"

Now I will give you the reply:

"I am returning herewith the duplicate of the report on the H. O. L. C.; the original is being edited for use in the Organization Section of THE JOURNAL.
"Morris Fishbein."

That is in evidence.

Woodward had already written that Fishbein didn't believe he could run the article at a certain time but expected to run it at another time. How did the article come out, and what did it do? Mr. Leahy says after the article everything started. Everything started after the Woodward article, so he says, and although it is not strictly accurate, the fact is that after the article appeared the defendants really did get down to business. Why? Because these minutes will show that up to that time while there had been a great deal of plotting, in the words of Conklin some people suggesting boycott, there had also not been complete unanimity of view in the District Medical Society. Some of the more liberal members seemed to think that it was incumbent on the District Medical Society to go along if they could save their faces by doing so with Group Health, or develop some kind of a prepayment plan, recognizing the crying need for it. So, in the late summer, the McAtee committee brought in what Dr. McGovern characterized as a rather weak report, in which he wanted the Society to go on record as being in favor of some kind of a prepayment plan, and when he brought that in he called attention to the fact that in a little while there would be an article in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION which they should read for their "guidance and advice," I think the phrase is. Notwithstanding that article, he thought this more liberal report might be passed. Then the article came down and that swung the Society against any liberal view; against any expression in favor of a prepayment plan, and over to the strictest kind of opposition and boycott of Group Health, and everything it stood for. And Dr. Groover, who is now dead, was the gentleman who offered that substitute resolution, which your Honor may recall. He is commended for it by the rest of the defendants, a number of them. He said, "This is the kind of fighting resolution that we ought to have brought in in the first place." And I think Dr. Sprigg excused the Committee that brought in such a weak report, although he praised Dr. Groover's substitute, by saying "We didn't have the benefit of this article from the American Medical Association when we were deliberating." I am going to quote from memory here, and I won't be accurate, but there were recitals in the Groover substitute which turned its back on any liberalizing. There were recitals there with regard to this A. M. A. article; that the District Medical Society was on record in favor of what was said there, expressed in that article, and the implications to be drawn therefrom.

Now, you might not have drawn those implications, if you had read those articles in a publication, and I might not, but when you consider the circumstances under which they were written and published by the American Medical Association, and when you consider the interpretation intended to be placed

on it by the District Medical Society, you will see how very important that article became and was; because that article, after a long rambling description of Group Health, most of it based on very inaccurate information and a lot of theorizing about the law, which turned out to be utterly groundless, turns to the implication. These are the sentences which certainly must be the ones that carry the implication. This article, written for a purpose and used for a purpose, not as a statement of fact; not the same kind of freedom of speech they wanted to deny poor Dr. Richard Cabot, who happened to make an address here at the Group Health banquet and then was called on the carpet by the American Medical Association and referred to his local society for disciplinary action; not that kind of freedom of speech that they wanted to report there—no, but dynamic freedom of speech: That was the instrumentality for the accomplishment of the design, and that instrumentality was adopted and published by the defendant Fishbein in the Organization Section of the publication. But before I get to that, let me tell you another interesting thing. Some way they thought that, if they could discover that the Filene Foundation had contributed moneys to Group Health, they would have a very weak point. Why, I have never been able to understand. As a matter of fact, the Filene Foundation had not been contributing anything to it, except advice; but, nevertheless, suppose it had contributed a very substantial sum of money. I have always failed to follow or understand their reasoning in this connection. Assume the Foundation took the position that these people were sincere but that perhaps because they didn't have sufficient financial standing they weren't "economically sound" but that it wasn't just a bubble, and that they did advance some financial assistance. Well anyway, these people didn't know; they thought it might be a weapon if they found out, so they adopted this surreptitious way to make the discovery. Instead of writing to the Foundation, Dr. Fishbein suggested that Dr. Woodward get some third party, not identified with the A. M. A., to write a letter to the Filene Foundation and make this inquiry. Now, mind you, they are getting ammunition for this article, which I am going into in a moment; and here is this clever idea of smoking out what they said would be this dangerous fact, and they go so far as to suggest the type of letter that this third party should write; this third party who is not to disclose his interest or identity, is to write.

Mr. Leahy:—Is that in evidence?

Mr. Levin:—It is in evidence. Exhibit 185.

THE COURT:—Let us go on. This case must proceed tomorrow.

Mr. Levin:—I have not been talking an hour and a half.

THE COURT:—I heard Mr. Leahy for an hour and forty minutes; I am going to hear you for a couple of hours.

Mr. Levin:—In answer to the suggestion that Dr. Fishbein didn't suggest this surreptitious letter—here it is in Exhibit 185—we say here is the article, and the implications to be drawn from the article:

"As the members of the salaried staff of the Association are likely to be looked on by the profession generally in the community as on the outer verge of ethical practice, if not altogether beyond the pale, it is not clear how they are to obtain qualified consultants or procure hospital service for their patients."

This salaried staff is to be looked on as beyond the pale, although the salaried staff of the A. M. A. can plot against them. There is the implication; withdraw consultation, and keep them out of the hospitals, and it is repeated.

"In any event, medical service under the Association would be likely to be handicapped by difficulties likely to be experienced in obtaining the best consultant service and hospital accommodations. Physicians who sell their services to an organization like Group Health Association for resale to patients are certain to lose professional status."

Now there is the act; you have the boycott. That is the boycott that is charged; the boycott which the proof shows was carried out.

Now, this dynamic prompting was authorized by the Board of Trustees and carried out by the defendant Woodward, West and Fishbein and taken to heart for the information and guidance of the local defendants to such an extent that they ordered 1,000 extra copies and distributed them among the entire membership for their information and guidance, and from that prompting came the attack on the so-called illegality of Group Health, and from that prompting came the consultant boycott and the exclusion from the hospitals.

Now, in view of your Honor's remark that you don't care to hear any more, or very little more—

THE COURT:—I didn't say that; I suggested I would be glad to allow you two hours. I would like to hear the evidence as to the other defendants, these individual defendants.

Mr. Lewin:—I could have made my argument much shorter if I had discarded the evidence. I thought your Honor did not wish me to do that.

Mr. Kelleher:—I propose to deal with the individuals in the local Society and the defendant, Washington Academy of Surgery, if your Honor desires to hear some discussion on the latter.

THE COURT:—I should like to hear as to the local membership.

Mr. Kelleher:—How about the Washington Academy?

THE COURT:—Yes.

Mr. Kelleher:—I will commence with it, then. The evidence shows that on January 29 and January 31, 1938, defendant Washington Academy of Surgery recommended to four hospitals, Columbia, Providence, Georgetown and Garfield, that they disapprove the application of Dr. Selders for courtesy privileges. The question presented, if your Honor please, is whether this act, obviously in furtherance of the conspiracy, was done by the defendant with the knowledge and for the purpose of doing something in aid of the conspiracy. Very briefly I shall cite four reasons, disclosed by the evidence, why your Honor must conclude that there is a prima facie case at least which requires explanation by them, or by that defendant, concerning this action.

First, the meeting of that Academy on Dec. 10, 1937, the minutes of it contain the following:

"Discussion concerning G. H. A. It was suggested that the professional qualifications of the surgeons of that organization alone be considered, as a matter of public policy. However, a motion was passed requesting the hospital privilege committee to consider the ethics of any applicant as well as his strictly surgical training; ethics were understood to be as defined by the American Medical Association."

Your Honor will note that this resolution of the Academy on December 10 was adopted at the suggestion of Group Health; second, that the resolution, the purpose of it, was to test the right of Dr. Selders to participate in any of the hospitals on the basis, not only of his professional qualifications but on the basis of his ethical qualifications; and I don't think I need go any further, so far as this evidence is concerned as to what was meant by the word "ethics," the tyranny of that word has already been referred to by Mr. Lewin. What was meant was the participation with G. H. A.

THE COURT:—What was the report of the Committee?

Mr. Kelleher:—We don't have in evidence the report of the Committee, but we have letters from Dr. Fishback to the four hospitals stating the Committee had recommended against the granting of courtesy privileges.

THE COURT:—Do the minutes show the nature of the report?

Mr. Kelleher:—They do not; they show the action of December 10th.

THE COURT:—Is there anything in the letters or reports of the hospital to indicate whether it was passed on in one way or another, or both?

Mr. Kelleher:—They give no grounds whatsoever; so we must look behind to see what the grounds were. That is the first point.

We also have in evidence a letter dated December 9, from Dr. Fishback, the Secretary of the Academy, to the Chairman of the Hospital Credentials Committee, and this is what Dr. Fishback says:

"I am anxious to talk to you." That is Exhibit 446-A.

"I am anxious to talk to you before you reach any decision on Dr. Selders, especially if there is feeling that he will be disapproved purely because of his connection here in Washington. As a matter of policy and tact, and I believe for the good of general public attitude toward the profession, the question of his relationship to the Group Health Association, Inc., should not be permitted to enter the discussion."

Bear in mind, this is December 9th, the day before the Academy rejected this suggestion of Dr. Fishback and decided to consider the matter, and let me show your Honor the circumstances indicating the mutuality of interest between the members of the Washington Academy and the members of the local Society.

In the first place, the evidence shows that every one of the forty-eight members of the Washington Academy of Surgeons was also a member of the District Medical Society. By stipulation the names of the officers and of the members of the Hospital Credentials Committee appear in evidence. Two of the members of the Academy were the defendant Christie and McGovern; two of the most active in the conspiracy. The president of the Society, Dr. John A. Cahill, was on the Executive staff of Georgetown Hospital, attended the meetings

of that Committee at which G. H. A. and Dr. Selders were discussed, and at which action against Dr. Selders was taken. He was present at the October 2nd meeting of the Society at which the resolution concerning the adoption of THE JOURNAL article and its implications was adopted. Furthermore, the members of the Advisory Committee, the Committee which was instructed to consider the ethics of the applicant, were also members who were active in the conspiracy for the Medical Society of the District of Columbia. Dr. Lyons, Chairman of the Committee, was a member of the Medical Staff of Childrens, and was present at a meeting of April 4th of that staff, at Childrens Hospital, at which a resolution was moved for adoption that Dr. Wall be instructed to arrange for a meeting of the members of the staff of the various hospitals to "adopt uniform rules concerning admission of G. H. A. patients in hospitals."

He attended the July 29, 1937 meeting of the Society, at which G. H. A. was discussed, and the Committee appointed to discuss the matter. The second member of that Credentials Committee, Dr. Barton, was a member of the Executive Committee of the District of Columbia from April 1937 to July 1938. He attended meeting after meeting of that Committee, at which all of these matters were discussed; and I have these meetings here and am prepared to discuss them, if necessary.

In addition, he was present—and let me point this out—at the October 11th meeting, November 11th meeting, at which the special hospital committee made its first report and suggested that Group Health patients be treated only by members of the staff of the hospital; and that report, your Honor will recall, was referred back because there was a little hole in it, namely, because Group Health doctors might already be members of the staffs.

The third member of this hospital credentials committee of the Academy was Dr. Fred Sanderson, and who the evidence shows was a member of the C. C. & I. N. Committee of the Society; the very Committee which preferred charges against Lee, and the evidence further shows that Sanderson, in the absence of Hooe, brought out the charges of the C. C. & I. N. against Dr. Selders.

The fourth and last member was Dr. A. L. Riddick, and he was a member of the staff of George Washington, which failed completely to take any action whatsoever upon Dr. Selders' application. He was present at the meeting of October 15 and at the meeting of November 11 of the Society, already referred to; and he was present at the meeting of March 2, at which the Executive Committee recommended that Dr. Scandiffio be expelled. These circumstances clearly show what the Academy was doing in considering the ethics of the applicant; and, secondly, that the very parties who were active in the Society and in the hospitals in the city against Group Health were sitting on these committees which passed upon the ethics of applicants. Now, finally, and this is the last point on the Washington Academy, if there could be any doubt left in your Honor's mind, this evidence will dispel it.

The motion, the motion that the Credentials Committee consider the ethics of applicants was made by none other than Dr. Warren Segar. Dr. Segar was a member of the Hospital Committee of the District Medical Society, the very Committee which was charged by that body on November 3 to carry out the hospital phase of this conspiracy. It is stipulated that Dr. Segar during the period from July 1, 1937 to July 1938 was a member of that Committee. He was present at the meeting of November 3, when the hospital resolution was adopted, and also he responded to the letter of Dr. Warfield of February 3, with which your Honor is familiar; the letter in which Warfield requested information from all members of the Committee concerning the activities of the hospitals of which members were members of the Committee, concerning the G. H. A.

Now that, your Honor, we submit clearly raises a prima facie case against the Washington Academy of Surgeons.

First, the minutes; second, the Fishback letter; third, the fact that the committee considering Selders, the officers of the Academy, were active in the Society pertaining to the case; and finally the fact that Segar, one member of the hospital committee, was the one who put this resolution motion in the Washington Academy of Surgeons.

Now, your Honor, let me come now to the same defendants to which Mr. Leahy referred this morning.

As I understand it, he urged the Court to direct a verdict for the defendants Young, Martel, Yater, Christie and Stanton.

THE COURT:—I didn't hear him mention Yater.

Mr. Kelleher:—He made this observation, your Honor. He made just a single resolution. I might as well dispose of this

thing right now. If Dr. Yater isn't in this thing, nobody is. The hospital committee was designated on November 3 to then determine and report back to the Society on means for bringing to the attention of the hospitals the attitude of the Society concerning G. H. A. And you remember that resolution and the recital that the Society has in its power to hinder and obstruct G. H. A. if it can prevent patients of that organization from gaining admission to the hospitals.

Incidentally, Mr. Leahy says the mere fact that Dr. Christie seconded that resolution doesn't mean anything, that that is not in evidence against Dr. Christie.

As a matter of fact, he did second it, and Dr. Prentiss Willson introduced it.

Now, what did Yater do?

On November—

THE COURT:—Is he on the committee?

Mr. Kelleher:—No, he is not, but I will explain his connection.

On November 11, just eight days after this committee was designated to act, Dr. Warfield reported back for the committee and this is what he said.

He said: "The committee had a meeting in my office a few days ago concerning this matter, concerning the November 3 resolution.

"It is the view of the committee that the Society should recommend to all of the hospitals that patients of G. H. A. may be treated in the local hospitals but that such patients may be treated only by the members of the staffs of the hospitals."

But the hospital committee had been careless, and Yater pointed it out.

He pointed this out, your Honor. He said:

"Oh, well and good, but there is nothing to show, so far as we know, that G. H. A. doctors are not on the staffs of these hospitals or that they might not become members of the staffs."

And so, on a motion made by him—this is his motion of which Mr. Leahy spoke this morning—on a motion made by him this first resolution of the hospital committee was recommended to the committee with instructions to come back with something else because this had this dangerous loophole in it.

And as a result of that motion of the defendant Yater the hospital committee came back on December 1 with the December 1 resolution recommending that all hospitals have on their staffs only members of the local society and of the A. M. A.

Now, that is Yater's participation.

Of course, Yater was on the staffs of the local hospitals.

Now, let me come to the defendants Martel and Young, because I think we completely disposed of Yater and Christie.

Certainly if there was an action at any time in this conspiracy of any kind whatever it was the action of Willson, Christie, and Yater.

To consider Young and Martel it is necessary for me to stress, if your Honor please, what I don't believe your Honor is aware of, and that is the significance of the action of this hospital committee of the D. M. S.

As I have said, it was this committee which was charged with arranging to carry out one of the most important phases of this conspiracy, the hospital boycott.

It was charged on November 3, it reported back eight days later with this resolution which Yater had recommitted.

It reported again on December 1, reported through its chairman, Dr. Warfield, a defendant in this case.

And then the defendant Mattingly—on motion of the defendant Mattingly on Feb. 2, 1938 that the proper agency of the Society investigate what the hospitals were doing with respect to G. H. A. preliminarily to disciplinary action by the Society in the event that any of the hospitals were not complying with its wishes—and let me show you what the evidence shows—concerning the means which the hospital committee took—and this bears directly on Martel and Young—the means which the hospital committee took to determine whether or not the hospitals were complying with the wishes of D. M. S. preliminary to action by the Society in the event they were not.

The action shows—the evidence shows that immediately thereafter, the day after this resolution was adopted, Dr. Warfield communicated with every member of the committee to ascertain what each hospital in the District of Columbia was doing.

And I think I should observe here that each of these members of the hospital committee represented a particular hospital.

There were only eleven members and eleven hospitals in the District, and each of them represented a hospital.

So Warfield communicated with each one of the members of that committee, and that is the evidence in this case, your Honor, by this letter of February 3 requesting information concerning what the hospitals were doing.

Now, let me show you—Before I do that—Before I come to the evidence about Young and Martel let me make these observations:

After he had done that he sent a questionnaire to all of the hospitals and this questionnaire was returned by various members of the hospital committee with the various blanks filled out.

I don't think your Honor would have any difficulty in looking at that questionnaire and concluding that it was part of the duty of that hospital committee delegated to it by the Society on February 2 as a result of Mattingly's resolution.

Then what did he do?

He took those questionnaires, made that pencil notation which your Honor saw, listed the various hospitals, listed the various inquiries and then he put on 0-0-0 all the way through so far as the membership for G. H. A. doctors was concerned, and "Yes" as far as cooperation with the D. M. S. was concerned.

And in that your Honor will note—Sibley has one member on, Scandifio.

The questionnaire shows that that hospital with Scandifio's name is stricken out.

Now let me show you how this ties up with the official action of the Society.

On March 28, 1938 the defendant Warfield reported to the Executive Committee that—and I quote—

"All of the local hospitals are cooperating."

And that meets the Scandifio claim of his rough draft.

All of them are cooperating.

Only one, and that is Sibley—has a member of G. H. A. on its staff, and that hospital has given assurance that it will take steps to exclude that doctor. Now, where is the importance in this, your Honor?

It is important for this reason, so far as Young and Martel are concerned.

This is the action of that committee, and the resolution, the mechanics taken by a committee acting continuously from Nov. 3, 1937 until April 1938.

And here is what Young did:

Young answered the letter of February 3 in the following way—Young represented Casualty Hospital—and he said this:

"To date we have had no application from any physician or surgeon connected with Group Health Association.

"If there is any further information I can give you regarding this matter, I shall be glad to cooperate with you in any way."

THE COURT:—Was he a member of this hospital committee?

Mr. Kelleher:—I am going to come to that right now, your Honor.

I call attention also to the fact that he filled in this questionnaire which Warfield sent to every member of the committee.

That questionnaire for Casualty is identified as having been filled in by the defendant Young.

Now, let me come to your Honor's question.

The stipulation does not show that Young is a member of the hospital committee of the Society.

It shows this, however, it names all of the members, and then states "Proof of additional members may be made by either party in this case."

What does the proof show?

The proof shows first, Exhibit 312, which has been identified by Dr. Warfield's secretary as having been prepared by her under the direction of Warfield, that exhibit carries a heading "Hospital Committee" and included in that list of members of the hospital committee is the defendant Young for Casualty.

Second, your Honor heard the testimony of Rogers on the last day of the trial; president of the board of directors of Casualty Hospital.

And let me quote that evidence so that there will be no mistake in the matter:

"My recollection is"—

and this is in response to questions by Mr. Lewin—

"My recollection is that I knew that he"—

and he is speaking of Dr. Young—

"was a member of the hospital committee. I was probably informed by him, I don't know just when, I don't know whether he succeeded Dr. Lewis."

But I combined this statement with Exhibit 312 which shows his membership on the committee, and I don't think there can be any question; but whether there is a question, the fact as to whether he served on that committee; and combined with the additional fact that the evidence shows that Lewis was out of the country and in Panama and never returned, and that he was a representative of Casualty until he left; combining the additional fact that Young filled out the questionnaire for Casualty; that he answered the Warfield letter of February 3; and I submit that there could be no doubt in any reasonable man's mind on that phase, on this letter, that Young was a member of that committee and was acting—and was engaged in the activities of that committee, the important activities of that committee which led to the exclusion of Dr. Selders and the other doctors of G. H. A. from the staffs of the local hospitals.

Now, one other fact concerning Young. I assume your Honor wants these details?

THE COURT:—Yes. I will give you a little time. Without going into too much detail. I remember the evidence pretty well. Just call my attention to the details.

Mr. Kelleher:—My point is this:

Mr. Leahy says we should segregate each act and put it under the microscope of the law, as he so picturesquely puts it; but you cannot do it that way. When we find any act here, it must tie that individual up with that committee if he is a member of the committee.

Now, in addition to the activities of Young on the hospital committee there is this further fact:

Young was on the credentials committee of Casualty.

Bear in mind, your Honor, that the hospital committee was instructed to develop some means for bringing to the attention of the medical staffs and the boards of directors of the local hospitals the attitude of the Society towards G. H. A.

Now, here is Young on the staff of that hospital. And what was the action of the hospital?

First, the action of the credentials committee.

And that is Exhibit 590. And this is what Young recommends:

"The application of Dr. Raymond E. Selders has been duly considered and it is the opinion of this committee that the qualifications and experience of this applicant at this time are such that disapproval of the application is recommended."

No other explanation. Nothing further. Nothing to show whether his qualifications were ever considered, but all of these circumstances showing that the defendant Young was in this thing up to his neck.

Your Honor I think will also recall the fact that Mr. Kirkpatrick testified that he had a conference with Young and Rogers.

THE COURT:—Yes, I remember.

Mr. Kelleher:—In June 1938.

Now let me come to Martel. Martel is also on this hospital committee. It was so stipulated. He is also on the Georgetown staff. By virtue of the resolution of November 3 he is the one who was elected to bring to the attention of the medical staff and the board of directors of Georgetown Hospital the attitude of the D. M. S. towards G. H. A. Now, let us see whether he did it (examining paper). Exhibit 516 is minutes of the executive committee of the hospital staff, Jan. 20, 1938; shows that Rodriguez, Sister Rodriguez, requesting instructions concerning an emergency case in the hospital, and asking whether after forty-eight hours Selders should still be permitted to treat the case. The minutes say Martel thought Penniman was pressing Rodriguez on a good opportunity. Martel moved to inform Selders that an emergency no longer existed. That is Exhibit 516. This is the gentleman of whom Mr. Leahy said there was no evidence whatever.

Mr. Leahy:—You don't call that evidence, do you?

Mr. Kelleher:—Don't say I don't. Say you don't.

He was also present at the meeting of March 10, 1938, another meeting of Georgetown. And here is what happened there. The Berry letter was read. Your Honor will remember that letter. Inviting these hospitals to a meeting at which G. H. A. should be discussed. And here is what happened: A resolution was adopted at this time that any G. H. A. patient would be admitted and cared for by the doctor of his choice if that doctor was on the staff. And here is what Martel says. Martel says, "Now, Scandiffo is qualified but he has done something the hospital does not approve and G. H. A. would

like to have somebody say so." And Martel first declined to go, finally, April 3, 1938 Martel appears at the meeting of the executive committee again. And here is what happened there: Sister Rodriguez requested a ruling on a patient of Hulburt's, and that, your Honor, was the Moriarity case, about which Hulburt testified. On motion by Stanton—and this is evidence on Stanton again—on motion by Stanton the hospital moved to adopt definition of Children's Hospital concerning emergency cases. Now, what do these minutes show so far as Martel is concerned? At the very last they show that the defendant Martel was participating with knowledge in the meetings of the hospital in which G. H. A. was considered. What was the action of the hospital? That document was introduced this morning. In that document Selders was notified that his application for minor surgical, major surgical and gynecological cases was rejected. No explanation whatever. Rejected, your Honor, for minor surgery; surgery which Halstead testified any general practitioner is qualified to perform.

No explanation for that!

What other reasonable explanation could there be than that Martel, the representative of the hospital committee in that hospital, was succeeding in persuading that hospital to reject Selders because of his connection with G. H. A.

One other defendant, then, and I am through, and that is the defendant Reede. The defendant E. Hiram Reede. Mr. Leahy says that all he did—and how anybody could do much more I am at a loss to explain—but all he did was to sit in the Lee and Scandiffo trial. But here is what he didn't bring out; I believe he didn't bring out that the defendant Reede was the officer who presided at that trial and ruled throughout the proceeding. Now let me point out one brief quotation. (Examining paper.) Well, your Honor, I am referring to the proceedings of the Scandiffo and Lee proceedings, and as I understand your Honor's ruling—

THE COURT:—That is in as to one purpose?

Mr. Kelleher:—It is in as to what the defendants knew and did.

THE COURT:—What is that?

Mr. Kelleher:—There is some understanding.

THE COURT:—It was in for the purpose of showing who was there.

Mr. Kelleher:—Only for the purpose of showing who was there. It shows the defendant Reede was in attendance there.

And let me show you what the minutes show, and I think I can correctly characterize the other evidence in the case.

On December 10 the minutes show that the C. C. & I. M. Committee reported to the executive committee that because Lee had agreed to resign from G. H. A.—to resign from G. H. A.—the C. C. & I. M. Committee was recommending that the charges against him be dismissed. And at this meeting, and this was the meeting at which Reede was presiding, and I believe the minutes show that he read that report of the C. C. & I. M. Committee—then on motion of somebody in the executive committee the charges against Lee and Scandiffo—or against Dr. Lee, were dropped. And as a result of these proceedings the charges against the defendants in that case in which the defendant Reede in this case presided, Dr. Scandiffo was expelled from the Society.

I thank you. I am sorry, your Honor. There is one other point and that is the Harris County. Would your Honor care to hear me?

THE COURT:—Proceed. Yes. I would like you to summarize what you understand.

Mr. Kelleher:—Yes, your Honor.

Let me briefly summarize first what occurred down there, as I understand it. The evidence shows that Homer Taylor was chairman of the State Association. Early in the fall—late in the fall, around October and November of 1937, Homer Taylor was communicating with the defendant Conklin. He was communicating about G. H. A. And here is what Conklin wrote Taylor on October 30. He stated that G. H. A. was progressing, that a banquet was being held, and of course the president of the Society chair at that banquet would be another empty chair.

Then he goes on:

"The staff is made up of three doctors, and you may have some interest in this in view of the fact that one of the doctors is a member of the Harris County Medical Society."

Taylor then replies to Conklin and says:

"Please let me know as soon as possible so that charges of unethical conduct may be successfully lodged against Selders."

Now, here we get to the Harris County Society.

On Nov. 25, 1937, Ashburn, the superintendent of Columbia Hospital, dictated a communication to the secretary of the Harris County Society stating this:

"We seek your"—and I am paraphrasing—"We seek your aid in determining the qualifications of Selders. Selders is an employee of an H. O. L. C. cooperative. The movement has caused"—and I am quoting—"much opposition in local medical circles. Selders"—and I quote again—"while educationally a well-trained man has not submitted evidence of special training."

And then he says this:

"Because of the special circumstances of the particular case, any assistance you can give will be appreciated."

And what does Coole reply? Coole, who was on the staff, and secretary of Harris County, he says:

"The record shows he is well qualified."

In addition he has also learned that he took a postgraduate course at Pennsylvania, and this should add to his training.

"His record is clear but I have been informed that he is employed with H. O. L. C. Our board of censors is investigating."

And then this:

"The Harris County Medical Society strictly condemns any such practice and if the allegations are found to be true, Selders will be subject to disciplinary action."

What occurs after that? Talley writes to Conklin, and Talley was the chairman of the board of censors of Harris County, and he writes this:

"Harris County is very anxious to know the medical status"—

not of Selders, but of G. H. A. That is what they are anxious for. Of G. H. A.

"We are also anxious to know the ethical standing of the men who compose this staff, as one of the staff members belongs to our local society."

Conklin replies immediately, Jan. 19, 1938, Exhibit 80, and this is what he says; he describes the expulsion proceedings which have been instituted against Lee and Scandifio.

There is suggested now about what Harris County Medical Society ought to do. He points out that one of the doctors, Dr. Lee, resigned after the first night of the trial, and the other doctor however has continued and he no doubt will be expelled.

THE COURT:—Do you have the individual members, officers, of the Harris County Society as defendants?

Mr. Kelleher:—No, your Honor. Just the Society.

Talley reported—here is the action of the Harris County Society:

Talley reported—and this is January 26, the first of the year, Talley reported on the matter of one of our members affiliated with a contract organization in Washington, D. C.

This report was adopted.

Now, what was the action of the Society that day?

That is shown by a letter from Talley to Selders dated Jan. 31, 1938, and this is the crux of the matter, and I shall read an excerpt from the letter.

The board of censors reported to the Society that from their interpretation of the code of ethics of the American Medical Association that it was unethical for one of our members to accept a position of this kind.

This interpretation was upheld by unanimous vote of the Society. This interpretation that association with an organization of this kind is unethical was upheld by a unanimous vote of the Society. And that is the chairman of the board of censors writing to Selders. And will your Honor note this last significant sentence:

"Hoping you will continue to be with us and that we may hear from you immediately."

What more could there be for a suggestion that the best thing for Selders to do if he wanted to be with them was to resign from G. H. A.?

Selders wrote back requesting a frank statement of the grounds of the charge against him.

Then Talley—well, your Honor, the evidence shows that the Harris County Society tried to pass the buck, and that is about all it amounted to, tried to pass the buck to the A. M. A.

So it referred the matter to the Judicial Council and asked the A. M. A. for a construction of the constitution, that is,

whether since Selders was up here in Washington and not in Texas, whether therefore there wasn't a dispute between the D. M. S. and the Harris County Society, and therefore shouldn't the Judicial Council take them out?

Well, the Judicial Council rejected it. And then it went back to Harris County. And what occurred?

THE COURT:—I think I remember that pretty well.

Mr. Kelleher:—All right, your Honor.

THE COURT:—They decided it involved a legal question and they couldn't go any further.

Mr. Kelleher:—No, your Honor, they did go one step further. I would at least like to point out what we consider to be the significance of it; the evidence shows I believe that West wrote to the Harris County Society and said in effect, Look, there is a provision of the constitution which provides that if a member of a local constituent society leaves the state and goes to some other state and doesn't take out membership in another state society, he loses his membership in that society. In the local society, from which he leaves.

So what do they do? They require Selders to transfer or to make application for transfer from Harris County to the D. M. S. And the last thing the evidence in this case shows is that his application for transfer is accepted. And what is the result, your Honor? What other result could there be than that they got him out of the Harris County Society and now they are going to leave it up to the defendant D. M. S. to keep him out? And the indictment was returned about a month later.

THE COURT:—Well, they refused to take any action against him being employed in G. H. A.

Mr. Kelleher:—No, your Honor. There are two answers to that. In the first place, they did take action. The board of censors found he was unethical. The Society adopted it by unanimous vote. Now, that is the first thing. This action against him. It is clearly conspiring. And the evidence shows it was done to induce him to leave G. H. A. They were trying to discredit this man and to get him out of the A. M. A. But after going through all these steps they found a simple way to do it, and that was to make him transfer. Get him out of this Society, and he cannot get into the D. M. S., and he is completely obstructed and cannot get into the hospitals in the District of Columbia.

THE COURT:—You don't think their action could just as reasonably be attributed to the fact that they felt after all that they should not participate in this controversy as it related to Selders?

Mr. Kelleher:—No, your Honor. Not in view of the fact—(There was laughter in the court room.)

Mr. Kelleher:—I don't think this is a laughing matter, is it?

THE COURT:—I have asked several times and I am very much opposed not only as a matter—it doesn't comport with court procedure, laughter either during arguments of testimony, and I simply will not put up with it in future. I have made that request several times. If it occurs again among those who have been here continually, I am going to take some action. Let that be understood.

Mr. Kelleher:—Your Honor, I think—

THE COURT:—This to me is not a funny matter. It is a very serious matter. I don't know how the defendants take it. Apparently there are some very humorous things about it. Proceed.

Mr. Kelleher:—In answering your Honor's question, I think if we had only the action there, it might be susceptible to the construction which your Honor suggests, but I think in view of all of the correspondence, the correspondence between Taylor and Conklin, and then between Talley and Conklin, and then, your Honor, this letter, this reply to Columbia Hospital—that in itself is almost enough because we know that this hospital is inquiring about his standing down there; and they write back and say, "Oh, we find that if he participates in that sort of thing it is unethical."

THE COURT:—I see your viewpoint. But there is the thing that is running through my mind: When they were brought up to the consideration, up to the brink of entering into a conspiracy or into an unlawful scheme and then upon consideration see the wrongness of it or the dangers of it, if then they take action whereby they drop further consideration of it, have they gone into it; or, if so, have they withdrawn from it?

Mr. Kelleher:—I understand. I would like to meet that if I can by this: The point is they were in it. That is our conten-

tion, at least. They didn't have to go to the extent of throwing him out.

THE COURT:—If they were in it—

Mr. Kelleher:—Yes. The board of censors held him unethical. And the Harris County Society unanimously approved that action of the board of censors. Now, that is action, and that is conspiring. But let me show they did do exactly what they set out to do. They didn't have to throw him out. They adopted a less burdensome means of getting rid of him. And let me show your Honor this correspondence of West to Taylor calling attention to the provision that membership is limited to physicians who reside and practice in the counties immediately concerned. "The gentleman referred to in the correspondence"—which would mean obviously Selders—"is not in practice in Harris County. The by-laws of A. M. A. specifically provide that a member of A. M. A. who removes to another state shall forfeit membership unless within one year after the change he becomes a member of constituent association in the state to which he removes." Now, what did they do? They obtained from Selders a letter requesting his transfer. They have to do that but he is going to lose his membership. So he sends that down and they transfer. All this in the possible action of the Society furnishing the most simple and most expedient way of getting rid of that doctor.

THE COURT:—There isn't necessarily anything indicative of anything wrong in such a provision, is there?

Mr. Kelleher:—Your Honor, I think in view of all the prior correspondence on the thing—

THE COURT:—Your point is the coincidence?

Mr. Kelleher:—Yes. And I think it becomes a question of fact. Mr. Lewin points this out and I think it is a good suggestion: For one whole year, from January until November, 1938, they kept that doctor under a cloud. They declared that he was unethical. They wrote to Columbia Hospital and advised Columbia Hospital accordingly. The necessary effect of that must have been to discredit and repudiate Selders and then hinder G. H. A. in its efforts to get into the hospitals, its efforts to gain doctors with prestige. I think, your Honor, in all of those circumstances there is at least a question of fact for this jury as to whether Harris County was participating in the conspiracy.

Mr. Leahy:—If your Honor please, may I take just about five or ten minutes?

THE COURT:—Let us see if they are through. You wanted to close. I will give you a few minutes to close.

REPLY ARGUMENT ON BEHALF OF THE DEFENDANTS WILLIAM E. LEAHY

Mr. Leahy:—If your Honor please, I think the Harris County Medical Society can be disposed of rapidly. I speak for it because there is nobody here to represent the Harris County Society except ourselves sitting here at the trial table.

At the outset I want to advert to the basis of your Honor's ruling admitting in evidence certain letters. The letters were admitted upon the specific determination by your Honor that the contents of the letters, the facts contained therein, were not evidence; they were merely brought into the case in order to show that a particular defendant who received such letter had the knowledge of whatever that letter said.

When we come to the Harris County Association we have some letters which are written by Dr. Conklin to Dr. Taylor of the State Society. We have letters back and forth from Talley and Conklin, but we do not have any action taken by the Harris County Society, save and except this, that they thought—and by a vote which was taken of the body of Harris County doctors—that it was unethical for Dr. Selders to practice medicine under the scheme of G. H. A.

That is all we have in the case with regard to the Harris County Medical Society. Then when charges are preferred they think that the best procedure to take, after advising with the Judicial Council of the American Medical Association, is to drop the case entirely.

Now the point is made that they sought the transfer of Dr. Selders. They did not do any such thing. There is no evidence in this case whatsoever that anybody induced Selders to ask for a transfer. All we have is Selders' request; and the complete answer to that is this, if your Honor please, that in the letter of Dr. West to the Society calling attention to the fact that under the American Medical Association rules, if a doctor has been absent from the county in the jurisdiction of his society for a year, he is subject then to be dropped from the society or he may seek admission in some other jurisdiction

where he is. The Society of Harris County accepted the back dues of Dr. Selders in full for the year of his absence, and the last entry was that Dr. Selders was a member of the Harris County Society.

They forgot to bring to your Honor's attention that when Dr. Coole was on the witness stand I asked him whether Dr. Selders was still a member of the Harris County Society, and he said yes.

That is the Harris County incident. There is no evidence whatsoever that they joined in any combination or conspiracy such as detailed in this indictment.

Mr. Kelleher:—Of course the indictment was returned on December 20, one month afterwards.

Mr. Leahy:—That is all right. But you have injected in here that he was transferred or kicked out or something. The truth of the matter is that the Harris County Society accepted his dues for the year he was absent and he is still a member of it; and there is no evidence in the case whatsoever to the contrary, except the ingenuity of counsel to try by all of their argument, which has been characteristic throughout, to ask your Honor to accept suspicion for proof; and it is only the ingenuity of counsel in raking over all this documentary evidence to inject into your Honor's mind the notion that their suspicions of what might have happened occurred, when we have the proof of what actually happened, showing that the suspicion is unjustified. So that is the Harris County case as it stands here before your Honor.

Now, let us take the case of the Academy of Surgeons. That is the other organized defendant. What do we have with reference to the Academy of Surgeons on which they ask your Honor to hold that these people who constitute the Academy of Surgeons as a separate entity was a conspirator?

They had three grounds. They stated to your Honor that in the minutes of Dec. 10, 1937 there was a statement made in the shape of the presentation of a motion that in the consideration of any applicant the ethical practice of the doctor should be considered as well as his qualifications.

What is your Honor going to draw from that? What is wrong about that? Is it wrong that a body of surgeons should say, "Here, just wait a minute. This man may be the finest surgeon in the United States and the worst abortionist"? Can they not consider that when they are considering his qualifications?

They put Dr. Fishback on the witness stand here, who was the one who sent this letter of which now they make such importance before your Honor. But let us not forget these little facts. Dr. Fishback, they said, wrote a letter to the Credentials Committee of the Academy of Surgeons on the 9th day of December 1937. I tried to jot down what the words of the letter were. He was anxious to talk with Dr. Lyons, the chairman. Not a conspirator; not mentioned as a defendant; nothing in this case to show that Dr. Lyons is anything other than the fine gentleman he is. This man, Dr. Fishback, who was on this witness stand, called as a witness for the prosecution, wrote to him and said:

"I am anxious to talk with you before you reach any decision in the application of Selders, especially if there is any feeling that he should be disapproved purely because he is a member of G. H. A."

What is the inference there? That Dr. Fishback wants Dr. Lyons to know that Dr. Selders should be given a fair investigation and that there should not enter into his approval or his disapproval any question whatsoever of his connection with G. H. A.

That must be it, or they would have asked Dr. Fishback on that stand when he was here, "What about that?" If Dr. Fishback intended what the ingenuity of counsel wants to engender in your Honor's mind now, don't worry; they would have asked Dr. Fishback and your Honor would not have to guess what it is all about. Your Honor would have evidence instead of suspicion.

What did they do? The Academy of Surgeons, composed, as I have stated, of all of the surgeons in the District of Columbia who are practicing general surgery and who must be members of the District Medical Society—that Academy which has been requested to make a report upon the qualifications, makes a report and recommends to the hospitals, Georgetown, Providence, George Washington and some more, that his qualifications are such that he should not be admitted to the hospitals, and recommends against his application.

THE COURT:—What was the application for?

Mr. Leahy:—That does not show.

THE COURT:—Was it for a particular kind of surgery?

Mr. Leahy:—I do not know. It is not in the evidence.

THE COURT:—General surgery or minor surgery, or what?

Mr. Leahy:—It is not in the evidence as to what was before them. The report was not presented. I do not know whether the folder of the Academy of Surgeons shows the report or the basis for it. It seems strange if it does not contain it, and yet they cull from the files just the letter of Fishback and a motion which was made by Dr. Segar, I think, who is not a conspirator. Not a word against him. Not any of these men who passed on the qualifications of this man is a conspirator. Dr. Fred Sanderson is not mentioned as a conspirator. Dr. Lyons is another one. Not a word against them. But because the Academy of Surgery, composed of all of the surgeons of the District of Columbia, finds upon investigation and reports back that the qualifications of Dr. Selders are not sufficient to warrant his acceptance upon the hospital staffs, therefore they say your Honor must conclude that that was something hostile and inimical, at the very foundation of the entire proceedings, and that no ground existed other than hostility to G. H. A.

Mr. Kelleher:—May I correct one thing at this time? The evidence does show that at that time he applied for major surgery and that—

Mr. Leahy:—I am not talking about that.

Mr. Kelleher:—I am talking about that letter from Fishback to Providence Hospital, which shows that he applied for major surgery and general surgery at Georgetown, and Georgetown denied him even minor surgery there, and he applied for surgery at Garfield.

Mr. Leahy:—All right. He applies for the widest type of surgical practice you could get. But what group in the District of Columbia was more qualified to pass upon such qualifications than those physicians in the District of Columbia who are practicing general surgery? I ask, if your Honor please, where could the hospitals go to get advice of that kind? What has this body of fine surgeons done to be charged as conspirators?

They did their duty. They made an investigation. They reported it. The Credentials Committee had upon it no members who are named as conspirators. They sent back their report to the different hospitals; and that is everything we have.

I submit that that does not rise to any consideration of what evidence is. It is merely suspicion engendered by the ingenuity of counsel in order to conceal what the true facts are in the case.

Mr. Lewin:—May I interrupt to say that Mr. Kelleher outlined in great detail the evidence which shows that each member of that committee was connected with this conspiracy.

Mr. Leahy:—I know all about that. I cannot go over that; I haven't the time. There is nothing in this case against either of those two defendants which arises above suspicion.

With a wave of his hand, if your Honor please, counsel just simply says that Yater, Young and Martel are all conspirators—

Mr. Kelleher:—I said that about Yater.

Mr. Leahy:—All right; Yater, then. We will come to him in a minute. Yater proposed one motion in November, and when a report came back from the Hospital Committee he said, "Let us refer this back to the Hospital Committee for further consideration." And this man is to be charged with all the knowledge of this conspiracy.

THE COURT:—What were the grounds upon which he said that?

Mr. Leahy:—Because he said at that time the report had in it something to the effect that patients of Group Health Association should be treated by hospitals, and Yater thought they ought to be treated by members of the staffs of the hospitals, and Yater says, "It doesn't appear whether they are members of the staffs of the hospitals or not"—

Mr. Kelleher:—Or might become members.

Mr. Leahy:—All right. He said, "Let us send it back." He never did a thing in reference to it. There is no evidence in this case that he did anything in reference to it, not one bit, not one whit, not one line of evidence. Again I say there is nothing in this case but suspicion.

What in the world did Dr. Martel do with reference to this conspiracy? He sat over there one day in a board meeting of the doctors' staff of Georgetown Hospital and said, "I think Dr. Scandifio is qualified, but the hospitals think he has done something which we don't agree with."

Then they said something about every one coming to attend a meeting of the hospitals, and he said, "I don't want to go."

Therefore he is a conspirator. What kind of arguments are those, if your Honor please?

Mr. Lewin:—Would you mind reading what he said there (handing a document to Mr. Leahy)?

Mr. Leahy:—I will be glad to. Where is Yater mentioned in here?

Mr. Lewin:—Right here (indicating).

Mr. Leahy:—(reading):

"Made a motion to the effect that the recommendation of the Hospital Committee be recommended to the committee on the ground that there seems to be no assurance that members of the staff are not already or might not become members of the staffs of local hospitals if finally adopted."

That is nothing but inference.

Mr. Lewin:—Oh, no.

Mr. Leahy:—You have had your say.

He made one motion. No action was even taken; not a word spoken outside of that motion, not a single word. If your Honor please, this thing is supposed to have stretched from January down through December 1938, two years, but when they cannot find out of the mass of this evidence and all the oral testimony a single thing that the doctor has done, except dragging it in in this fashion, it shows not the fact of his membership in the conspiracy, but that in the desperation of the prosecution they are trying to make out of it something that is not in it.

A number of them are in that same group. Martel is in that same group; Young is in that same group. There is nothing in this case to show that he was a member of any hospital committee. When Lyons was on the stand and he was asked with reference to this—Pardon me; I think it was Mr. Rogers—what he there said was admissible because the Doctor was a defendant, and your Honor admitted it on that ground; but before it becomes an admission against him they must first show that he entered the conspiracy. Otherwise it is not an admission against him. They cannot prove it.

Mr. Kelleher:—Do you mean that the Mattingly letter does not come in against Mattingly? That is what your argument is.

Mr. Leahy:—It is not; nothing like it. Here is a hearsay statement put into the record by Mr. Rogers. Absolutely no proof. If he was on the Hospital Committee, why did they not prove it?

Mr. Lewin:—We have proved it.

Mr. Leahy:—No, except by a hearsay statement. And then Rogers said, "I don't know when he was on the Hospital Committee." That is what Rogers said. And yet Dr. Young answered the questionnaire and he said, "Up to this time we have had no applications from any G. H. A. doctors. If there is any further information you desire I will be glad to answer."

Are those the words of a conspirator? Is your Honor going to hang a man into a conspiracy of this type and charge that man with knowledge of what went on and with the purposes outlined here because he makes that kind of a statement? Nobody would be safe under the outline that is urged by the prosecution if this were a fact.

Now we come down to those who are not members of the local society. We come down to Dr. Fishbein and Dr. Leland.

THE COURT:—You have five more minutes, Mr. Leahy.

Mr. Leahy:—May I call your Honor's attention to this. There is not a single line of evidence brought to your Honor's attention yet about Leland; not one. The only evidence which they brought was a letter, and in that letter Leland had proposed that the Society should form an organization of its own. There is not a line of testimony against Leland. Everything that was read to your Honor was written by somebody else. In every one of those letters there is not a single line against Leland. There is not a single line against Fishbein; and it cannot be charged that because an article is published in *THE JOURNAL* therefore Dr. Fishbein is to be charged with everything else that was done after that article was published.

I still say, in all of the time which was taken, two and a half hours, they have not brought to your Honor's attention any real evidence against any of these defendants, either corporate, association or individual, which I brought to your Honor's attention this morning. It does not rise above suspicion.

Secondly, the proof upon which they rely is to be found written in letters by others which your Honor admitted not as proof of the facts contained therein, because they are pure hearsay, but only and solely for what the person who received the letter may have known of the contents thereof.

Leland never received one and he never wrote one. The same is true with reference to Dr. Fishbein.

I respectfully submit that there is not anything which can possibly connect those defendants in any way with this conspiracy.

(To be continued)

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Change in Status.—H. R. 2082 has passed the House, proposing to empower the Secretary of the Interior, acting through the United States Bureau of Mines, to make annual or necessary inspections and investigations in coal mines to obtain information relating to health and safety conditions, accidents and occupational diseases therein.

Bills Introduced.—S. 985, introduced by Senator Russell, Georgia, proposes to amend the Selective Training and Service Act by providing that members of local boards and physicians and other persons who rendered services in connection with the work of such boards and whose compensation for such services is not otherwise provided for shall receive compensation at the rate of \$4 a day for the time actually spent by them in conducting or assisting in the work of the boards. S. 987, introduced by Senator Gurney, South Dakota, provides that any student who has heretofore sustained or who hereafter sustains a personal injury while engaged in receiving flight instruction under the civilian pilot training program provided for by the Civilian Pilot Training Act of 1939 shall receive such hospitalization and medical treatment as is provided for any officer of the Air Corps of the Army of the United States who receives a personal injury in line of duty. H. R. 3570, introduced by Representative Lanham, Texas, proposes a federal appropriation of \$150,000,000 for providing additional community facilities made necessary by national defense activities. This money, it is proposed, will be expended in accordance with such directions and regulations and on such terms and conditions as may be prescribed or approved by the President (a) to make loans or grants or both to public agencies for the construction, rehabilitation and operation of such facilities; (b) to construct, operate, lease or sell such facilities, including the acquisition of land and the demolition, repair or alteration of existing structures where necessary, and (c) for necessary administrative expenses. In a hearing before the House Committee on Public Buildings and Grounds the Assistant Coordinator of Health and Welfare and Related Defense Activities testified that out of the total appropriation to be authorized \$25,000,000 would be used for the construction of hospitals and \$4,200,000 for the construction of clinics. Furthermore, \$2,200,000 will be used for grants for hospital care of transient indigents, \$2,800,000 for grants for ambulatory care of transient indigents and \$1,000,000 for grants for hospital operation. H. R. 3778, introduced by Representative Mundt, South Dakota, proposes to create a Division of Water Pollution Control in the United States Public Health Service. H. R. 3928, introduced by Representative Mundt, South Dakota, proposes an appropriation of \$1,000,000 to construct a veterans' hospital in the First Congressional District of South Dakota.

STATE MEDICAL LEGISLATION

Arizona

Bills Introduced.—S. 151, to amend the workmen's compensation acts, proposes that an injured employee may elect to be attended, at the expense of the state fund, by a licensed chiropractor, osteopath, naturopath or other practitioner of drugless methods and thereafter is to be entitled to the benefits of the act to the same extent as if he had been attended by a licensed practitioner of medicine and surgery. The bill further proposes that, in connection with the provisions of the workmen's compensation act, licensed chiropractors, osteopaths, naturopaths and other practitioners of drugless methods are to be accorded equal rights and privileges with licensed practitioners of medicine and surgery by the industrial commission, by all public agencies, institutions, officers and employees and that the discrimination against any licensed drugless practitioner in this respect shall automatically cause the holder of any public employment or public office causing, permitting or participating in any such discrimination to forfeit his office or employment. H. 205 proposes to prohibit the maintenance and operation of a maternity hospital unless licensed by the state board of health.

Delaware

Bill Introduced.—H. 237 proposes to enact a separate practice act for dispensing opticians and to authorize the Medical Council of Delaware to examine and license applicants for licenses to practice as dispensing opticians. The bill proposes that "Individuals and firms filling prescriptions of physicians and surgeons licensed by the Medical Council of Delaware for ophthalmic lenses and kindred products, and as incidental to the filling of such prescriptions, taking facial measurements and fitting and adjusting lenses or frames, shall be known as dispensing opticians." The bill further proposes that it shall not affect any person licensed as an optometrist or a physician and surgeon but that this exemption shall not apply to any optometrist or a physician exclusively engaged in the business of filling prescriptions for physicians and surgeons.

Illinois

Bills Introduced.—S. 15 and H. 86 propose that "If it is alleged in the indictment or information, or upon the trial, that the defendant was under the influence of intoxicating liquor when he drove a vehicle, the court may admit evidence of the amount of alcohol in the defendant's blood at the time alleged, as shown by a chemical analysis of his urine, saliva, breath, or other body substance." S. 103 proposes to make it unlawful for any person to use the designation "Certified Consulting Psychologist" or any similar term unless he has been licensed so to practice by the Department of Registration and Education. No person shall be eligible for such a license unless, among other things, he has received a degree of doctor of philosophy in psychology or of doctor of science in psychology from a college or university approved by the department, or a degree of doctor of education or doctor of philosophy in education from a school or university also approved by the department and he has also had two years' experience in the application of the principles and technics of the science of psychology.

Kansas

Bills Introduced.—H. 143 proposes to authorize the governing body of any city of the second class having a population of not less than five thousand nor more than eight thousand and located in a county having a population of not less than eleven thousand nor more than fourteen thousand to issue bonds in the city in an amount not exceeding one hundred thousand dollars to build and equip a municipal hospital. The governing body of such a city is to have the power to rent, lease or let such hospital to any person or corporation on such terms and conditions as the governing body deems to the best interests of the city. H. 367 proposes to authorize the governing body of any city of the second class located in a county having a population of not less than fourteen thousand nor more than eighteen thousand and having an assessed tangible valuation of not less than twenty-five million dollars nor more than thirty-five million dollars and having within its boundaries two or more cities of the second class to issue the bonds of such city in an amount not exceeding thirty thousand dollars to construct and equip a municipal hospital. The governing body of such a city is to have the power to lease, let or rent said hospital to any person or corporation on such terms and conditions as it sees fit.

Massachusetts

Bills Introduced.—H. 1018 proposes that the physical examination given school children shall include an examination of the feet given by a person well qualified to examine feet. H. 1564, to amend the medical practice act, proposes that the board of registration in medicine in its examinations of applicants shall have requirements "at least as qualifying as the standards of admission recommended by the national board of registration in medicine."

Michigan

Bill Introduced.—H. 209 proposes to repeal the basic science act.

Nevada

Bill Introduced.—A. 121 proposes to condition the issue of a license to marry on the presentation by each party to the proposed marriage of a certificate of a licensed physician that the party has been given such examination, including a standard serologic test, as may be necessary for the discovery of syphilis, made not more than thirty days prior to the issuance of a license and that in the opinion of the physician the party either is not infected with syphilis or, if so infected, is not in a stage of that disease which is or may become communicable to the marital partner. The charge for the physical examination and certificate of the physician is not to exceed \$5.

New Mexico

Bills Introduced.—S. 216 proposes to authorize the county commissioners of the several counties to established county hospitals in their respective counties. H. 210 proposes that "The right to choose and designate one's own physician or surgeon is hereby declared an inviolate right. Except in workmen's compensation cases and in such other cases where medical care and consultation is provided without obligation on the part of recipient to pay therefor, no person living or residing in the state of New Mexico shall be compelled, coerced or intimidated in contracting for, procuring or accepting the services or professional care of any particular physician or surgeon or the care or services of any physician or surgeon of any particular school, class or association."

New York

Bills Introduced.—S. 1103 and A. 1426, to amend the medical practice act, proposes to exempt from its provisions "any physician or surgeon employed in the United States veterans' administration while engaged in the performance of the actual duties prescribed for him under the United States statutes." A. 1231 proposes to create a temporary state commission to study and investigate the system of physical education and medical inspection in the public schools, to make recommendations for the carrying out of a physical education and medical inspection program which would adequately equip the youth to be in physical condition.

North Carolina

Bill Introduced.—H. 372 proposes to authorize the State Commission for the Blind to employ reputable optometrists to provide the services, "provided, however, nothing in this section shall authorize the employment of optometrists in work under supervision of the Federal Social Security Board which would affect federal grants to the state of North Carolina for aid to the needy blind."

Ohio

Bills Introduced.—S. J. Res. 15 proposes to require the presiding officers of the house and the senate to appoint a commission to hold public hearings, to make investigations of the health laws of the state and to report to the general assembly its findings and such recommendations as it may make for their more efficient administration. H. 217 proposes to condition the issuance of a license to marry on the presentation by each party to the proposed marriage of a physician's certificate that the party has been examined within fifteen days prior to the application and that in the opinion of the physician the party is free from epilepsy, feeble-mindedness and insanity and is not infected with syphilis or is not in a stage of that disease which may become communicable, as nearly as these facts can be determined by examination of the party and by the application of standard laboratory tests for syphilis.

Oklahoma

Bills Introduced.—S. 163 proposes to authorize the creation of a county health unit in each county of the state, or a district unit, to be composed of a number of contiguous counties, the purpose of which is to promote the public health by education, training and the administration of preventive medicine, in cooperation and active participation of the state board of public health. The health units provided for in the bill are to be confined to the field of preventive medicine, "except in the case of patients afflicted with venereal disease, which may be treated

by said unit only when properly certified to the director by a doctor who is licensed to practice medicine or osteopathy, under the laws of this state, and under such regulations as may be prescribed by the state board of public health and United States Public Health Service." H. 297 proposes that "Any doctor, licensed and authorized to practice the medical profession in the state of Oklahoma, shall, upon request, respond and act professionally when called in any emergency." The bill proposes to define emergency as any childbirth case, or in case of a request for setting a broken bone, or a cut wound or bruise in case of injury or accident, needing immediate attention. If the patient fails for one year to pay the physician, the physician shall file a claim with appropriate county, which is required to pay the physician the usual fee for such services.

Pennsylvania

Bills Introduced.—S. Serial No. 30 proposes "That the senate of the general assembly of Pennsylvania request the secretary of public assistance to equitably revise the determinants guiding the prorating of fees payable to physicians attending recipients of assistance, as well as expedite the payments of amounts now due to such physicians." H. 537 proposes that any state or state-aided medical and surgical hospital shall have authority to issue stamps and to place any such stamps on sale. These stamps are to be redeemable by the hospital issuing them through hospitalization service. H. 555 proposes a procedure for the reimbursement of all hospitals not now receiving state aid for the expenses of indigent persons injured in motor vehicle accidents. H. 559 proposes to create the Pennsylvania State Institute for Cancer and Tuberculosis Research to conduct a study of and research into the causes, treatment and prevention and cure of cancer and tuberculosis.

Texas

Bills Introduced.—S. 214 proposes to make it the duty of the state department of health to enter into agreements with all licensed practitioners of medicine and dentistry in the state who are willing to agree to receive as patients and to treat destitute children, in accordance with the needs of such patients, at fees to be determined as provided in the act, to be payable to such physicians by the state. The schedule of fees is to be made in accordance with the recommendations of the State Medical Association of Texas and the Texas State Dental Society. H. 268 proposes to authorize the establishment and operation of a state cancer hospital.

Utah

Bill Introduced.—H. 168 proposes that the body of a person whose death occurs in the state shall not be removed to any autopsy room or to any place where embalming is done, nor shall any mutilation of any kind be permitted, until the body has been subjected to scientific life tests to determine whether or not death is complete. The nature and character of such life tests are to be ascertained from year to year by the head of the state board of health from the tests advocated by the American Medical Association and the National Selected Morticians. Such tests are to be administered by a physician or by a board of health medical employee at least four hours after death.

Washington

Bills Introduced.—H. 504 proposes to authorize corporations organized under the general laws of the state to transact a hospital association business if licensed by the insurance commissioner. The bill states that a hospital association business is carried on by any corporation, association or person "contracting or agreeing in this state with individuals, families, employees, associations, societies or with employers for the benefit of employees, for the furnishing of medicine, medical or surgical treatment, nursing, hospital service, ambulance service, dental service; or any or all of the above enumerated services or any other necessary services, contingent upon sickness, or accident."

Wisconsin

Bills Introduced.—A. 319 proposes that, whenever expert medical testimony becomes necessary or desirable in the establishment of the claim of an employee in connection with a claim

under the workmen's compensation act, the industrial commission may, after notice to the parties and a hearing, permit one or more qualified physicians, not exceeding three, to testify for the employee at the trial. The compensation of such medical witnesses is to be fixed by the commission. A. 334 proposes that the state board of examiners in chiropractic may issue

license without examination to any applicant who presents proof that he has been licensed to practice chiropractic in another state and has practiced for three years or more, if, in the state or states in which the applicant has so practiced, preliminary education which is not less than that required in the state is required.

OFFICIAL NOTES

RADIO BROADCASTS

The next three programs to be broadcast in the series "Doctors at Work" are as follows:

March 26. Health for the Workman.
April 2. Invisible Invaders.
April 9. The Life Ray.

The program is scheduled over the Blue network of the National Broadcasting Company Wednesdays at 10:30 p. m. eastern standard time (9:30 central, 8:30 mountain, 7:30 Pacific time).

Tickets for the broadcasts are available. Requests should be accompanied by a stamped addressed envelope.

WOMAN'S AUXILIARY

Minnesota

The Woman's Auxiliary to the Olmsted-Houston-Fillmore-Dodge Counties Medical Society held a meeting, January 8, in Rochester. Dr. F. M. Feldman, director of District 3, Minnesota Department of Public Health, and deputy health officer of Rochester, spoke on the undesirable housing conditions of Rochester. The St. Louis County auxiliary held its monthly meeting, January 14, at the home of the president, Mrs. W. N. Graves, Duluth. After the business meeting the members did Red Cross work. The chief project of the auxiliary this year is the furnishing of the patients' sitting room at the Nopening Sanatorium.

New York

The executive board of the woman's auxiliary to the Medical Society of the State of New York met recently at Garden City, L. I., with thirty-seven members attending. The board members were guests in the homes of members of the Nassau County auxiliary. The evening preceding the meeting a dinner was given for them by the president of the state auxiliary, Mrs. Luther H. Kice. Dr. Louis H. Bauer, a member of the preparedness committee of the state medical society, gave a talk on auxiliary preparedness. In the evening, the auxiliary to the Nassau County Society entertained at the Hempstead Country Club.

The Montgomery County auxiliary was organized recently. Mrs. Luther H. Kice, state auxiliary president, explained the purpose of an auxiliary. Mrs. J. P. Curran was selected as the chairman of a committee to draw up a constitution. Those attending from organized counties were Mrs. Kice of Garden City, Mrs. A. W. Greene, Mrs. W. F. MacDonald, Mrs. A. H. Coughdon and Mrs. L. P. Tischler of Schenectady and Mrs. R. F. Johnson and Mrs. G. C. Sincerbeaux of Auburn.

At their first meeting, November 1, the following officers were elected: president, Mrs. S. L. Homrighouse; president-elect, Mrs. P. J. Fitzgibbons; vice president, Mrs. W. H. Seward; secretary, Mrs. E. B. Kelly, and treasurer, Mrs. A. J. Tounley of Fonda.

Oregon

The auxiliary to the Multnomah County Medical Society met, December 9, at the Albertina Kerr Nursery Home for its annual children's party. Gifts were distributed from a Christmas tree. Mrs. Albert H. Cautril and Mrs. Charles H. Manlove spoke in behalf of the student loan fund, a project of the auxiliary. New loans to the amount of \$1,000 have been made this year to seniors in the medical school; there are three students on the waiting list. Twenty-two hundred dollars in a revolving fund is gradually being repaid. To date forty-two seniors and juniors have been aided. Miss Nell Under, librarian for the Library Association of Portland, spoke on "Reading for Pleasure" to the thirty-five members present. Volunteers from this auxiliary assisted, November 16, in the Red Cross drive, taking over booths for a half a day in banks and department stores. Six members of the junior auxiliary, an organization of wives of medical students,

also assisted. Volunteers sew one day a week at the Red Cross headquarters.

At the November meeting of the woman's auxiliary to the Marshfield, Coos and Curry Counties Medical Society, Mrs. A. B. Peacock talked about her visit to the Basque Colony in eastern Oregon.

Texas

The auxiliary to the Cherokee County Medical Society met recently at the Doctors' Home at Rusk State Hospital. Fourteen members and one guest were present. The program was based on material in *Hygeia*.

The auxiliary to the Childress-Callingsworth-Hall Counties Medical Society met with the medical society recently at a dinner. The auxiliary voted to sponsor an essay contest in all high schools in the three counties on the subject "Increasing the Span of Life" and to give several prizes.

The auxiliary to the Tom Green Eight County Medical Society met recently in San Angelo with members of the city federated clubs, Parent-Teacher Association and interested citizens as guests. Dr. Carl A. Kunath spoke on "Importance of the Periodic Health Examination in the Control of Cancer."

The auxiliary to the Lampasas-Burnet-Llana Counties Medical Society honored medical societies of the same counties with a fish fry recently.

Washington

The auxiliary to the King County Medical Society met, January 21, in Seattle with fifty members in attendance. Mrs. W. A. Willington presided. Mrs. Shelby Jared, legislative chairman, presented Dr. Frank Douglass, who spoke on "Important Legislative Messages." It was reported that three hundred and twenty subscriptions had been obtained for *Hygeia*.

The Pierce County auxiliary had forty members present at the January meeting in Tacoma at the home of Dr. and Mrs. Leo Hunt. The president, Mrs. J. B. Robertson, presided. Major Kenneth A. Whyte of the 116th Medical Regiment of Camp Murray talked on medical preparedness.

Ten members were present at the January meeting of the Chelan County auxiliary in Wenatchee. Mr. Giberson of the state health department spoke on "Sanitation and Health."

Twenty-eight members were present at the January meeting of the Spokane County auxiliary at the University Club. Dr. John O'Shea, a member on the National Medical Preparedness Committee, the guest speaker, told of the part that the American Medical Association is taking in national defense. Mrs. George Ford told of the work of the Canadian women in the Red Cross. The legislative chairman, Mrs. Clarence Lyon, informed the group of pending bills before Congress and the state legislature in regard to medicine. Fifteen dollars was voted to place *Hygeia* in the public schools.

The Grays Harbor County auxiliary met in January at the home of Dr. and Mrs. B. O. Swinehart in Aberdeen. Fourteen members were present. The auxiliary voted to subscribe to the National Bulletin.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ADDITIONAL MEDICAL COLLEGE NEWS AND ARTICLES APPEAR IN THE STUDENT SECTION, PAGE 1325.

ARKANSAS

Personal.—The new county health building at Pine Bluff has been named the W. H. Bruce Building in recognition of the work of Dr. Bruce in Jefferson County. Dr. Bruce is city and county health officer.—Dr. Armour K. Wayman, Little Rock, has been appointed superintendent of the Pulaski County Hospital.—Dr. Ralph E. Weddington, Fort Smith, has been appointed health officer of Independence County, succeeding Dr. Gardner H. Landers, Batesville, who resigned to join the military forces.—Dr. Frank C. Maguire, Clarendon, has been named director of the Mississippi County health unit.

CALIFORNIA

Lectures for the Public.—The fifty-ninth course of popular medical lectures sponsored by Stanford University School of Medicine, San Francisco, will be presented at Lane Hall by:

Dr. John H. Lawrence, April 4, The Cyclotron in Cancer Research.
Dr. Merlin T. R. Maynard, April 18, Cosmetics and Care of the Skin.
Dr. David A. Ryland, May 2, The Newer Knowledge About High Blood Pressure.

Dr. Hale F. Shirley, May 16, Changing Attitudes in Child Guidance.

Personal.—Alden H. Miller, Ph.D., associate professor of zoology and director of the museum of vertebrate zoology, University of California, Berkeley, has been elected a corresponding member of the Zoological Society of London.—Dr. Henry E. Dahleen has been appointed superintendent of the Santa Clara County Hospital, San Jose, succeeding Dr. Doxey R. Wilson.

CONNECTICUT

Physicians Honored.—Seven physicians who have completed fifty years in the practice of medicine were guests at a dinner recently in Derby, attended by physicians, nurses, hospital board members and their families in the community comprising Shelton, Derby, Ansonia and Seymour. Their names are Drs. Edward K. Parmelee and Henry Steudel, Ansonia; William Sherman Randall, Shelton; Frank N. Loomis, Royal W. Pinney, Charles T. Baldwin, Derby, and Louis E. Cooper, New Haven.

Society News.—The Yale Medical Society was addressed at the Brady Memorial Laboratory, New Haven, February 12, by William U. Gardner, Ph.D., on "Breaking Strength of Bones of Mice Receiving Sex Hormones"; Dr. William Metcalf, "Fat and Effects of Transfused Serum"; Adolf Pharo Gagge, Ph.D., "A Method for the Continuous Measurement of Metabolic Rate During Work," and Drs. Alexander W. Winkler, Hebbel E. Hoff and Paul K. Smith, Ph.D., "Cause of Death in Experimental Anuria." All are of New Haven.

DELAWARE

Society News.—Dr. Edward Weiss, professor of clinical medicine, Temple University School of Medicine, Philadelphia, addressed the New Castle County Medical Society in Wilmington, January 21, on "Illness of Emotional Origin and Its Treatment by the General Practitioner."—The Biochemical Research Foundation, Newark, presented its annual biochemical research lecture recently at the University of Delaware with Prof. Henrik Dam, Biochemical Institute, University of Copenhagen, as the speaker. The subject was "The Present State of Knowledge of Vitamin K."

DISTRICT OF COLUMBIA

The Kober Lecture.—John R. Mohler, D.V.M., chief of the bureau of animal industry, U. S. Department of Agriculture, will deliver the Kober Memorial Lecture, March 28, under the auspices of Georgetown University. His subject will be "Undulant Fever." The lecture is delivered under rules governing an endowment fund established by the late Dr. George M. Kober. Dr. Mohler received his degree in veterinary medicine at the University of Pennsylvania in 1896.

He has been awarded many honorary degrees, is a member of several scientific societies and was president of the American Veterinary Medical Association in 1913.

Postgraduate Clinic.—The ninth annual postgraduate clinic of the George Washington University School of Medicine was held on February 14-15 with Dr. Harry F. Dowling, clinical professor of medicine, as director. The program this year was dedicated to Dr. William Johnston Mallory, professor emeritus of medicine. The evening meetings were under the auspices of the A. F. A. King Obstetrical Society, named in honor of an alumnus of George Washington who died Dec. 13, 1914, and who served on its staff as professor of obstetrics and diseases of women and children from 1871 to 1913 and as dean from 1879 to 1894. Speakers included:

Dr. Louis H. Douglass, Baltimore, Toxemias of Pregnancy.

Dr. Morris Edward Davis, Chicago, Physiology, Chemistry and Clinical Application of the Estrogens.

Dr. Robert A. Ross, Durham, N. C., Management of Uterine Prolapse.

Dr. Tom D. Spies, Cincinnati, Clinical Aspects of Nutritional Diseases.

Dr. Charles Stanley White, Washington, Use of Plasma in Surgery.

Dr. Charles W. Mayo, Rochester, Minn., Diseases of the Colon.

Dr. Paul D. White, Boston, conducted a clinic on heart diseases Saturday afternoon.

FLORIDA

Personal.—Dr. Walter L. Shackelford, West Palm Beach, resigned as superintendent of the Good Samaritan Hospital, effective February 1, to enter private practice. He had been superintendent of the hospital for thirteen years.—Dr. John O. Barfield, formerly of Miami and Apalachicola, has been appointed director of the city-county health department at Panama City.

New State Health Officer.—Dr. William H. Pickett, Jacksonville, assistant state health officer, has been appointed state health officer to fill the unexpired term of Dr. Albert B. McCreary, who died on January 24. Dr. Pickett's position as assistant state health officer was created last year on the recommendation of the American Public Health Association following a survey of the health situation in Florida. Dr. Pickett graduated at the Atlanta School of Medicine in 1911. His public health career includes two years as health officer of Pinellas County, two as health officer in Escambia County and eleven years as health officer first of Saginaw City and later of Saginaw County, Mich. He was also health commissioner of Great Falls, Mont., and deputy state health commissioner for Missouri. Dr. James N. Patterson, Jacksonville, director of the bureau of laboratories since 1938, has been named assistant to Dr. Pickett. He will continue to direct the laboratories. He graduated at the University of Cincinnati College of Medicine in 1929.

GEORGIA

Training School for Study of Malaria.—The U. S. Public Health Service and the state department of health cooperated in a two weeks course recently to train laboratory technicians in the preparation, staining and examination of thick and thin blood films for malaria parasites. The course opened on March 3 under the supervision of Miss Almee Wilcox of the National Institute of Health, and classes were held in the Atlanta laboratories of the state department of health.

Honorary Certificates Awarded.—Three physicians were awarded honorary membership in the Fulton County Medical Society recently for having been members of the society for twenty-five consecutive years and for having reached the age of 65. The physicians are Drs. William Troy Bivings, who graduated at University and Bellevue Hospital Medical College, New York, in 1899 and who has practiced in Atlanta since 1903; Thomas J. Collier, who graduated at Atlanta College of Physicians and Surgeons in 1900 and who has practiced in Atlanta since 1900; Emmett DeWitt Highsmith, who graduated at Atlanta College of Physicians and Surgeons in 1906 and who practiced in Atlanta from 1906 to 1939, when he retired on account of his health. Dr. Collier is vice chairman of the recently organized Section on Anesthesiology of the American Medical Association.

ILLINOIS

Mr. Brandon Heads Department of Public Welfare.—Rodney H. Brandon, Batavia, was recently appointed director of the state department of public welfare, a position he occupied from 1929 to 1933. He succeeds Charles E. Day, resigned. Since 1933 Mr. Brandon has been a lecturer in criminology,

social hygiene and medical jurisprudence at the University of Illinois College of Medicine, Chicago. He has also been serving as a member of the board of public welfare commissioners.

Society News.—Dr. Reno P. Rosi, Springfield, pneumonia control officer of the state department of health, discussed diagnosis and treatment of pneumonia before the Madison County Medical Society at Granite City, March 7.—Joseph H. Roe, Ph.D., Washington, D. C., discussed "Diagnostic Significance of Chemical Changes in the Blood" before the Peoria Medical Society, March 5.—Dr. Guy S. Van Alstyne, Chicago, discussed "Biliary Tract Surgery" before the Rock Island County Medical Society in Rock Island, March 11.

Chicago

Study of Facial Abnormalities.—Northwestern University has received \$50,000 from the Clara A. Abbott trust for the study and treatment of harelip, cleft palate and similar facial or oral abnormalities. The study will be under the direction of Dr. Frederick W. Merrifield of the medical and dental faculties, newspapers announced. The university previously received \$1,665,000 from the Abbott trust, which was set up under the will of the widow of Dr. Wallace C. Abbott, founder of the Abbott Laboratories.

Dr. Bucy Joins Illinois Faculty.—Dr. Paul C. Bucy, associate professor of surgery (neurosurgery), University of Chicago, the School of Medicine, has been appointed associate professor of neurology and neurologic surgery at the University of Illinois College of Medicine. He will be associated with Dr. Eric Oldberg, professor and head of the department of neurology and neurologic surgery in the recently completed Neuropsychiatric Institute on the Chicago campus of the University of Illinois. Dr. Bucy graduated at the State University of Iowa College of Medicine in 1927 and had been on the staff of the University of Chicago since 1928. He was secretary of the Section on Nervous and Mental Diseases of the American Medical Association from 1936 to 1939 and chairman of the section, 1939-1940.

Society News.—Dr. William S. Middleton, Madison, Wis., addressed the Society of Medical History of Chicago February 25 on "Medicine at Valley Forge."—The Chicago Orthopedic Society was addressed, February 14, by Drs. Albert C. Schmidt, Milwaukee, on "Fractures in Children" and Ralph M. Carter, Green Bay, Wis., "Unusual Deformity of Wrist."—Members of the department of ophthalmology of Northwestern University Medical School presented the program before the Chicago Ophthalmological Society, February 17; the speakers were Drs. Edward V. L. Brown on "Retrolental Tissue from the Choroid in Kuhnt-Junius Degeneration"; Bertha A. Klien, "Detachment of the Pars Ciliaris Retinae: A Clinical Finding of Differential Diagnostic Value in Retinal Detachment," and Percy F. Swindle, Ph.D., Milwaukee, "Morphology and Function of the Scleral Vessels."—Dr. Philip Lewin, among others, discussed "Low Back Pain and the Sciatic Syndrome" before the Chicago Roentgen Society, February 17, and Dr. William Edward Chamberlain, Philadelphia, "The Roentgenologist's Part in the Problem of Low Back Pain."

Noise Reduction Council Formed.—The Chicago Noise Reduction Council was organized at a meeting in the Bismarck Hotel, March 11. The council is the result of a movement begun last year when a group of national manufacturers held a conference in Buffalo and formed the National Noise Abatement Council. Mr. F. Edgar McGee of Remington Rand, Inc., Buffalo, is the executive secretary of the national agency, and Mr. George P. Little of the Celotex Corporation, Chicago, chairman. At meetings in Chicago in November and in New York in January a program on ways and means was set up on a temporary basis for the national group. A permanent organization has been effected and headquarters will be established in Cleveland, where on March 18 a meeting of representatives of interested groups throughout the country was held. Directors of the Chicago Noise Reduction Council include Karl Eitel, head of the Bismarck Hotel, chairman; Jules E. Jenkins, president of the Vibration Measurement Engineers, secretary; Fred M. Echhoff of Remington Rand, Inc.; Marshall Solberg, attorney, and G. L. Bostwick, manager, sales department, U. S. Gypsum Company.

INDIANA

Changes in Health Officers.—Dr. Robert M. Ferguson, Indianapolis, has been named director of health district number 4 with headquarters in Rising Sun. He succeeds Dr. George M. Brother, who is now chief of the bureau of local

health administration, Indianapolis. District number 4 includes the counties of Dearborn, Ripley, Jefferson, Switzerland and Ohio. Dr. Wesley M. Hall, Rising Sun, has been appointed to succeed the late Dr. George H. Hansell as health commissioner of Ohio County.

IOWA

Society News.—Dr. Clifford J. Barborka, Chicago, discussed "Nutrition and Subclinical States of Deficiency Diseases" before the Linn County Medical Society in Cedar Rapids on March 13. Dr. Oscar W. Bethea, New Orleans, discussed "Bronchiectasis," February 9.—Dr. Raphael Isaacs, Chicago, addressed the Boone and Story County medical societies in Ames recently on "Diagnosis and Treatment of Common Types of Anemia."—Dr. Frank R. Peterson, Iowa City, discussed diseases of the gallbladder before the Scott County Medical Society in Davenport, February 4.

Annual Meeting on Tuberculosis.—The twenty-sixth annual meeting of the Iowa Tuberculosis Association will be held at the Fort Des Moines Hotel, Des Moines, March 27-28. On the program will be the following out of state speakers: Drs. Henry C. Sweany, Chicago, "Trends During the Past Decade in the Management of Tuberculosis"; Lewis S. Jordan, Granite Falls, Minn., "Finding the Source and Breaking the Contact"; William H. Oatway Jr., Madison, Wis., "Tuberculosis Case-Finding Results Among Hospital Entrants and Personnel," and Charles E. Lyght, Northfield, Minn., "A Challenge to Iowa Colleges."

KANSAS

Personal.—Dr. Clayton L. Scuka has been appointed superintendent of the Sedgwick County Hospital in Wichita, succeeding Dr. Otto F. L. Prochazka, who resigned to serve a year in the army at Fort Robinson, Ark.

Society News.—Dr. Wade H. Miller, Kansas City, Mo., discussed "Various Problems in Aviation Medicine" before the Shawnee County Medical Society on March 3 in Topeka. Dr. Hiram Winnett Orr, Lincoln, Neb., discussed "The Role of Sulfanilamide and Other Antiseptics in the Treatment of Wound Infections and Compound Fractures" before the society, February 3.—Dr. Richard K. Gilchrist, Chicago, addressed the Sedgwick County Medical Society, February 18, in Wichita on "Method of Spread of Carcinoma, with Particular Attention to the Large Bowel."

MARYLAND

Dr. Loewi Delivers Dohme Lectures.—Dr. Otto Loewi, research professor of pharmacology, New York University College of Medicine, New York, delivered the Dohme Lectures for 1940-1941 at the Johns Hopkins University School of Medicine, Baltimore, January 21-22. His subject was "Humoral Transmission of Nervous Impulse."

Medical and Public Health Laboratories.—The mid-winter conference of the Maryland Association of Medical and Public Health Laboratories was held in Baltimore, February 14. The following spoke:

Mr. A. A. Hajna and Cornelius A. Perry, Sc.D., Bacteriologic Examinations for Enteric Pathogens.
Dr. Milton S. Sacks, Diagnosis of Infectious Mononucleosis by Blood Smears and Agglutination Tests.
Dr. Samuel T. Helms, Tests for the Control of Chemotherapy.

MASSACHUSETTS

Dr. Goodpasture Delivers Cutter Lecture.—Dr. Ernest W. Goodpasture, professor of pathology, Vanderbilt University School of Medicine, Nashville, Tenn., delivered the Cutter Lecture on preventive medicine at Harvard Medical School, Boston, Friday, March 7. The subject of the lecture was intracellular infection.

Society News.—Dr. Walter Gray Phippen, Salem, president of the Massachusetts Medical Society, discussed "Medical Preparedness" before the New England Society of Physical Medicine in Boston, February 19.—The Worcester District Medical Society devoted its meeting, February 12, to a round table discussion on neuropsychiatric disorders in relation to military service: the speakers were Drs. Morgan B. Hodskins, Palmer; William Malamud, George A. MacIver, William L. Holt Jr. and Mr. David Shalow, all of Worcester.

MICHIGAN

Graduate Conferences.—The annual spring graduate conferences for physicians, sponsored by the Wayne County Medical Society and the Detroit Department of Health, will be held at Herman Kiefer Hospital, April 9, 16, 23 and 30. The last one will be a joint program with the pediatric group.

New Appointments at Wayne.—Recent additions to the faculty of Wayne University College of Medicine, Detroit, include Drs. Carl C. Pfeiffer, associate professor of pharmacology; Mark E. Maun, assistant professor of pathology; George L. Maison, assistant professor of physiology, and Lawrence Berman, assistant professor of pathology.

Courses for Graduates.—Announcement is made in the state medical journal of a series of courses for graduates in medicine. The courses will be held in Detroit and Ann Arbor and will run through the summer months. An extramural postgraduate course will begin March 24 to continue through April 18 in Ann Arbor, Battle Creek, Kalamazoo, Flint, Grand Rapids, Lansing, Jackson, Mount Clemens, Saginaw, Traverse City, Manistee, Cadillac and Petoskey. Complete details may be obtained from the Department of Postgraduate Medicine, 1313 Ann Street, Ann Arbor.

Annual Clinic Day.—St. Mary's Hospital, Detroit, observed its annual clinic day March 20. The program included a series of clinical panel discussions in the morning. In the afternoon the Theodore A. McGraw Memorial Lectures were delivered by James A. Reyniers, M.S., associate professor and head of the bacteriology laboratories, Notre Dame University, South Bend, Ind., on "Nutrition in the Newborn Germ-Free Animal," and Dr. Henry N. Harkins, Detroit, "Treatment of Shock in Wartime with a Report of the Latest Work of the National Research Council Preparedness Committee on Shock." Alphonse M. Schwitalla, S.J., dean, St. Louis University School of Medicine, St. Louis, gave an address in the evening.

MINNESOTA

Memorial to Dr. Rypins.—Dr. Luigi Luzzatti has been announced as the first incumbent of the Harold Rypins research assistantship in pediatrics at the University of Minnesota Medical School, Minneapolis, according to *Minnesota Medicine*. The position was established by a committee of Twin City physicians and other interested persons in honor of the late Dr. Rypins, who was instructor in medicine at the university from 1920 to 1923. At the time of his death in 1939 Dr. Rypins was secretary of the New York State Board of Medical Examiners. Dr. Luzzatti graduated at the University of Rome, Italy, in 1937.

County Officers' Meeting.—The annual county officers' meeting of the Minnesota State Medical Association was held at the St. Paul Hotel, St. Paul, February 22. Military medical problems were discussed by Lieut. Col. Richard B. Hullsiek, director, medical division of the selective service system, and Major Frederick S. Richardson, surgeon of the first military area. Mr. John B. Pratt, Chicago, executive secretary of the National Physicians Committee for Extension of Medical Service, addressed the luncheon session on "Control and Direction of Medical Service." Justice Royal B. Stone discussed obligations and responsibilities of the doctor in court and particularly the work of the committee on medical testimony. This committee was appointed by the state medical association late in 1940 to be at the disposal of any judge in the state who has reason to believe that medical testimony in a case decided in his court has deliberately deviated from the truth. If, after investigation, the committee decides the testimony was dishonest the case will be turned over to the state board of medical examiners. A similar committee was appointed by the state bar association.

MISSOURI

The Carman Lecture.—The annual Russell D. Carman Lecture will be presented under the auspices of the St. Louis Medical Society on March 25. The speaker will be Dr. Byrl R. Kirklin, Rochester, Minn., and his subject, "Cancer of the Gastrointestinal Tract: Its Early Manifestations."

Symposium on Influenza.—The St. Louis Medical Society sponsored a symposium on influenza in St. Louis, February 11. The following members of the faculty of Washington University School of Medicine, St. Louis, spoke:

Dr. Samuel B. Grant, Clinical Features of the Different Epidemics of Influenza.

Louis A. Julianelle, Ph.D., The Etiology of Influenza.

Simon Edward Sulkin, Ph.D., Epidemiology.

Dr. Carl G. Harford, Specific Prophylaxis.

Jacques J. Bronfenbrenner, Dr.P.H., professor of bacteriology and immunology and public health at the school, discussed the presentations.

Society News.—The St. Louis Medical Society was addressed, March 4, by Drs. Daniel L. Sexton on "Role of the Internist in Management of Hyperthyroidism" and Willard Bartlett Jr., "Objectives of Operation in the Treatment of Toxic Goiter."—The Buchanan County Medical Society was addressed in St. Joseph, February 5, by Drs. Robert O. D. Pearson on "Use of Plasma Transfusions in Surgery" and Thomas L. Howden, "Use of Plasma in Medicine." Both are of St. Joseph.—Dr. Paul C. Bucy, Chicago, addressed the Kansas City Academy of Medicine, March 21, on "Experimental Studies on the Functions of the Brain."

NEW JERSEY

Hudson County Course on Tuberculosis.—The advisory committee on tuberculosis and the committee on postgraduate education of the Medical Society of New Jersey have arranged a postgraduate course on pulmonary tuberculosis to be given at the Hudson County Tuberculosis Hospital, Jersey City, Monday and Friday afternoons by members of the staff, April 4-25. The lecturers will be:

Dr. Isadore Earle Gerber, New York, Pathogenesis of Pulmonary Tuberculosis, April 4.

Dr. Gerber, Bacteriology and Immunity in Tuberculosis, April 7.

Dr. Samuel Cohen, Clinical Classification of Pulmonary Tuberculosis, April 11.

Dr. Abraham E. Jaffin, Case Finding: The Role of the Physician and the Clinic, April 14.

Dr. Harry J. Perlberg, Interpretation of Fluoroscopic and X-Ray Findings in Pulmonary Tuberculosis, April 18.

Dr. Benjamin P. Potter, Medical Treatment of Pulmonary Tuberculosis, April 21.

Dr. Frank Bortone, Surgical Treatment of Pulmonary Tuberculosis, April 25.

NEW YORK

Annual Report on Typhoid Carriers.—The state department of health reports that 434 typhoid carriers, exclusive of those in state institutions, were under supervision in upstate New York at the close of 1940. Thirty-seven new carriers were added during the year. Twenty-eight of these were discovered as a result of investigation of sporadic cases of typhoid, 1 by means of release cultures, 1 in the course of an examination of a food handler and 2 accidentally at the time of a cholecystectomy. Five previously discovered carriers were added to the register: 2 had been living outside the state and the remainder in New York City. Twenty-five names were removed from the register. Fifteen died, 6 were released after cholecystectomy, 1 was committed to a state institution and 3 moved to other jurisdictions, according to *Health News*.

Society News.—Dr. Leon H. Cornwall, New York, addressed the Onondaga County Medical Society, Syracuse, March 4, on "Medical Science and Political Philosophy."—Dr. Louis H. Bauer, Hempstead, L. I., addressed the Syracuse Academy of Medicine, March 18, on "Aviation Medicine."—Dr. Philip M. Stimson, New York, addressed the Medical Society of the County of Westchester, White Plains, March 18, on "Acute Contagious Diseases of Childhood."—Dr. Clay Ray Murray, New York, addressed the Medical Society of the County of Albany in Albany, February 26, on "Problem Fractures About the Elbow Joint."—Dr. Edward H. Ryncarson, Rochester, Minn., addressed the Rochester Academy of Medicine, March 4, on "Endocrinology: A Critical Appraisal."—Drs. Russell Plato Schwartz and Carl T. Harris, Rochester, gave an illustrated public lecture on "Painful Feet and Aching Back," February 23, under the auspices of the Medical Society of the County of Monroe, the Rochester Academy of Medicine and the University of Rochester School of Medicine and Dentistry.

New York City

The Biggs Lecture.—The annual Hermann M. Biggs Lecture of the New York Academy of Medicine will be delivered, April 3, by Dr. Clarence A. Mills, James T. Heady professor of experimental medicine, University of Cincinnati College of Medicine. His subject will be "Relation of Climate and Geography to Health."

Miller Memorial Lecture.—Dr. Esmond R. Long, director of the Henry Phipps Institute, University of Pennsylvania, Philadelphia, will deliver the Adam M. Miller Memorial Lecture at the Long Island College of Medicine, March 28. Dr. Long's subject will be "Environment and Constitution in the Development of Tuberculosis."

Cuban Committee Visits Cornell.—Six members of the faculty of the University of Habana Faculty of Medicine spent the week of January 20-27 in New York at the invitation of Cornell University Medical College on a travel grant made available by the Department of State. The group compose a permanent committee which has been cooperating for the past two years in an exchange of undergraduate students and teaching personnel with Cornell. The Cuban delegation included Drs. Angel Vieta-Barahona, dean of the faculty of medicine; Alberto Inclan, Carlos E. Finlay, Alfredo Antonetti, Felix A. Hurtado and Edward McGough.

Society News.—Drs. Rosario Mule and Silik H. Polayes, among others, addressed the Brooklyn Urological Society, March 11, on "Medical Aspects of Renal Calculi" and "The Pathology of Symmetrical Cortical Necrosis of the Kidneys" respectively. Speakers before the Medical Society of the County of New York, February 24, were Lieut.-Col. Maurice E. Barker, U. S. Army, Washington, D. C., on "Some of the Medical Problems of the Chemical Warfare Service"; Dr. Samuel M. Strong, Flushing, "The Doctor's Relation to Aviation," and Dr. Lowell S. Selling, Detroit, "Mental Hygiene Aspect of the Deferred Draftee."—Drs. Frederick MacCurdy and Harry Projector addressed the Bronx County Medical Society, February 19, on "The Hospital and the Community" and "The Present and Future Status of Private Medical Practice" respectively. Dr. Charles F. Geschickter, Baltimore, addressed the Bronx Pathological Society, February 18, on "The Pathology and Etiology of Mammary Cancer."—Drs. John H. Garlock and Armistead C. Crump addressed the New York Society for Thoracic Surgery, February 14, on "The Present Status of Surgical Treatment of Carcinoma of the Thoracic Esophagus" and "Differential Diagnosis of Lesions of the Lower Esophagus" respectively. Dr. Paul D. White, Boston, addressed the Academy of Pathological Science at a meeting at the New York Medical College, Flower and Fifth Avenue hospitals, January 24, on "Arteriosclerotic Aneurysms of the Aorta."—Dr. Robert D. Mussey, Rochester, Minn., addressed the Medical Society of the County of Queens, February 25, on "Endometriosis."

NORTH CAROLINA

Changes in Health Officers.—Dr. William K. McDowell, Scotland Neck, has been appointed health officer of Richmond County with headquarters at Rockingham.—Dr. Herbert A. Hudgins, Winston-Salem, has been elected health officer of the Rutherford-Polk health district.—Dr. Frank E. Wilson, Tarboro, has resigned as health officer of Edgecombe County to take a course in public health at the University of North Carolina.

Alumni Without an Alma Mater.—Dr. Julius V. Dick, Gibsonville, was elected president of the alumni association of the University of North Carolina School of Medicine at Raleigh, now out of existence, at the annual meeting on February 22 in Chapel Hill. Dr. Joseph N. Moore, Marshall, was elected vice president and Dr. Robert P. Noble, Raleigh, secretary. Drs. Isaac H. Manning, Chapel Hill, and John A. Ferrell, New York, were speakers. The Raleigh unit of the university went out of existence in 1910, and the association of alumni was formed in 1928.

Society News.—Speakers at a meeting of the Mecklenburg County Medical Society, Charlotte, February 4, were Drs. Angus M. McDonald Jr. on "Use of Testosterone in Dysfunction of Male Genital Organs"; Silas Raymond Thompson, "Present Status of Prostatic Surgery," and George Aubrey Hawes, "Present Day Concept in the Study of Male Sterility." All are of Charlotte.—Dr. Irving S. Wright, New York, addressed the Guilford County Medical Society, Greensboro, February 6, on "Diagnosis and Treatment of Obliterative Arterial Disease."—Dr. David T. Smith, Durham, addressed the Forsyth County Medical Society, Winston-Salem, February 18, on "Clinical Applications of Recent Advances in Immunology and Bacteriology."—Dr. Adam T. Thorp, Rocky Mount, discussed eclampsia at a meeting of the Fourth District Medical Society, February 18, in Eureka.

PENNSYLVANIA

Research on Standards of Living.—Pennsylvania State College at State College has established the Ellen H. Richards Institute to study improvements in standards of living in the field of food, clothing and shelter. The unit will take over investigations that have been carried on in the departments of chemistry and home economics and in the agricultural experi-

ment station of the college. Among others, research studies in human nutrition, begun in 1935, will be continued. The institute was named for Ellen H. Richards (1842-1911), for many years instructor in sanitary chemistry at Massachusetts Institute of Technology, who has been called the founder of household science in this country in its modern sense. Pauline Beery Mack, Ph.D., who has been on the staff of the school of chemistry and physics at Pennsylvania State College since 1919 and director of research in home economics since 1935, is the first director of the new institute.

Society News.—Laurance E. Shinn, Ph.D., Pittsburgh, addressed the Washington County Medical Society in Washington, March 12, on "Some Problems Concerning the Action of Sulfanilamide and Related Drugs."—Dr. Mortimer Cohen, Pittsburgh, discussed "Blood Transfusions" at a meeting of the Fayette County Medical Society, Uniontown, March 6.—Lieut.-Col. Frank H. Dixon, U. S. Army, addressed the Dauphin County Medical Society, Harrisburg, March 4, on medical preparedness.—Drs. Joseph C. Yaskin and Robert A. Groff, Philadelphia, addressed the Harrisburg Academy of Medicine, March 18, on "Diagnosis and Management of Operable Brain Lesions."—Dr. James M. Surver, Philadelphia, addressed the Blair County Medical Society, Altoona, February 25, on carcinoma of the stomach.

Philadelphia

Meeting on Diabetes.—Drs. Howard F. Root, Boston, and J. West Mitchell, Pittsburgh, were guest speakers before the Philadelphia County Medical Society, March 12, on "The Possibilities of Cure of Diabetes" and "The Diabetic Group of Diseases" respectively. Dr. Joseph T. Beardwood Jr. discussed "Borderline Metabolic States in Military Personnel" and Dr. Edward Roland Snader, chairman of the society's diabetic committee, the aims and accomplishments of that committee.

Annual Postgraduate Institute.—Evening features of the Sixth Annual Postgraduate Institute of the Philadelphia County Medical Society, March 31 to April 4, will include round table discussions. The first will be held Monday evening, March 31, with Dr. Harrison F. Flippin leading the discussion on "Chemotherapy" with the following assistants: Drs. Dale C. Stahle, Harrisburg; John A. Kolmer, Edward H. Campbell, Harry Lowenburg, Walter W. Baker, Isidor S. Ravdin and Leon Schwartz. Tuesday evening the subject will be "Surgical Aspects of Peptic Ulcer" with Dr. George P. Müller as the leader and Drs. Eldridge L. Eliason and Thomas A. Shallow as assistants. The annual dinner and dance will be given Wednesday evening at the Bellevue-Stratford Hotel. There will also be a luncheon the first day, at which the speakers will include Mayor Lamberton, Drs. Hubley R. Owen, city director of health, John J. Shaw, state secretary of health, Harrisburg, and Lewis T. Buckman, Wilkes-Barre, president-elect of the Medical Society of the State of Pennsylvania.

Pittsburgh

Doctors' Orchestra Organized.—Physicians and dentists of Pittsburgh have organized a symphony orchestra and began rehearsals February 6, with more than forty present. Dr. Myer W. Rubenstein is president of the new organization and Gaylord Yost is the conductor.

Three Health Supplements.—Three Pittsburgh newspapers have recently published health supplements under the sponsorship and direction of the bureau of medical information of the Allegheny County Medical Society. The *Pittsburgh Press* in its supplement, February 25, took as its theme "Medicine and National Defense"; the *Sun-Telegraph*, February 27, "Healthy Americans," and the *Post-Gazette*, March 7, "Health in the Pittsburgh District." The material was written by members of the society and edited by the bureau of medical information, and the advertisements were approved by the bureau.

SOUTH CAROLINA

Personal.—Dr. Karl L. Able was elected mayor of Leesville recently.—Dr. Olin Sawyer, Georgetown, was recently appointed medical director of the South Carolina Industrial Commission, according to a newspaper report.—An oil portrait of Dr. Charles A. Mobley, Orangeburg, was presented to the Tri-County Hospital, Orangeburg, January 5, by the medical staff of the hospital. Dr. Mobley, who has served as president of the South Carolina Medical Association, was honored for his work in promoting hospital facilities in the area. Through the establishment of the Orangeburg Hospital twenty-one years ago he laid the foundation for the present Tri-County Hospital, it was said. Dr. Lawrence P. Thackston, chief of staff, made the presentation.

Postgraduate Assembly for Negro Physicians.—The first postgraduate assembly for Negro physicians in South Carolina was held at State College, Orangeburg, January 28-30, under the auspices of the U. S. Public Health Service, National Tuberculosis Association, South Carolina Tuberculosis Association, South Carolina Sanitarium, the South Carolina State Board of Health, the Palmetto Medical Association and State College. Lectures were presented on obstetrics, pediatrics, tuberculosis and venereal disease by Drs. Robert E. Seibels, William Weston Jr., Robert W. Ball and Sedgwick Simons, Columbia; Pedro Martir Santos, Chicago; Nolan A. Owens, Washington, D. C.; William B. Perry, special consultant, U. S. Public Health Service; Orville L. Ballard, Waverly Hills, Ky., and John M. Preston, South Carolina Sanatorium, State Park.

TENNESSEE

Society News.—A symposium on pneumonia was presented at a meeting of the Memphis and Shelby County Medical Society, January 21, by Drs. Frank T. Mitchell, Alfred M. Goltman, Lucius C. Sanders and Conley H. Sanford. All are from Memphis.—Dr. Charles L. Scudder, Boston, addressed the Chattanooga and Hamilton County Medical Society, January 23, on "Transportation and Treatment of Fractures."—Dr. Herbert Acuff, Knoxville, addressed the Washington, Carter and Unicoi Counties Medical Society in Johnson City, February 6, on "Thoracic Surgery" and Dr. Edward T. Brading, Johnson City, on the pneumonia control program in Tennessee.

Lectures on Poliomyelitis at Vanderbilt.—Six lectures on poliomyelitis will be presented at Vanderbilt University, Nashville, in April under the sponsorship of the National Foundation for Infantile Paralysis. The series is as follows:

- Paul F. Clark, Ph.D., Madison, Wis., The History of Poliomyelitis, April 7.
- Dr. Charles Armstrong, U. S. Public Health Service, Washington, D. C., The Etiology of Poliomyelitis, April 8.
- Dr. Thomas M. Rivers, New York, Immunity to Poliomyelitis, April 9.
- Dr. Ernest W. Goodpasture, Nashville, Pathology and Pathogenesis of Poliomyelitis, April 14.
- Dr. John R. Paul, New Haven, Conn., Epidemiology of Poliomyelitis, April 15.
- Dr. Frank R. Ober, Boston, Treatment and Rehabilitation of Poliomyelitis Patients, April 16.

TEXAS

Radiology Meeting.—The annual meeting of the Texas Radiological Society was held in Sherman, January 18. The speakers included:

- Dr. Fred J. Hodges, Ann Arbor, Mich., The Utility of Radiological Methods in Gastrointestinal Diagnosis.
- Dr. Wendell M. Long, Oklahoma City, Diagnostic Problems Encountered in Carcinoma of the Cervix.
- Dr. Leon J. Menville, New Orleans, Irradiation in Endocrine Dysfunction, Particularly Hyperthyroidism.
- Dr. James R. Maxfield Jr., Albuquerque, N. M., Evaluation of Radiation Methods Now Available for the Treatment of Cancer.
- Dr. Roscoe P. O'Bannon, Fort Worth, Fracture of the Dorsal Spine Following Metastazoid Therapy.
- Dr. Paul C. Williams, Dallas, Scoliosis.
- Dr. Jesse B. Johnson, Galveston, X-Ray Manifestations in Nutritional Deficiencies of Bone.

Dr. Glenn D. Carlson, Dallas, was named president-elect and Dr. Milton H. Glover, Wichita Falls, became president.

UTAH

Annual Registration Due April 1.—All practitioners of medicine and surgery licensed to practice in Utah are required to register annually on or before April 1 with the Department of Registration and to pay a fee of \$3. If a licentiate fails to reregister within ninety days to six months after April 1, his license can be revoked and, if revoked, it will be reinstated thereafter only on his paying the delinquent registration fee and an additional year's fee as a penalty.

WASHINGTON

Society News.—Drs. Raymond A. Lower and Donald A. Palmer, Spokane, addressed the Spokane County Medical Society, February 13, on "Nonopaque Foreign Bodies of the Lung" and "An Unusual Case of Cardiospasm" respectively.—Drs. William Y. Baker and Edward D. Hoedemaker addressed the King County Medical Society, Seattle, March 3, on "Present Status of Active Therapies of the Psychoses" and "Present Status of the Treatment of Neuroses" respectively. Drs. Brien T. King, Charles B. Ward and Sylvester N. Berens addressed the society, Seattle, February 17, on "Post-operative Exophthalmos," and Dr. Harry J. Friedman, "Vascular Diseases of the Extremities."

WYOMING

Personal.—Drs. Charles W. Jeffrey, Rawlins, and George W. Earle, Casper, are serving in the state house of representatives.

Annual Registration Due April 1.—All practitioners of medicine and surgery licensed to practice in Wyoming are required by law to register on or before April 1 with the secretary of the Board of Medical Examiners and to pay a fee of \$2.50. If a licentiate fails to pay the fee within three months after April 1 his license can be annulled, and, if annulled, it will be reinstated only on his paying the stated fee plus \$5 as a penalty.

GENERAL

Registry for Technologists Moved to Indiana.—The Registry of Medical Technologists of the American Society of Clinical Pathologists has been moved from Denver to the Ball Memorial Hospital, Muncie, Ind. The registry has been located in Denver since its organization in 1928 and has been administered by Dr. Philip Hillkowitz as chairman of the board and Mrs. Ann R. Scott, the registrar. With the recent resignation of Dr. Hillkowitz and Mrs. Scott, Dr. Lall G. Montgomery, Muncie, was chosen chairman, and Miss Carlita R. Swenson, formerly with the U. S. Pharmacopeia, Philadelphia, registrar.

Hospital Superintendent Wanted.—There will be a position open for superintendent of a municipally controlled hospital of two hundred and fifty beds, one half of which is for treatment of contagious diseases and the other half for treatment of tuberculosis. Applicants for this position must have had previous administrative experience in responsible hospital positions, including buying of hospital supplies. The contemplated salary is \$7,500 without maintenance. Applications should be filed as soon as possible. Additional information may be obtained from the Chairman of the Board of Trustees, Belmont Hospital, Worcester, Mass.

Study of Neoplastic Diseases.—The spring meeting of the American Association for the Study of Neoplastic Diseases will be held at Garfield Hospital, Washington, D. C., April 3-5. The meeting will be a demonstration of microscopic pathology, roentgenograms and lantern slides on the following topics: lesions of the female genital system; lesions of bones; endothelioma of meninges, nerve trunks and ganglions, serous membranes, bone, skin, ovary, lymph nodes; lesions of the gastrointestinal tract; lesions of the endocrine glands; lesions of the male genitourinary system. One session will be devoted to a visit to the National Institute of Health, Bethesda, Md., and to a discussion of treatment in neoplasia. The president of the association is Dr. Roscoe W. Teahan, Philadelphia, and the secretary is Dr. Eugene R. Whitmore, Washington, D. C.

Meeting of Dermatologists.—The sixty-fourth annual meeting of the American Dermatological Association, Inc., will be held at the Hotel Roosevelt, New Orleans, April 7-10, under the presidency of Dr. William H. Guy, Pittsburgh. Among the speakers will be:

- Drs. William Howard Hailey and Hugh E. Hailey, Atlanta, Poikiloderma Congenitale.
- Drs. Vicente Pardo-Castello, E. Rio Leon and F. Trespalacios, Havana, Chromoblastomycosis in Cuba.
- Drs. Clark W. Finnerud and Roland L. Kesler, Chicago, Ingestion of Lard in the Treatment of Eczema and Allied Dermatoses.
- Drs. Frank J. Eichenlaub, Robert Stolar and Alvin E. W. Wade, Washington, D. C., Prevention of Transfusion Syphilis.
- Dr. Clarence Guy Lane and Irving H. Blank, Ph.D., Boston, Sulfonated Oil as a Detergent in a Dermatologic Ward.

The program will be concluded with a symposium on superficial fungous infections. An automobile trip will then be conducted to the National Leprosarium at Carville, where a clinic on leprosy will be held.

The Foundation Prize.—The American Association of Obstetricians, Gynecologists and Abdominal Surgeons announces that its "Foundation Prize" of \$150 is again offered. Eligible contestants include (a) interns, residents or graduate students in obstetrics, gynecology or abdominal surgery and (b) physicians who are actively practicing or teaching in these fields. Manuscripts must be presented under a nom de plume to the secretary of the association together with a sealed envelop bearing the nom de plume and containing a card showing the name and address of the contestant. Manuscripts must be limited to 5,000 words and must be typewritten in double spacing on one side of the sheet, with ample margins. Illustrations should be limited to such as are required for clear

exposition of the thesis. Three copies of all manuscripts must be in the hands of the secretary before June 1. The award will be made at the annual meeting of the association, at which time the successful contestant must appear in person to present his contribution as a part of the program. The contestant must meet all expenses incident to this presentation. The successful thesis becomes the property of the association, but this provision shall in no way interfere with publication of the communication in the journal of the author's choice, according to the rules. The secretary is Dr. James R. Bloss, 418 Eleventh Street, Huntington, W. Va.

Birth Rate Highest in Decade.—About 2,350,000 babies were born in the United States in 1940, the highest number since 1930, according to a report by the bureau of the census February 17. The total was nearly 100,000 greater than in 1939 and the increase lifted the national birth rate from 17.3 to 18 live births per thousand of population. From a rate of 24.2 in 1921 the rate continuously declined to its lowest point, 16.5, in 1933. Since then it has risen irregularly. The census bureau points out that the long range tendency is still downward, the present rise resulting from the fact that babies born from the greatly increased volume of marriages following the first World War are now coming into reproductive ages. The provisional death rate for 1940 also registered a slight increase, 10.8 per thousand of population, and the infant mortality rate decreased slightly, 47.9 deaths per thousand live births. Census statisticians point out that, despite the birth increase in 1940, barely enough children are being born to replace the present generation. An unusually large number of women are now in the child bearing ages. As they grow older, birth rates will continue to drop and death rates rise, offsetting the present gradual growth in population. The census bureau recently announced that, if the average birth and death rates prevailing from 1935 to 1939 continue, the reproduction rate of white persons forecasts an eventual decrease of 4 per cent with each generation. The reproduction rate is computed by a comparison of the number of female babies born in a generation from a given number of women of reproductive age.

CANADA

Professor of Radiology Appointed.—Dr. William W. Bryan, Montreal, has been appointed professor of radiology at the University of Western Ontario Faculty of Medicine, London, Ont., and radiologist at the Victoria Hospital.

Society News.—Dr. Harry C. Solomon, Boston, addressed the Academy of Medicine of Toronto, February 4, on "The Treatment of Neurosyphilis." Dr. Walter T. Dannreuther, New York, will be the speaker, April 1, on "The Treatment of Endometriosis."

New Dean at Laval University.—Dr. Charles Vezina, professor of clinical surgery, Laval University Faculty of Medicine, Quebec, has been appointed dean of the medical school to succeed the late Dr. P. Calixte Dagneau. Dr. Vezina graduated from Laval in 1913.

Overseas Medical Society Formed.—Medical officers of the First Canadian Division, now in England, have formed a medical society, which has been granted affiliation with the Canadian Medical Association. Col. Emmet A. McCusker, Regina, Sask., was elected president and Major Gordon A. Sinclair, Grimsby, Ont., secretary. Major Israel M. Rabinowitch, Montreal, gave an address on war gases and first aid measures for each gas at a recent meeting.

LATIN AMERICA

New Health Officials in Mexico.—With the inauguration of President Manuel Avila Camacho the appointment of new health officials has been announced in Mexico. Dr. Victor Fernández Manero is the new head of the department of health, and Dr. Mario Quiñones is secretary. Dr. Gustavo Baz is secretary of public welfare.

Course at Cordoba University.—A course on surgery of biliary lithiasis will be presented at the National University of Cordoba, Argentina, May 15-31, under the direction of Dr. Pablo L. Mirizzi. The course will include lectures, practical classes, operative sessions, clinical exercises, interpretation of roentgenograms and demonstration of operative technic, presented by Dr. Mirizzi and his staff. Information may be obtained from Dr. Mirizzi, Hospital Nacional de Clinicas, Calle Santa Rosa 1562, Cordoba, Argentina.

Government Services

Report of Bureau of Narcotics

The number of persons arrested for violations of the federal narcotic laws (excluding marihuana) during the calendar year 1940 was 2,216, as compared with 3,295 in 1939, according to a report of the enforcement agencies of the Treasury Department. The number of marihuana arrests was nearly the same, 870 in 1940 and 864 in 1939.

Figures presented by the Bureau of Narcotics show a decrease also in the amount of drugs seized. In the internal traffic, the bureau seized approximately 2,292 ounces in 1940, as compared with 3,544 ounces in 1939. The Bureau of Customs seized at ports and borders approximately 2,286 ounces in 1940 as compared with 8,895 in 1939.

Activity in the control of marihuana was increased. In the illicit traffic 20,960 ounces of bulk marihuana was seized, including 3,450 ounces seized at ports and borders, as compared with 17,035 in the previous year. In addition, the authorities seized 19,560 cigarettes, including 1,243 seized at ports and borders, slightly more than in 1939, when the total was 19,091. Marihuana growing on approximately 19,000 acres of land was destroyed as compared with 6,506 acres in 1939.

In a statement before the subcommittee of the Committee on Appropriations of the House of Representatives, January 8. Mr. H. J. Anslinger, commissioner of narcotics, said there is a great reduction in drug addiction throughout the country, because the drugs are so highly diluted that they do not maintain the habit. However there has been an increase in the number of robberies of drug stores, wholesale houses and physicians, and the addict is resorting to forged prescriptions as well as to paregoric and other exempt preparations.

Interdepartmental Committee on Health and Welfare

Federal Security Administrator Paul V. McNutt has appointed an Interdepartmental Advisory Committee to advise him in coordinating all health, medical care, welfare, nutrition, recreation and related activities affecting national defense. In addition Mr. McNutt has established twelve regional advisory councils made up of the field representatives of all federal agencies participating in these activities, with the regional directors of the Social Security Board as regional defense coordinators. These coordinators will act as chairmen of the regional advisory councils and maintain the relationships in these fields with the state defense councils in their respective regions. Members of the new committee include:

Arthur J. Altmeyer, chairman of the Social Security Board.
Aubrey Williams, administrator of the National Youth Administration.
John W. Studebaker, LL.D., director, Office of Education.
Dr. Warren F. Draper, U. S. Public Health Service.
Calvin B. Baldwin, administrator, Farm Security Administration.
Milburn L. Wilson, director of extension work.
Milo R. Perkins, administrator, Surplus Marketing Administration.
Louise Stanley, Ph.D., chief, Bureau of Home Economics.
John M. Carmody, administrator, Federal Works Agency.
Howard O. Hunter, acting commissioner, Work Projects Administration.
Frances Perkins, Secretary of Labor.
Katherine Lenroot, chief of the Children's Bureau.
Conrad Wirth of the National Park Service.
Harold W. Breining, assistant administrator, Veterans Administration.
Charles W. Eliot II, director, National Resources Planning Board.

Five additional members of this committee are members of the Advisory Commission to the Council of National Defense: Frank Bane, director of the division of state and local cooperation; Charles Palmer, housing coordinator; John B. Hutson, Ph.D., agriculture division; Sidney Hillman, labor division, and Harriet Elliott, consumer protection division.

Division of Industrial Hygiene Reorganized

The division of industrial hygiene in the National Institute of Health, Bethesda, Md., has been reorganized with Dr. James G. Townsend, medical director, U. S. Public Health Service, as chief. Two new administrative sections have been created to facilitate the division's relationship to national defense: the states relations section and defense activities with John J. Bloomfield, sanitary engineer, as chief, and the research section in charge of Dr. Paul A. Neal. In this reorganization Passed Asst. Surg. Waldemar C. J. Dreessen directs the medical personnel; Passed Asst. Sanitary Engineer (R.) A. D. Brandt is in charge of the engineering unit, and the statistical work of the division falls to Senior Statistician William M. Gafafer. Dr. Townsend was transferred from the Office of Indian Affairs, Washington, to the new work.

Foreign Letters

PARIS

(From Our Regular Correspondent)

Aug. 24, 1940.

Medical Life in France

Medical life in France is undergoing great changes. The unforeseen and rapid occupation of the capital by the army of invasion threw not only the hospital and health services but also academic life and scientific output into confusion. Many periodicals have discontinued publication. Others had to reduce the number of their pages by half. Beginning with the first of the year, articles signed by Jews may not be published. The cutting off of communication between free and occupied France has practically made two countries of France. The number of physicians in the capital has fallen tremendously. Of the six thousand five hundred physicians in Paris and the department of the Seine, only two thousand remained after the mobilization at the end of April. This number was further reduced to four hundred and fifty by June 14, the day the nazis entered Paris. While large numbers of the population fled, the reduction was not so great as to make the greatly reduced body of physicians sufficient for the needs of the people. Whole areas of the city could show neither medical practitioner, midwife nor druggist. Sanitary offices had likewise ceased. The faculty of medicine, the laboratories and the libraries were almost abandoned. Public health was seriously menaced. Thanks to the courageous initiative of voluntary health committees, such as that of Paris and its environments, no epidemics occurred. The Academy of Medicine, which had planned a refuge in advance, remained at its post, though in greatly reduced number and with curtailment of its activities. However, its meetings were regularly held. The Pasteur Institute continued its work without interruption. Gradually, general practitioners returned, the hospitals were reopened and health services were resumed.

The French medical press was inundated by publicity. No discrimination was made between legitimate specialties and commercial exploitation. To correct these conditions, the government has appointed as health director not a politician, as was formerly done, but Dr. Serge Huart, a physician. Among the reforms introduced by him is one that may serve as an index of present social tendencies, namely the regulation which prohibits the practice of medicine to those whose fathers were not Frenchmen, unless they themselves have seen service in the French army or made some scientific contribution to the country of their adoption. This law strikes especially at the Jews. In the department of the Seine, nine hundred Jewish physicians will have to terminate their practice at once. Whatever hardships may be involved in this reform, it should be remembered that considerable abuses had crept in under the liberalism of French laws. Alien physicians from all points of the compass, many of whom could scarcely speak French, had abused the privileges shown them by the country by first obtaining a medical university diploma, which does not confer the right to practice, and then converting it with the aid of politicians into a state diploma. Not only that, but these aspirants to medical practice did not settle in rural districts, where often there was only one physician for three thousand inhabitants, but in cities already well supplied and especially in Paris, where they were so numerous that the ratio was that of one physician for six hundred inhabitants.

The health service has been reorganized, and reorganization was greatly needed. Heretofore fifty-two bureaus spread among seventeen ministries exercised powers that were archaic, involved and inefficient. For example, milk control was in charge of the veterinary department of the ministry of agriculture, but it had no powers against violators of the milk laws. The officers of

the ministry of health charged with the execution of health laws were the prefects and as such functioned under the ministry of the interior. They were assisted in part by local agents and thereby subjected to influences detrimental to efficiency. No unitary conception of public health services existed. The new order seems to promise a greater efficiency. An intimate association has been established between the family and health. No one will deny that these are vital problems with the strongest interrelations. The future of the race, its fertility, its ethnic significance are bound up with the problems of alcoholism, syphilis, nutrition, physical education, infant welfare and others. In the new setup the influence of local functionaries is minimized. They are replaced by administrative and supervisory officers, divided into twenty health districts, which are to replace the eighty-nine departments. These sanitary staffs will have a wider territory to cover, will be more independent and technically more centralized, and possess a correspondingly greater authority.

Another reform affects the medical profession directly. The medical syndicates and their confederation have been abolished. In their place the Order of Physicians has been created. This is not a new idea in France and has always aroused a lively opposition on the part of the medical profession, because the government has insisted that it be composed of physicians and magistrates, with the latter in the majority. The medical syndicates, organized on the basis of family councils, made some contribution to ethical standards but had no power except over the syndicates themselves. In future all physicians are subject to jurisdiction of the order, before which they will take their oath. It has the power of suspension or refusing the right to practice. A superior council of the order composed of fifteen members with Professor Leriche as its president has been designated. It, in turn, will appoint a departmental and regional council for each department and region. The order is charged with maintaining the honor and the ethical standards of the profession and with representing its members before the public authorities.

Marriages

JOHN THORNTON MITCHELL to Miss Marie Hazelhurst Hammond, both of La Grange, Fla., in Fort Lauderdale recently.

WILFRED EARL ALLYN JR., Shaker Heights, Ohio, to Miss Dorothy Ruth Newton at Cleveland Heights recently.

WILLIAM MONCURE DABNEY to Miss Lavinia Scott, both of Okolona, Miss., in Aberdeen, Oct. 18, 1940.

SIDNEY MARVIN COPLAND, New Orleans, to Miss Muriel Ruth Freilich of Chicago, January 11.

HAROLD MICHAEL FLORY, New Iberia, La., to Miss Opal Holloway Clark of Crowley recently.

JOHN D. CONNER, Nevada, Iowa, to Miss Agnes Marie Weyers of Des Moines, Dec. 25, 1940.

LAUREN McCALL SOMPAYRAC to Miss Lois Sybert Cleveland, both of Jacksonville, Fla., recently.

WALTER HUNTER WATSON to Miss Mary Norvell Johnson, both of Charleston, S. C., recently.

ADOLPH SOUCEK to Miss Mary Considine, both of Cherokee, Iowa, in Marcus, Dec. 28, 1940.

WILLIAM A. LANGE, Detroit, to Mrs. Annie Laurine Dodge in Champaign, Ill., January 30.

JOSEPH M. FRIEDMAN to Miss Irma Silman, both of Washington, D. C., Dec. 21, 1940.

JAMES A. FERRY to Miss Mildred Cosby Hodges, both of Birmingham, Ala., recently.

PRICE SEWELL JR., Ashland, Ky., to Miss Juliet Rumph at Lagrange, Dec. 27, 1940.

LEONARD S. ANNIS to Miss Lou Washington, both of Tampa, Fla., in December 1940.

HUGH F. McMANUS JR., Raleigh, N. C., to Miss Kay Cash of Durham, January 18.

Deaths

Claude Adelbert Burrett ♂ New York; Cleveland Homeopathic Medical College, 1905; director of the pathogenic laboratory and instructor in toxicology, University of Michigan College of Homeopathic Medicine, Ann Arbor, from 1905 to 1908, assistant professor of genitourinary surgery, dermatology and electrotherapeutics from 1908 to 1913 and professor of surgery and genitourinary surgery, 1913-1914; professor of surgery and acting dean, 1914-1915; dean and professor of surgery, Ohio State University College of Homeopathic Medicine, Columbus, from 1915 to 1922; since 1939 president and from 1925 to 1939 dean, professor of surgery and director at the New York Medical College, Flower and Fifth Avenue Hospitals, formerly known as the New York Homeopathic Medical College and Flower Hospital; fellow and formerly member of the board of governors of the American College of Surgeons; was on the medical council of the state board of regents; during the World War was surgeon to the student army training corps at Ohio State University and a member of the medical division of the Ohio War Defense Board; a trustee of Syracuse University; aged 62; died, March 3, of cerebral hemorrhage.

Joseph Augustus White ♂ Richmond, Va.; University of Maryland School of Medicine, Baltimore, 1869; an Affiliate Fellow of the American Medical Association and chairman of its Section on Ophthalmology, 1884-1885; one of the founders of the University College of Medicine, Richmond; for many years professor of ophthalmology, otology, rhinology and laryngology and later emeritus professor of otolaryngology and ophthalmology at the Medical College of Virginia; at one time professor of eye and ear diseases at the Washington University Medical Department, Baltimore; past president of the Richmond Academy of Medicine, the Tri-State Medical Association of the Carolinas and Virginia, the Medical Society of Virginia, the American Laryngological, Rhinological and Otolological Society; member of the American Ophthalmological Society and the American Otolological Society; aged 92; died, February 16, of myocarditis.

John Preston Sutherland, Boston; Boston University School of Medicine, 1879; member of the Massachusetts Medical Society; served at his alma mater as assistant in clinical medicine from 1881 to 1882, assistant in pathology and therapeutics from 1883 to 1884, lecturer on anatomy in 1887, professor of anatomy from 1888 to 1907, professor of theory and practice from 1908 to 1937, professor of medicine since 1937, registrar from 1896 to 1899, acting dean from June 1897 to 1900, dean from 1900 to 1923 and dean emeritus since 1923; served in various capacities on the staff of the Massachusetts Homeopathic Hospital; consulting physician and trustee of the Massachusetts Memorial Hospital; author of "Malnutrition, The Medical Octopus"; aged 87; died, February 22, of coronary thrombosis.

Edward Jewett Goodwin ♂ St. Louis; Washington University School of Medicine, St. Louis, 1894; an Affiliate Fellow of the American Medical Association and member of its House of Delegates from 1909 to 1918 and from 1925 to 1934; in 1902 was appointed associate recording secretary and official reporter of the Missouri State Medical Association, in 1903 assistant secretary, in 1910 secretary and in 1938 secretary emeritus; associate editor of the *Interstate Medical Journal* from 1903 to 1910; in 1905 became associate editor of the *Journal of the Missouri State Medical Association*, in 1906 editor and in 1938 editor emeritus; aged 76; died, February 18, of heart disease.

Sherman Fletcher Gilpin ♂ Philadelphia; Jefferson Medical College of Philadelphia, 1896; member of the American Neurological Association and the American Psychiatric Association; associate professor of nervous and mental diseases at his alma mater from 1908 to 1932 and clinical professor of nervous and mental diseases at Temple University School of Medicine from 1906 to 1908; formerly consulting neuropsychiatrist, State Hospital, and neuropsychiatrist, Moses Taylor Hospital, Scranton; aged 70; served on the staff of the Philadelphia General Hospital, where he died, February 19, of carcinoma of the urinary bladder and uremia.

Thomas William Mason Long ♂ Roanoke Rapids, N. C.; University College of Medicine, Richmond, 1908; secretary-treasurer of the Medical Society of the State of North Carolina; past president of the Halifax County Medical Society and of the fourth district society; at one time member of the state board of medical examiners; formerly mayor; served in the state house of representatives in 1931 and in the senate in 1933, 1937, 1939 and 1941; aged 55; died, February 3, in the Rex Hospital, Raleigh, of coronary occlusion.

Charles T. Chamberlain ♂ Portland, Ore.; Cooper Medical College, San Francisco, 1903; member of the American Laryngological, Rhinological and Otolological Society and the Pacific Oto-Ophthalmological Society; clinical professor of otology, rhinology and laryngology at the University of Oregon Medical School; past president of the Portland Otolaryngological Society; on the staff of the Emanuel Hospital and the Doernbecher Memorial Hospital for Children; aged 60; died, Dec. 25, 1940, of cerebral hemorrhage.

Fred Short Ryan ♂ San Jose, Calif.; Northwestern University Medical School, Chicago, 1908; past president of the Santa Clara County Medical Society; fellow of the American College of Surgeons; served during the World War; on the staffs of the San Jose Hospital and O'Connor Sanitarium; superintendent of the Santa Clara County Hospital; aged 58; died, Dec. 1, 1940, of coronary occlusion.

William Miller ♂ Chicago; Northwestern University Medical School, Chicago, 1911; in 1914 clinical assistant in medicine, in 1918 instructor in surgery and from 1921 to 1929 associate in surgery at his alma mater; fellow of the American College of Surgeons; served during the World War; aged 56; on the staff of the Wesley Memorial Hospital, where he died, February 22, of coronary thrombosis.

James Michael O'Neill ♂ Harrison, N. Y.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1903; member of the American Psychiatric Association; served during the World War; formerly member of the school board; for many years resident physician at St. Vincent's Retreat; aged 61; died, January 5, in the United Hospital, Port Chester, of coronary thrombosis.

Walter Concemore Cramp ♂ New York; Columbia University College of Physicians and Surgeons, New York, 1904; formerly clinical professor of surgery at the University and Bellevue Hospital Medical College; fellow of the American College of Surgeons; trustee of Colgate University; aged 62; died, February 18, in the Doctors Hospital of carcinoma of the rectum.

Osmon Huntley Hubbard, Keene, N. H.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1888; member and past president of the New Hampshire Medical Society; past president of the Cheshire County Medical Society; for many years pathologist on the staff of the Elliott Community Hospital; aged 78; died, January 5, of coronary heart disease.

Charles David Dixon, San Antonio, Texas; Jefferson Medical College of Philadelphia, 1895; member of the State Medical Association of Texas; past president of the Bexar County Medical Society; served during the World War; past president of the city board of health; aged 69; died, January 11, in the Station Hospital of pyelitis and arteriosclerosis.

Frank Colgate Benson Jr., Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1894; professor and head of the department of radium therapy at his alma mater; fellow of the American College of Surgeons; aged 69; author of books of poems; on the staff of the Hahnemann Hospital, where he died, February 18, of multiple myeloma.

Fleming Howell, Buckhannon, W. Va.; Long Island College Hospital, Brooklyn, 1879; member and past president of the West Virginia State Medical Association and the Harrison County Medical Society; author of "Our Aryan Ancestors"; aged 91; died, January 9, in St. Joseph's Hospital of arteriosclerosis.

Charles Bismarck Kobert, Danville, Ky.; Medical College of Ohio, Cincinnati, 1901; member of the Kentucky State Medical Association; served during the World War; for many years director of the bureau of trachoma, Kentucky State Board of Health; aged 62; died, Dec. 12, 1940, of nephritis.

Benjamin Price Riley, New York; University of Virginia Department of Medicine, Charlottesville, 1902; clinical instructor in surgery, department of orthopedic surgery, Cornell University Medical College, New York, 1913-1914; aged 70; died, Dec. 21, 1940, of arteriosclerosis and coronary thrombosis.

Joseph F. Pinkham, Belding, Mich.; Victoria University Medical Department, Coburg, Ont., Canada, 1892; member of the Michigan State Medical Society; for many years on the staff of the Blodgett Memorial Hospital, Grand Rapids; aged 74; died, January 9, of cerebral thrombosis.

Henry Branson Henson, White Plains, N. Y.; University of the City of New York Medical Department, New York, 1891; member of the Medical Society of the State of New York; for many years on the staff of the Knickerbocker Hospital, New York; aged 71; died, Dec. 28, 1940.

Andrew James McIntyre, Washington, D. C.; Georgetown University School of Medicine, Washington, 1902; assistant demonstrator in anatomy at his alma mater from 1904 to 1906; formerly associated with the Veterans Administration; aged 63; died, January 11, of coronary thrombosis.

Frank T. Dowd, Indianapolis; Medical College of Indiana, Indianapolis, 1902; member of the Indiana State Medical Association; formerly deputy county coroner, police and fire surgeon; aged 59; died, January 21, of myocarditis, diabetes mellitus and gastrocholecystostomy.

Russell Arthur Salton Ⓢ **Williamson**, W. Va.; Baltimore Medical College, 1911; fellow of the American College of Surgeons; served during the World War; aged 53; on the staff of the Williamson Memorial Hospital, where he died, January 20, of pulmonary embolism.

Robert Wilson Morris, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1902; aged 64; on the staff of the Illinois Central Hospital, where he died, January 13, of hypertensive heart disease.

Richard Delaney, Winthrop, Mass.; Harvard Medical School, Boston, 1885; aged 81; died, Dec. 1, 1940, in the Peter Bent Brigham Hospital, Boston, of injuries received when struck by an automobile as he was crossing the street.

Joseph Henry Hutchings Ⓢ **Woburn**, Mass.; University of the City of New York Medical Department, 1887; on the courtesy staff of the Charles Choate Memorial Hospital; aged 77; died, January 12, of chronic myocarditis.

Carlos Emmor Godfrey, Trenton, N. J.; Medico-Chirurgical College of Philadelphia, 1890; director of public records of the state of New Jersey; aged 77; died, January 8, in St. Francis Hospital of cerebral hemorrhage.

Washington A. Harper, Austin, Texas; University of the South Medical Department, Sewanee, Tenn., 1895; University of Nashville (Tenn.) Medical Department, 1896; aged 71; died, January 3, of coronary occlusion.

Edward James Devine Ⓢ **Chicago**; Chicago College of Medicine and Surgery, 1909; served during the World War; on the staff of the Evangelical Hospital; aged 61; died, January 16, of coronary occlusion.

Fred Lamerton Horton Ⓢ **Pomona**, Calif.; University of Nebraska College of Medicine, Omaha, 1916; on the staff of the Pomona Valley Community Hospital; aged 46; died, Dec. 24, 1940, of gastric hemorrhage.

George H. Hunt, Paris, Ill.; Pulte Medical College, Cincinnati, 1882; member of the Illinois State Medical Society; on the staff of the Paris Hospital; aged 81; died, January 8, of hemiplegia and uremia.

David Zelenko, Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1904; aged 59; died, Dec. 2, 1940, in the Beth Moses Hospital of perirectal abscess and paralytic ileus.

Oliver Harrison Griffith Ⓢ **Wheeling**, W. Va.; Medical Department of the University of Cincinnati, 1910; served during the World War; aged 54; died, January 15, of hydrocyanic acid poisoning.

John J. Robrecht, Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1894; member of the Medical Society of the State of Pennsylvania; aged 73; died, Dec. 21, 1940.

Frederick Nussel, Brazil, Ind.; Medical College of Indiana, Indianapolis, 1891; member of the Indiana State Medical Association; health officer; aged 83; died, January 13, of pernicious anemia.

Irving Platt Withington, East Stroudsburg, Pa.; New York Homeopathic Medical College and Hospital, New York, 1906; aged 82; died, Dec. 29, 1940, of cardiovascular renal disease.

Bruno Wolff, Tonawanda, N. Y.; Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, Prussia, Germany, 1921; aged 49, died, Dec. 26, 1940, of carcinoma of the stomach.

John Jay McClung, Jackson, Ohio; Ohio Medical University, Columbus, 1898; member of the Ohio State Medical Association; aged 68; died, January 3, of heart disease.

Jesse Wilhelm Stenger, Pasadena, Calif.; University of California Medical Department, San Francisco, 1910; aged 59; died, Dec. 26, 1940, of coronary thrombosis.

Edward N. Foster, Center, Texas (licensed in Texas under the Act of 1907); aged 66; died, January 11, of tuberculosis, hypertension and heart disease.

Delon L. Murray, Dexter, Ga.; University of Georgia Medical Department, Augusta, 1911; aged 59; died, Dec. 13, 1940, in a hospital at Dublin.

George John Mehler, Jackson Heights, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1904; died, Dec. 26, 1940.

Andrew Everett Porter, Edmonton, Alta., Canada; University of Pennsylvania Department of Medicine, Philadelphia, 1876; died, Dec. 7, 1940.

Henry Stanislaus Sauerbrey, Columbus, Ohio; University and Bellevue Hospital Medical College, New York, 1903; aged 68; died, Dec. 25, 1940.

John Herbert Leimbach Sr. Ⓢ **Isleton**, Calif.; University of California Medical Department, San Francisco, 1902; aged 63; died, Dec. 1, 1940.

Thomas Duncan Rutherford, Burford, Ont., Canada; University of Toronto Faculty of Medicine, 1905; aged 60; died, Dec. 10, 1940.

John Livingston Dinning Ⓢ **New York**; University and Bellevue Hospital Medical College, New York, 1899; aged 77; died, Dec. 29, 1940.

John Hedley Secord, Sackville, N. B., Canada; McGill University Faculty of Medicine, Montreal, Que., 1896; aged 71; died, Dec. 27, 1940.

Allen Avery Shepard, Sault Ste. Marie, Ont., Canada; University of Toronto Faculty of Medicine, 1898; aged 67; died, Dec. 2, 1940.

William H. Warrick, Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1891; aged 73; died, Dec. 7, 1940.

Landrum Walker Wood Ⓢ **Slater**, S. C.; Atlanta (Ga.) Medical College, 1914; served during the World War; aged 51; died, Dec. 28, 1940.

Louis Adolphus Sholars, Doyline, La.; Medical Department of Tulane University of Louisiana, New Orleans, 1900; aged 65; died, Dec. 7, 1940.

Leonard Niess, Trenton, Ill.; Washington University School of Medicine, St. Louis, 1912; aged 62; died, January 19, of angina pectoris.

John Roger Minahan, Green Bay, Wis.; Rush Medical College, Chicago, 1889; bank president; aged 78; died, January 22, of pneumonia.

Marshall E. Combs, Hazard, Ky.; Kentucky University Medical Department, Louisville, 1906; aged 64; died, January 1, of influenza.

Norman Wilfred Rogers, Barrie, Ont., Canada; University of Toronto Faculty of Medicine, 1910; aged 55; died, Dec. 17, 1940.

Morgan Walcott, San Pedro, Calif.; University and Bellevue Hospital Medical College, New York, 1907; aged 74; died, Dec. 26, 1940.

William H. Grattan, Galatia, Ill.; St. Louis College of Physicians and Surgeons, 1897; aged 68; died in January of pneumonia.

Grattan B. Crowe, El Paso, Texas; Medical College of Alabama, Mobile, 1887; aged 75; died, Nov. 1, 1940, in a local hospital.

Alfred H. Hedderly, Los Angeles; Indiana Medical College, Indianapolis, 1875; aged 85; died, Dec. 29, 1940, of heart disease.

Horace A. Hadley, Chicago; Chicago Physio-Medical Institute, 1889; aged 75; died, January 25, of coronary heart disease.

Edward Franklin Larkins, Los Angeles; Beaumont Hospital Medical College, St. Louis, 1889; aged 85; died, Dec. 16, 1940.

Fayette J. Morton, Cleveland; Long Island College Hospital, Brooklyn, 1881; aged 88; died, January 16, of senility.

Albert W. Wilcox, Laredo, Texas; Texas Medical College and Hospital, Galveston, 1880; aged 83; died, Dec. 24, 1940.

CORRECTION

Dr. William Judson Martin Is Not Dead.—The report of the death of Dr. William Judson Martin of Kokomo, Ind., which appeared in *THE JOURNAL*, March 15, page 1177, was erroneous. Dr. Martin is alive and well and practicing at Kokomo. The source of our information was the *Journal of the Indiana State Medical Association* for January.

Bureau of Investigation

MISBRANDED "PATENT MEDICINES"

Abstracts of Notices of Judgment Issued by the Food and Drug Administration of the United States
Department of Agriculture

[EDITORIAL NOTE.—The abstracts that follow are given in the briefest possible form: (1) the name of the product; (2) the name of the manufacturer, shipper or consigner; (3) the composition; (4) the type of nostrum; (5) the reason for the charge of misbranding and (6) the date of issuance of the Notice of Judgment—which is considerably later than the date of the seizure of the product and somewhat later than the conclusion of the case by the Food and Drug Administration.]

Anti-Rheumatic Ointment.—Modern Drugs, Inc., Philippi, W. Va. Composition: sodium salicylate, methyl salicylate, capsicum, turpentine, volatile oils (including camphor, menthol and cajuput) in a petrolatum base. Fraudulently represented as an effective antirheumatic, a relief for pain and swellings and treatment for pneumonia, lumbago, pleurisy, influenza and some other things.—[N. J. 30978; August 1940.]

Catalyn.—Royal Lee, trading as Vitamin Products Co., Milwaukee. Composition: essentially a mixture of milk sugar, wheat starch, cellulose, nitrogenous matter, fatty acids, saponifiable oil and liquid petrolatum, with small amounts of compounds of iron, aluminum, calcium and sodium, and phosphates. Biologic examination showed it contained no detectable quantities of vitamins A, C and D and no significant amounts of vitamins B and G. Misbranded because of false claims as to vitamin content and because fraudulently represented as "nature's source of vitality" and as competent to prevent insomnia and correct overweight, underweight and (as supplementary treatment) pernicious anemia, backwardness in children, cystitis, dropsy, goiter, hardening of the arteries, heart disorders, pneumonia, Bright's disease, prostatic enlargement, stomach ulcers, female disorders and many other things.—[N. J. 30999; August 1940.]

Dermatans Tablets.—Crescent-Kelvan Co., Philadelphia. Composition: claimed on label to contain $\frac{1}{60}$ gram of arsenic sulfide per tablet. This claim was declared false and misleading as each tablet contained $\frac{1}{30}$ grain of this substance. Hence the product was declared misbranded.—[N. J. 30990; August 1940.]

Haglogen.—Haver-Glover Laboratories, Kansas City, Mo. Composition: not reported. Misbranded because fraudulently represented as an antiseptic and disinfectant and effective in the treatment of septic, catarrhal and gangrenous wounds and mucous membranes and effective as an irrigant for wounds and body cavities.—[N. J. 30989; August 1940.]

Meth-O-Sol.—Crescent-Kelvan Co., Philadelphia. Composition: a liniment containing camphor, methyl salicylate and oleoresin of capsicum with turpentine and croton oil indicated. Fraudulently represented as a remedy for neuritis, rheumatism, pleurisy, lumbago, backache, sciatica and other conditions involving pain.—[N. J. 30990; August 1940.]

Muscleflex Rubbing Lotion.—Beacon Laboratories, Inc., Dover, Del. Composition: essentially alcohol (10.3 per cent by volume), oil of turpentine, camphor, a resin such as capsicum, a gum, and water. For lumbago, rheumatic and arthritic manifestations, stiffness, aching feet, and pains following fractures. Fraudulent therapeutic claims.—[N. J. 30972; August 1940.]

Neutro-Plasm.—Neutro-Plasm Foundation, Detroit. Composition: essentially plant drugs including a bitter and a laxative, with alcohol and water. Fraudulently represented, among other things, to attack or destroy dead or abnormal tissue or organisms and to check various forms of cancer.—[N. J. 30991; August 1940.]

Pixine Ointment.—Pixine Co., Troy, N. Y. Composition: essentially volatile oils including those of turpentine, origanum and juniper, with a small amount of ichthammol in a petrolatum and hydrous wool fat base. Fraudulently represented as a cure for varicose and indolent ulcers, scrofulous and inflammatory swellings, all cuts, carbuncles, boils, hemorrhoids, psoriasis, septic wounds, pneumonia and other respiratory inflammations; bed sores, erysipelas, abscesses, eczema and some other things.—[N. J. 30986; August 1940.]

Pixine Pile Remedy.—Pixine Co., Troy, N. Y. Composition: essentially tannic acid, ichthammol and volatile oils including turpentine, in a base of petrolatum and fatty acids. Fraudulently represented as a cure for internal and external hemorrhoids, fistula, anal fissure and all inflammatory conditions of the rectum.—[N. J. 30986; August 1940.]

Prescription A Compound.—Modern Drugs, Inc., Philippi, W. Va. Composition: essentially extracts of plant drugs, including an alkaloid-bearing drug, with sodium salicylate, alcohol, sugar and water. Fraudulently represented as an effective treatment for fever, pneumonia, measles, "summer flu," pleurisy, tonsillitis, mumps, colds and some other things.—[N. J. 30978; August 1940.]

V. E. T. Skin Remedy.—Crescent-Kelvan Co., Philadelphia. Composition: water, alcohol, a gum and a minute amount of phenol. Misbranded because alcohol presence and amount not declared on the label; further misbranded because fraudulently represented as a treatment for skin irritations, eczema and itch.—[N. J. 30990; August 1940.]

Correspondence

DICTION AND ABBREVIATION IN MEDICAL WRITING

To the Editor:—In looking over current medical literature one is impressed with the free use of abbreviations such as E. K. G., W. B. C., B. M. R. and P. S. P. One is also impressed with the careless use of English in the form of such expressions as "acute abdomen," "acute ears" and "no pathology found."

As a matter of fact, pathology is a science, not a disease state of an organ. What these writers really mean is acute abdominal disease, acute otic disease, no morbid anatomy found. "Morbid anatomy" was a favorite expression of Osler's.

E. K. G. may have a Teutonic flavor. Whether the original article describing the instrument was written in Dutch or German I do not know—probably it was the latter language. I can see no special harm in using abbreviations indicated by the original language in which they occurred.

I wonder how Dr. Spillman feels about the common word "leukocyte." Its usual spelling is the anglicized "Leucocyte." As for "poikilocyte," it is hard to say whether that has a Teutonic flavor or whether one is attempting to use the original Greek. The correct spelling of the word is "poecilocyte," a form which one rarely sees in print.

Then there are such atrocities as "taking a patient to surgery" when the operating room is meant; and "the patient has no temperature," when what is meant is that the patient has no fever. The only place where no temperature occurs, so far as I am aware, is in interstellar space.

Slang is all right in its place, but when one attempts to write a scientific paper one at least ought to use English.

MARCUS WARD LYON JR., M.D., South Bend, Ind.

VITAMIN K AND BLOOD TRANSFUSIONS

To the Editor:—In view of the widespread use of vitamin K products, this preliminary report seems to be justified, especially because a cursory perusal of the literature failed to disclose a similar observation.

It was thought that the patient on whom I operated for acute hemorrhagic pancreatitis might need a blood transfusion. Dr. J. J. Kearns, the head of the laboratories at the St. Elizabeth Hospital, found that the serum of the patient, who belonged to group B, agglutinated red blood corpuscles not only of an A donor but also of those belonging to groups B and O. A search for the cause of this strange condition disclosed that this patient, as well as others whose blood showed a similar behavior, had been given intramuscularly 3 mg. of a synthetic vitamin K product. A checkup two weeks after the first blood test showed that the recipient's serum no longer agglutinated the red blood corpuscles of the universal donor whose blood was incompatible at the first examination. In other words, the checkup showed that the strange behavior of the recipient's blood apparently caused by vitamin K was of a transient nature.

The mechanism of this phenomenon is now being investigated.

Further observations will show whether the effect of vitamin K products on the agglutinating properties of the recipient's serum is a rule or an exception. Even if the latter is the case, the fact must be borne in mind that the administration of vitamin K products may under certain circumstances interfere with the selection of a suitable donor and/or preclude a blood transfusion. It follows that vitamin K products should not be prescribed without strict indications, particularly if a blood transfusion is contemplated.

JOSEPH K. NARAT, M.D.,
1200 North Ashland Avenue,
Chicago.

Annual Report on Schools for Occupational Therapists, Physical Therapists, and Clinical Laboratory Technicians

A LIST AND DESCRIPTION OF THE SCHOOLS APPROVED BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

The Council on Medical Education and Hospitals has been authorized by the House of Delegates of the American Medical Association to maintain standards and publish lists of approved training schools for clinical laboratory technicians, physical therapists and occupational therapists. Heretofore the lists have been published annually in the Hospital Number of THE

JOURNAL. To keep these lists up to date entails constant evaluation of the training programs through inspection and correspondence.

The inspection of technical schools is carried out in conjunction with inspections of the intern and residency training programs conducted by hospitals in the same or neighboring communities.

SCHOOLS OF OCCUPATIONAL THERAPY

The Essentials of an Acceptable School of Occupational Therapy were adopted by the American Medical Association at the Atlantic City session in June 1935. The inspection of occupational therapy schools and the formulation of standards were made following a resolution designed for these purposes and presented to the House of Delegates of the American Medical Association by Dr. J. Gurney Taylor of Wisconsin at the Milwaukee session in June 1933. The Board of Trustees recommended that the Council on Medical Education and Hospitals undertake the survey, promulgate standards and maintain a list of acceptable schools. The revised Essentials were published in THE JOURNAL, March 26, 1938.

Special interest is focused now in differentiating between the so-called technicians in diversional therapy and those trained students who can accomplish therapeutic results by a scientifically planned program of occupation. This program does not stop with the arts and crafts, but it includes all fields of work and vocations. Special emphasis is placed on selecting an activity which will encourage recovery and complete reutilization of the nervous, muscular and bony parts of the body. Part of the occupational therapist's armamentarium is found to overlap into the field of physical therapy. This type of technician is trained to work under the direction of a physician and is capable of suggesting programs designed to recreate specific functions of the human body or to encourage recovery of impaired functions. It is, therefore, not a device to divert one's attention but a therapy designed to hasten complete recovery.

Summarizing the statistics reported by the six approved occupational therapy schools, we find that one and preferably two years of college training is necessary for entrance to these schools. Five schools have a curriculum of three years' duration while one offers a two year training program. Four hundred and twenty-five students were enrolled in 1940, but it is impossible at present to determine how these students are distributed or how many are graduated each year. The annual tuition for this training averages about \$240.

Inquiries concerning registration should be directed to the American Occupational Therapy Association, 175 Fifth Avenue, New York City.

APPROVED SCHOOLS OF OCCUPATIONAL THERAPY

Boston School of Occupational Therapy, 7 Harcourt Street, Boston.—Organized in 1918. Incorporated in 1921 as a nonprofit institution. Control is under a board of twenty-nine trustees. The faculty is composed of thirty-nine regular members, thirty-seven lecturers and thirteen

extramural instructors, a total of eighty-nine. The educational requirement is one year of college. The duration of the course is three academic years. A total of twenty-one hospitals and other institutions is used in practice training. The tuition fee is \$300 a year. At present seventy-six students are enrolled. Students are admitted in September of each year. The director is Mrs. John A. Greene.

Kalamazoo State Hospital School of Occupational Therapy, Kalamazoo, Mich.—Organized in 1922. Governed by a joint committee of Kalamazoo State Hospital and Western State Teachers College, Kalamazoo. Affiliated with Western State Teachers College in 1936. The faculty includes twenty-one instructors in the hospital and nine in the college, eighteen lecturers and eight extramural instructors, fifty-six in all. Two courses are offered: the diploma course of twenty-seven consecutive months requiring for admission one year of college, and a five year course requiring graduation from an accredited high school and leading to a B.S. degree from Western State Teachers College. The school is affiliated for practice training with twelve hospitals and other institutions. The minimum cost of the diploma course is \$467. The student pays the regular college fee for courses at Western State Teachers College. Twenty-eight students are now enrolled in the course. Students are admitted in April and October. The director is Miss Marion R. Spear, B.S., O.T.Reg.

St. Louis School of Occupational and Recreational Therapy, 4567 Scott Avenue, St. Louis.—Organized in 1918. Conducted by the Missouri Association for Occupational Therapy and governed by a board of trustees. Affiliated with the University College of Washington University. The faculty includes thirty-seven instructors and lecturers and twenty extramural instructors, a total of fifty-seven. Two courses are offered: the diploma course of three academic years requiring for admission two years of college work, and a five year course requiring graduation from an accredited high school and leading to a B.S. degree from Washington University. Practice training is given in a total of twenty affiliated hospitals and other institutions. The annual tuition is \$325. The present enrolment is thirty students. Students are admitted in September of each year. The director is Miss Geraldine R. Lermitt, A.B., Ph.M., O.T.Reg.

Philadelphia School of Occupational Therapy, 419 South 19th Street, Philadelphia.—Organized in 1918. Incorporated in 1923 as a nonprofit organization. Management is vested in a board of directors. The faculty includes twenty-seven instructors in theoretical subjects, eight in therapeutic occupations and nineteen extramural instructors, fifty-four in all. The entrance requirement is one year of college. The course covers three academic years. Practice training is given in a total of twenty affiliated hospitals and other institutions. The total tuition is \$650. At present ninety-six students are enrolled in the course. Students are admitted in September. The director is Miss Helen S. Willard, A.B., O.T.Reg.

Milwaukee-Downer College, Department of Occupational Therapy, 2512 East Hartford Avenue, Milwaukee.—Course in occupational therapy organized in 1913. Management of the college is vested in a board of thirty-two trustees. In addition to the regular college faculty, there are forty-three lecturers. Two courses are offered: the diploma course of three academic years requiring for admission one year of college and a five year course requiring graduation from an accredited high school and leading to a B.S. degree. Practice training is given in fifteen affiliated hospitals and other institutions. The annual tuition fee for the diploma course is \$250 and for the degree course \$230. The present enrolment is ninety-eight. Students are admitted in September. Miss Henrietta McNary, O.T.Reg., is director of occupational therapy.

University of Toronto, Department of University Extension, Toronto, Ont., Canada.—Course in occupational therapy organized in 1926. The regular occupational therapy faculty numbers thirty and in addition there are twenty extramural instructors, a total of fifty. The admission requirement is five subjects of honor matriculation (equivalent to one year of college). The duration of the course is twenty-four months. Hospitals and other institutions affiliated for practice training number nineteen. The annual tuition fee is \$175. At present ninety-seven students are enrolled in the course. Students are admitted in September. The supervisor of the course is Miss Helen P. LeVesconte.

SCHOOLS FOR PHYSICAL THERAPY TECHNICIANS

The first list of approved schools for physical therapy technicians appeared in THE JOURNAL, Aug. 29, 1936, following the formulation of the Essentials by the Council on Medical Education and Hospitals and their

of physical education or three years training in nursing. Five schools will admit students on completion of sixty semester hours of college work. This represents only one third of the approved schools.

SCHOOLS APPROVED FOR TRAINING PHYSICAL THERAPY TECHNICIANS
By the Council on Medical Education and Hospitals

Name and Location of School	Medical Director	Technical Director	Entrance Requirement	Duration of Course	Time of Admission	Maximum Enrolment	Tuition	Certificate, Diploma, Degree
California Hospital, Los Angeles ^{1 a}	Grace P. Jennings, M.D.	Marion D. Campbell, R.N.	(a) R.N. (b) Grad. phys. ed. (c) 2 yrs. coll.	18 mos.	Jan. & July	6	\$200	Certificate
Children's Hospital, Los Angeles ²	John C. Wilson, M.D.	Grace L. Williams, R.N.	(a) R.N. (b) Grad. phys. ed. (c) 2 yrs. coll.	15 mos.	Sept.	14	\$150	Diploma
Walter Reed General Hospital, Washington, D. C. ³	B. A. Strickland, Jr., Capt., M.C.	Emma E. Vogel	Grad. phys. ed.	12 mos.	Sept.	15	None	Certificate
Northwestern University Medical School, Chicago ^{4 a}	John S. Coulter, M.D.	Gertrude Beard, R.N.	(a) R.N. (b) Grad. phys. ed. (c) 3 yrs. coll.	9 mos.	Oct.	12	\$200	Certificate
Bouvé-Boston School of Physical Education, Boston ⁵	Howard Moore, M.D.	Constance K. Greene	High sch. grad.	3 and 4 yrs. ^b	Sept.	12	\$400 yr.	Diploma or B.S.
Harvard Medical School, Boston ⁶	Frank R. Ober, M.D.	Janet B. Merrill	(a) R.N. (b) Grad. phys. ed.	9 mos.	Jan. & Sept.	20	\$150	Certificate
Boston University, Sargent College of Physical Education, Cambridge, Mass. ⁷	To be appointed	Lucille W. Fuller	High sch. grad.	4 yrs.	Oct.	24	c	B.S.
Posse Institute, Kendal Green, Mass. ⁸	.....	Lucy G. Marshall	High sch. grad.	3 yrs.	Sept.	15	\$400 yr.	Diploma
Mayo Clinic, Rochester, Minn. ^{9 a}	Frank H. Krusen, M.D.	Carl Moe, R.N.	(a) R.N. (b) Grad. phys. ed.	12 mos.	Oct.	20	None	Certificate
St. Louis University School of Nursing, St. Louis ^{10 a}	Alexander J. Kotkis, M.D.	Sister M. Consella, R.N.	High sch. grad.	4 yrs.	Feb. & Sept.	4	\$250 yr.	B.S.
University of Buffalo School of Nursing, Buffalo ^{11 a}	George G. Martin, M.D.	Edna Beaver, R.N.	(a) R.N. (b) Grad. phys. ed. (c) 2 yrs. coll.	12 mos.	Jan. & Sept.	10	\$375	Certificate
Hospital for Ruptured and Crippled, New York City ^{12 a}	Kristian G. Hansson, M.D.	Ethel M. Willmer	(a) R.N. (b) Grad. phys. ed. (c) 2 yrs. coll.	9 mos.	Sept.	20	\$300	Diploma
D. T. Watson School of Physiotherapy (affiliated with University of Pittsburgh School of Medicine), Leetsdale, Pa. ^{13 a}	Jessie Wright, M.D.	Dorothy E. Lovdahl	(a) Grad. phys. ed. (b) 2 yrs. premed.	2 yrs.	Sept.	8	None	Diploma or B.S.
College of William and Mary, Richmond, Va. ¹⁴	Thomas Wheeldon, M.D.	Alice Jones	(a) R.N. (b) Coll. grad.	9 mos.	Sept.	10	\$200	Certificate or B.S.
University of Wisconsin Medical School, Madison ^{15 a}	Ernst A. Pohle, M.D.	Margaret Kohli and Martha Lewis	(a) R.N. (b) Grad. phys. ed.	12 mos.	July	10	Univ. fees	Certificate

AFFILIATED CLINICAL FACILITIES

- Glendale Sanitarium and Hospital, Glendale, and Los Angeles County Hospital, Los Angeles.
- Glendale Lebanon County Hospital, Glendale, and Cedars of Good Samaritan, Los Angeles Hospital—Olmsted Memorial, Los Angeles.
- Health School for Crippled Children, Washington, D. C.
- Christopher School for Crippled Children, Michael Reese Hospital, Passavant Memorial Hospital, St. Luke's Hospital, and Shriners Hospital for Crippled Children, Chicago.
- Boston City Hospital, Children's Hospital, Massachusetts General Hospital, and Robert Breck Brigham Hospital, Boston; Cambridge Hospital, Cambridge; and Newton Hospital, Newton.
- Children's Hospital, Harvard Infantile Paralysis Commission, Industrial School for Crippled and Deformed Children, Massachusetts General Hospital, Peter Bent Brigham Hospital, and Robert Breck Brigham Hospital, Boston, and Cambridge Hospital, Cambridge.
- McLean Hospital, Belmont; Industrial School for Crippled and Deformed Children, Massachusetts General Hospital, Massachusetts Memorial Hospital, Massachusetts State Hospital, and Perkins Institute for the Blind, Boston; and Cambridge Hospital, Cambridge.

- Ring Sanatorium and Hospital, Arlington; Beth Israel Hospital, Boston City Hospital, Carney Hospital, Children's Hospital, Industrial School for Crippled and Deformed Children, Massachusetts General Hospital, and Perkins Institute for the Blind, Boston; and Cambridge City Hospital, Cambridge.
- Colonial Hospital, and St. Mary's Hospital, Rochester.
- Firmin Desloges Hospital, St. Louis.
- Edward J. Mayer Memorial Hospital, and School for Crippled Children, Buffalo.
- New York Hospital, New York City.
- Allegheny General Hospital, Children's Hospital, Elizabeth Steel Magee Hospital, Falk Clinic, Industrial Home for Crippled Children, and St. Francis Hospital, Pittsburgh.
- University of Virginia Hospital, Charlottesville, and Medical College of Virginia Hospital Division, Stuart Circle Hospital, and Wheeldon Clinic, Richmond.
- State of Wisconsin General Hospital and Wisconsin Orthopedic Hospital for Children, Madison.

FOOTNOTES

- Male students are admitted.
- Four-year course leads to B.S. degree from Simmons College.
- \$32 a year for first two years; \$263 a year for last two years.

adoption by the House of Delegates of the American Medical Association.

A more detailed questionnaire was sent to each of the approved schools for physical therapy technicians this year, and returns have been received from all. Today's graduate has had a mean average of twelve months' training in physical therapy in addition to the preliminary training of four years

During 1940 there were 135 students who were graduated, while about 140 were in training and expect to be graduated this year. The maximum enrolment, under the present conditions, totals 200 students when one school, that has special classes, is given credit for two groups of students. The tuition for this training ranges from nothing to \$400. The mean tuition is \$200, while the average is slightly less than that amount.

Correlating last year's graduates in physical therapy with the number of medical students graduated annually, a ratio of one physical therapist to thirty-eight physicians is obtained.

The Council on Physical Therapy of the American Medical Association has appointed a committee to study

and revise the curriculum and minimum essentials for training schools. It is hoped that these new standards will be ready for publication by next fall.

Inquiries concerning registration should be addressed to the American Registry of Physical Therapy Technicians, 30 North Michigan Avenue, Chicago.

SCHOOLS FOR CLINICAL LABORATORY TECHNICIANS

The original survey of some 200 schools for clinical laboratory technicians was published in *THE JOURNAL*, Aug. 29, 1936, together with the first list of approved schools. Essentials had been formulated by the Council on Medical Education and Hospitals with the cooperation of the American Society of Clinical Pathologists and ratified by the House of Delegates.

The Council voted in 1937 to increase the admission requirement from one to two years of college work including credits in the basic sciences of chemistry, biology and physics. At present graduate nurses may be accepted for enrolment, although it has been proposed that only college students with special qualifications be considered eligible for admission to these schools. It is expected that final action on this matter will be taken within the current year.

Returns from all the approved schools reveal that 701 students completed an approved course of training last year. This is equivalent to about one technician being graduated to each seven medical students that are graduated during the same period. The maximum number of students that these schools admit is 1,029 each year. If an estimate is based on the number of laboratory personnel that could act as instructors, between 1,200 and 1,500 technicians could be trained each year in conformity with the present minimum essentials. This does not mean that 1,500 students could be trained as efficiently as 700 are being trained at present. It does mean that if every graduate technician employed in the laboratories of approved schools were used as an instructor, no matter how little experience or teaching ability she had, it would be possible to train this number each year.

With the present returns, it is impossible to determine how many students are preparing to enter these schools next year. Potentially, every junior college and university is preparing one or more students for this field.

Preliminary training required before entering the hospital laboratory consists of two years of college work for over half of the approved schools, while a little over one third of the schools demand a college degree as a prerequisite. The majority of these curriculums (62 per cent) offer training of twelve months' duration, while only 16 per cent of the schools offer eighteen months or more. Attention should be drawn to those approved schools admitting students on completion of high school. These have a curriculum extending from four to five years.

Inquiries concerning registration should be directed to the Registry of Medical Technologists, Ball Memorial Hospital, Muncie, Indiana.

Essentials of an Acceptable School for Clinical Laboratory Technicians

I. ORGANIZATION

1. Acceptable schools for training laboratory technicians may be conducted by universities, colleges, hospitals or public health laboratories.

2. The Council has promulgated standards for this type of training to supply physicians, hospitals and prospective students with reliable information and for the protection of the public.

3. Responsibility for courses in hospitals should be placed on the hospital administration rather than the laboratory director. In colleges and universities this responsibility is on the controlling board, as for other courses.

4. Resources for continued operation of the school should be insured through regular budgets, gifts or endowments; but not entirely through students' tuition fees. Experience has shown that commercial schools operated for profit frequently do not adhere to proper ethical and education standards and are, therefore, not acceptable.

5. There must be available transcripts of high school, college work and other credentials. Attendance and grades of students shall be carefully recorded, by means of which an exact knowledge may be obtained regarding each student's work.

6. At least two or more students should be enrolled in each class.

II. FACULTY

7. The school should have a competent teaching staff. The director must be a graduate in medicine and a pathologist of recognized ability. He shall take part in and be responsible for the actual conduct of the training course. He shall be in daily attendance for sufficient time to supervise properly the laboratory work and teaching.

8. In laboratory practice the enrolment shall not exceed one student to each member of the teaching staff. The staff should include not less than one salaried instructor who is a registered technician or eligible for registration in addition to the laboratory director.

III. CLINICAL FACILITIES

9. Each student should receive practice training, adequate in kind and amount, under competent supervision, in a hospital laboratory. The hospital should be registered by and be otherwise acceptable to the Council on Medical Education and Hospitals of the American Medical Association and have a minimum of 2,000 yearly admissions. There should be a minimum of 15,000 tests and examinations carried out in the laboratory department annually.

10. Adequate space, light and modern equipment shall be provided in the laboratory department. A library containing up-to-date references, texts and scientific periodicals pertaining to clinical laboratory work and pathology should be maintained.

11. Satisfactory record systems shall be provided for all work carried on in the department. Monthly and annual classifications of the work of the department should be prepared.

IV. CURRICULUM

12. A. Candidates for admission should be able to satisfy one of the following requirements:

1. Two years of college work, including chemistry, biology and physics from an accredited college or university.
2. Graduation from a school of nursing recognized by the state board of nurse examiners, and in addition college chemistry.

B. The course of training shall be not less than twelve months in duration and shall include the following divisions:

- | | |
|------------------|------------------------|
| 1. Biochemistry. | 4. Parasitology. |
| 2. Hematology. | 5. Histologic technic. |
| 3. Bacteriology. | 6. Serology. |

The instruction shall include:

- | | |
|----------------------------------------------|--------------------|
| 1. Text assignments. | 3. Demonstrations. |
| 2. Lectures. | 4. Quizzes. |
| 5. Examinations—written, oral and practical. | |

V. ETHICS

13. Exorbitant fees and commercial advertising shall be considered unethical.

14. Schools conducted primarily for the purpose of substituting students for paid technicians will not be considered for approval.

MINNESOTA									
College of St. Scholastica (St. Mary's Hospital), Duluth.....	J. J. Grabow, M.D.....	High sch. grad.	4 yrs.	Sept.	46	Coll. fees	B.S.		
St. Luke's Hospital (Hamline University, St. Paul), Duluth.....	A. H. Wells, M.D.....	2 yrs. coll.	2 yrs.	July	8	Br. fee	B.S.		
Minneapolis General Hospital, Minneapolis.....	F. C. Andrus, M.D.....	Coll. grad. ^b	12 mos.	Every 20 days	18	None	None		
Swedish Hospital, Minneapolis.....	C. E. Drake, M.D.....	2 yrs. coll.	24 mos. ¹	Aug. & Oct.	5	\$125 yr.	Cert. or Dip.		
University of Minnesota, Minneapolis ¹²	K. T. Evans, M.D.....	High sch. grad.	4 yrs.	Quarterly	63	Univ. fees	B.S.		
Charles T. Miller Hospital (Macalester College), St. Paul.....	G. Ikeda, M.D.....	3 yrs. coll.	12 mos.	July	6	\$110	A.B.		
MISSISSIPPI									
Vicksburg Sanitarium, Vicksburg.....	L. S. Lippincott, M.D.....	2 yrs. coll.	24 mos.	Varies	4	\$50 (Br. fee)	Certificate		
MISSOURI									
Kansas City Health Department Laboratories, Kansas City ¹⁴	V. E. Buhler, M.D.....	2 yrs. coll.	18 mos.	Jan. & July	18	Br. fee	Certificate		
Memorial Hospital, Kansas City.....	R. Koritschoner, M.D.....	Coll. degree	13 mos.	Varies	6	None	None		
Research Hospital, Kansas City.....	C. W. Carr, M.D.....	2 yrs. coll.	12 mos.	Every 2 mos.	6	None	None		
St. Joseph Hospital, Kansas City.....	R. W. Kerr, M.D.....	Coll. degree	13 mos. ¹	Varies	12	\$25 (Br. fee)	Certificate		
St. Luke's Hospital, Kansas City.....	C. C. Hewig, M.D.....	2 yrs. coll.	12 mos. ^k	Every 2 mos.	10	\$10 (Br. fee)	None		
St. Mary's Hospital, Kansas City.....	C. G. Leitig, M.D.....	Coll. grad.	12 mos.	July	6	\$10 (Br. fee)	Certificate		
Howard's Hospital, Kansas City.....	C. H. Gray, M.D.....	2 yrs. coll.	24 mos.	Quarterly	4	None	None		
St. Louis City Hospital, St. Louis.....	S. H. Gray, M.D.....	2 yrs. coll.	15 mos.	Sept.	24	Univ. fees	B.S.		
St. Louis University School of Nursing, St. Louis ¹⁵	C. Broun, M.D.....	High sch. grad.	4 yrs.	Varies	3	None	B.S. ¹		
MONTANA									
Murray Hospital, Butte.....	R. F. Peterson, M.D.....	3 yrs. coll.	12 mos.	Varies	3	None	B.S.		
College of Great Falls, Great Falls ¹⁶	T. F. Walker, M.D.....	High sch. grad.	4 yrs.	Sept.	24	Coll. fees	B.S.		
Montana State University, Missoula ¹⁷	D. M. Hetler, Ph.D.....	High sch. grad.	4 yrs.	Sept.	35	Coll. fees	B.S.		
NEBRASKA									
Bryan Memorial Hospital, Lincoln.....	M. J. Breuer, M.D.....	2 yrs. coll.	12 mos.	Feb., June & Sept.	3	\$25 (Br. fee)	Diploma		
Lincoln General Hospital, Lincoln.....	G. W. Covey, M.D.....	2 yrs. coll.	12 mos.	Quarterly	5	\$50	Certificate		
University of Nebraska Hospital, Omaha.....	J. P. Tolman, M.D.....	2 yrs. coll.	12 mos.	June & Aug.	6	\$75	Certificate		
NEW HAMPSHIRE									
Mary Hitchcock Memorial Hospital, Hanover.....	R. E. Miller, M.D.....	3 yrs. coll.	12 mos.	Quarterly	6	\$50 (Br. fee)	Certificate		
NEW YORK									
Bender Hygienic Laboratory, Albany ¹⁸	J. J. Clemmer, M.D.....	2 yrs. coll.	12 mos.	Sept.	15	\$300	Certificate		
Jewish Hospital, Brooklyn.....	K. Lederer, M.D.....	Coll. degree	18 mos.	Quarterly	7	None	Certificate		
Buffalo General Hospital, Buffalo.....	K. L. Terplan, M.D.....	Coll. grad.	12 & 24 mos.	In summer mos.	12	\$50	Certificate		
Edward J. Meyer Memorial Hospital, Buffalo.....	D. K. Miller, M.D.....	2 yrs. coll.	4 yrs.	Monthly	10	\$25 (Br. fee)	Certificate		
University of Buffalo (Edward J. Meyer Memorial Hospital), Buffalo.....	D. K. Miller, M.D.....	High sch. grad.	12 mos.	Sept.	3	\$375 yr.	B.A.		
Mary Immaculate Hospital, Jamaica.....	M. Pearce, M.D.....	Coll. degree	12 mos.	Oct.	5	\$35 (Br. fee)	Certificate		
Reichner General Hospital, Rochester.....	L. A. Gaspar, M.D.....	Coll. degree	18 mos.	Varies	13	\$225	Diploma		
Kings Hospital, Schenectady.....	E. Kellert, M.D.....	2 yrs. coll.	12 mos.	Sept. & Oct.	8	None	Certificate		
Russell Sage College (Samaritan Hospital), Troy.....	G. H. Klinek, Jr., M.D.....	High sch. grad.	4 yrs.	Sept.	14	Coll. fees	B.S.		
NORTH CAROLINA									
Duke Hospital, Durham.....	D. T. Smith, M.D.....	2 yrs. coll.	18 mos.	Aug.	20	\$75 (Br. & health fees)	Certificate		
Watts Hospital, Durham.....	C. E. Brown, M.D.....	2 yrs. coll.	12 mos.	Jan. & July	4	\$25 (Br. fee)	Certificate		
OHIO									
City Hospital, Akron.....	L. Catron, M.D.....	2 yrs. coll.	12 mos.	July	2	None	Certificate		
Ohio University (Mt. Carmel Hospital, Columbus), Athens.....	F. H. Kreeker, Ph.D.....	High sch. grad.	4½ yrs.	Feb. & Sept.	57	Univ. fees	B.S.		
Institute of Pathology, Western Reserve University (University Hospitals), Cleveland.....	H. Goldblatt, M.D.....	Coll. grad. ^m	12 mos.	June, July & Aug.	17	\$100	Certificate		
St. Sinai Hospital, Cleveland.....	B. S. Kline, M.D.....	2 yrs. coll.	12 mos.	July & Sept.	8	\$250 & \$15 (Br. fee)	Certificate		
Wurling-Loving University Hospital, Columbus.....	H. L. Reinhardt, M.D.....	A.B.	12 mos.	Quarterly	9	\$100	Certificate		
White Cross Hospital, Columbus.....	R. S. Fidler, M.D.....	Coll. degree	12 mos.	Jan., June & Sept.	3	None	Certificate		
Union Road Hospital, Columbus.....	E. Goodsett, M.D.....	2 yrs. coll.	12 mos.	July	6	\$100	Certificate		
College of Mt. St. Joseph-on-the-Ohio, Mt. St. Joseph ¹⁹	W. M. Gorman, M.D.....	High sch. grad.	4 yrs.	Sept.	28	Coll. fees	B.S.		
Toledo Hospital, Toledo.....	B. Steinberg, M.D.....	Coll. grad. ⁿ	12 mos.	Feb. & Sept.	8	\$100 & \$10 (Br. fee)	Certificate		
Youngstown Hospital, Youngstown.....	G. B. Kramer, M.D.....	2 yrs. coll.	12 mos.	Jan.	3	None	Certificate		
OKLAHOMA									
St. Anthony's Hospital, Oklahoma City.....	H. G. Jeter, M.D.....	Coll. degree	12 mos.	Varies	4	None	None		
State University and Crippled Children's Hospitals, Oklahoma City.....	H. G. Jeter, M.D.....	Coll. degree	12 mos.	Varies	5	None	None		
OREGON									
Emmanuel Hospital, Portland.....	H. H. Foskett, M.D.....	Coll. degree	12 mos.	Varies	3	\$100	None		
Good Samaritan Hospital, Portland.....	C. H. Manlove, M.D.....	2 yrs. coll.	12 mos.	Quarterly	5	None	None		
Portland Sanitarium and Hospital, Portland.....	W. C. Hunter, M.D.....	2 yrs. coll.	12 mos.	Jan. & July	2	None	Certificate		
St. Vincent's Hospital, Portland.....	T. D. Robertson, M.D.....	2 yrs. coll.	12 mos.	April, July & Nov.	4	None	None		
University of Oregon Medical School Hospitals and Clinics, Portland.....	H. P. Lewis, M.D.....	2 yrs. coll.	12 mos.	Varies	8	None	None		
PENNSYLVANIA									
Abington Memorial Hospital, Abington.....	J. Eiman, M.D.....	2 yrs. coll.	18 mos.	Quarterly	7	None	None		
Alentown Hospital, Alentown.....	J. J. Wenner, M.D.....	2 yrs. coll.	12 mos.	Varies	2	None	None		
Moravian College for Women, Bethlehem ²⁰	D. R. Corcoran, M.D.....	High sch. grad.	4 yrs.	Sept.	60	Coll. fees	B.S.		
St. Luke's Hospital, Bethlehem.....	H. A. Rothrock, Jr., M.D.....	6 yrs. coll.	12 mos.	Sept.	3	\$75	Certificate		
Bryn Mawr Hospital, Bryn Mawr.....	M. M. Strumlin, M.D.....	2 yrs. coll.	15 mos.	Quarterly	5	\$120 °	Certificate		
Fitzgerald-Mercy Hospital, Darby.....	P. J. Kennedy, M.D.....	Coll. degree	12 mos.	July & Oct.	2	\$25 (Br. fee)	Certificate		
Harrisburg-Polyclinic Hospital, Harrisburg ²¹	G. R. Moffitt, M.D.....	2 yrs. coll.	12 mos.	Every 4 mos.	6	None	Certificate		
Harrisburg Polyclinic Hospital, Harrisburg.....	H. Van Horn, M.D.....	Coll. degree	12 mos.	Varies	3	None	Diploma		
Huckel University (Geo. F. Geisinger Memorial Hospital, Danville), Lewisburg.....	F. B. Hunt, M.D.....	High sch. grad.	4½ yrs.	Sept.	30	Univ. fees	B.S.		
Jefferson Medical College Hospital, Philadelphia.....	F. B. Lynch, Jr., M.D.....	6 yrs. coll.	12 mos.	Oct.	4	\$100	Certificate		
Lankenau Hospital, Philadelphia.....	C. J. Bucher, M.D.....	2 yrs. coll.	16 mos.	Every 2 mos.	8	\$100 & \$25 (Br. fee)	None		
St. Agnes Hospital, Philadelphia.....	S. F. Reimann, M.D.....	2 yrs. coll.	12 mos.	Feb. & Sept.	4	\$30	Certificate		
St. W. Love, M.D.....	J. W. Love, M.D.....	2 yrs. coll.	18 mos.	Sept.	3	\$20 & \$30 (Br. fee)	Certificate		
St. Joseph's Hospital, Philadelphia.....	L. A. Soloff, M.D.....	2 yrs. coll.	12 mos.	Varies	3	\$120 & \$30 (Br. fee)	Certificate		

Medical Examinations and Licensure

COMING EXAMINATIONS

BOARDS OF MEDICAL EXAMINERS

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of boards of medical examiners and boards of examiners in the basic sciences were published in *THE JOURNAL*, March 15, page 1179.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: Parts I and II. Various centers, June 23-25. Part III. Various centers, June or July. Exec. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY: *Oral*. Part II, Cleveland, May 31-June 1. Final date for filing application is April 1. Sec., Dr. Paul M. Wood, 745 Fifth Ave., New York.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral*. April, in advance of the meeting of the American College of Physicians and June, in advance of the meeting of the American Medical Association. *Written*. Oct. 20. Final date for filing application is Sept. 1. Sec., Dr. William S. Middleton, 1301 University Ave., Madison, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral*. Philadelphia, June 6-7. Sec., Dr. R. Glen Spurling, 404 Brown Bldg., Louisville, Ky.

AMERICAN BOARD OF OPHTHALMOLOGY: *Oral*. Cleveland, May or June; New York, June 2; San Francisco, Aug. 8; Chicago, Oct. 18. *Written*. March 7. Sec., Dr. John Green, 6830 Waterman Ave., St. Louis.

AMERICAN BOARD OF PATHOLOGY: *Oral and Written*. Cleveland, June 2-3. Final date for filing application is May 1. Sec., Dr. F. W. Hartman, Henry Ford Hospital, Detroit.

AMERICAN BOARD OF PEDIATRICS: Chicago, May 18, following the Region III meeting of the American Academy of Pediatrics. Boston, Oct. 12, immediately following the annual meeting of the American Academy of Pediatrics. Sec., Dr. C. A. Aldrich, 707 Fullerton Ave., Chicago.

AMERICAN BOARD OF RADIOLOGY. *Oral*. Cleveland, May 30-June 1. Final date for filing application is April 15. Sec., Dr. Byrl R. Kirklín, 102-110 Second Ave., S.W., Rochester, Minn.

AMERICAN BOARD OF SURGERY: *Written*. Part I. Various centers, April 2. Sec., Dr. J. Stewart Rodman, 225 South Fifteenth St., Philadelphia.

Minnesota October Report

Dr. Julian F. Du Bois, secretary, Minnesota State Board of Medical Examiners, reports the written examination for medical licensure held at Minneapolis, Oct. 15-17, 1940. The examination covered 11 subjects and included 60 questions. An average of 75 per cent was required to pass. Forty-eight candidates were examined, all of whom passed. Twelve physicians were licensed to practice medicine by reciprocity and two physicians so licensed by endorsement. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
Yale University School of Medicine.....	(1938)		89.5
Northwestern University Medical School.....	(1939)		90.5, 91.6, (1940) 90.1, 90.4
Rush Medical College.....	(1938)		88, (1939) 86.3, 90.4
The School of Medicine of the Division of the Biological Sciences.....	(1937)		87.2, (1938) 92
University of Illinois College of Medicine.....	(1939)		91.3
State University of Iowa College of Medicine (1937) 88, (1939)			84.3
University of Kansas School of Medicine.....	(1939)		89.2
Tulane University of Louisiana School of Medicine.....	(1935)		83.4
Johns Hopkins University School of Medicine.....	(1939)		83
Harvard Medical School.....	(1937)		85.5
Tufts College Medical School.....	(1936)		84.4
University of Michigan Medical School.....	(1939)		88.6
University of Minnesota Medical School.....	(1939)		84.1, 86,* 87.3,* 88, 90,* (1940) 79.5,* 82.3,* 84.1, 84.5, 85.3,* 85.3, 85.6,* 86.4, 86.6, 87.6,* 88.1,* 88.5,* 89.4
Creighton University School of Medicine.....	(1938)		80.1, (1940) 84.1
University of Nebraska College of Medicine.....	(1939)		86, 86.1, 87.2
Columbia University College of Physicians and Surgeons (1937)			85.2
University of Oregon Medical School.....	(1939)		84.6
Jefferson Medical College of Philadelphia.....	(1937)		88.5
University of Toronto Faculty of Medicine.....	(1938)		86.1
University of Western Ontario Medical School.....	(1939)		86.3
McGill University Faculty of Medicine.....	(1937)		85.2

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Northwestern University Medical School.....	(1939)		Wisconsin
Rush Medical College.....	(1929)		Montana
University of Louisville School of Medicine.....	(1936)		Utah
University of Michigan Medical School.....	(1937)		Michigan
Univ. of Nebraska College of Med. (1934), (1936), (1937)			Nebraska
Western Reserve University School of Medicine.....	(1935)		Ohio
University of Oklahoma School of Medicine.....	(1937)		Oklahoma
Temple University School of Medicine.....	(1934)		Penna.
Univ. of Wisconsin Medical School.....	(1929)		Nebraska, Wisconsin

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Rush Medical College.....	(1939)		N. B. M. Ex.
Johns Hopkins University School of Medicine.....	(1921)		N. B. M. Ex.

* This applicant has received the M.B. degree and will receive the M.D. degree on completion of internship.

Pennsylvania Reciprocity Report

Mrs. Marguerite G. Steiner, acting secretary, Pennsylvania State Board of Medical Education and Licensure, reports 14 physicians licensed to practice medicine by reciprocity and 8 physicians so licensed by endorsement from October 9 through December 18. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of California Medical School.....	(1926)		R. Island
Yale University School of Medicine.....	(1926)		New York
Rush Medical College.....	(1936)		Minnesota
Johns Hopkins University School of Medicine.....	(1924)		Connecticut, (1934) Minnesota
University of Maryland School of Medicine and College of Physicians and Surgeons.....	(1937)		Maryland
Wayne University College of Medicine.....	(1937)		Michigan
University of Minnesota Medical School.....	(1933)		California
Hahnemann Medical College and Hospital of Philadelphia.....	(1938)		Mass.
Jefferson Medical College of Philadelphia.....	(1926)		New Jersey
Temple University School of Medicine.....	(1938)		New Jersey
University of Pennsylvania School of Medicine.....	(1935)		California
University of Tennessee College of Medicine.....	(1932)		Tennessee
Vanderbilt University School of Medicine.....	(1929)		Tennessee

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Yale University School of Medicine.....	(1936)		N. B. M. Ex.
University of Louisville School of Medicine.....	(1939)		N. B. M. Ex.
Johns Hopkins University School of Medicine.....	(1939)		N. B. M. Ex.
Harvard Medical School.....	(1939)		N. B. M. Ex.
Long Island College of Medicine.....	(1938)		N. B. M. Ex.
Duke University School of Medicine.....	(1939)		N. B. M. Ex.
University of Pennsylvania School of Medicine.....	(1938)		N. B. M. Ex.
Woman's Medical College of Pennsylvania.....	(1939)		N. B. M. Ex.

Alabama Reciprocity Report

Dr. J. N. Baker, secretary, Alabama State Board of Medical Examiners, reports 11 physicians licensed to practice medicine by reciprocity and 1 physician so licensed by endorsement from Sept. 28 through Dec. 31, 1940. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Howard University College of Medicine.....	(1925)		Penna.
Tulane University of Louisiana School of Medicine.....	(1934)		Minnesota, (1939, 4) Louisiana
Johns Hopkins University School of Medicine.....	(1938)		Maryland
Univ. of Rochester School of Medicine and Dentistry (1934)			Minnesota
Jefferson Medical College of Philadelphia.....	(1935)		Penna.
Meharry Medical College.....	(1929)		Georgia
University of Tennessee College of Medicine.....	(1931)		Tennessee

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
New York Medical College, Flower and Fifth Avenue Hospitals.....	(1938)		N. B. M. Ex.

Mississippi December Report

Dr. R. N. Whitfield, assistant secretary, Mississippi State Board of Health, reports 6 physicians licensed to practice medicine by reciprocity and 2 physicians so licensed by endorsement on December 13. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Louisville School of Medicine.....	(1937)		W. Virginia
Medical Department of Tulane University of Louisiana.....	(1910)		Louisiana
University of Tennessee College of Medicine.....	(1930), (1932), (1937), (1938)		Tennessee

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
University of Minnesota Medical School.....	(1930)		N. B. M. Ex.
Duke University School of Medicine.....	(1935)		N. B. M. Ex.

Oregon October Report

Miss Lorianne M. Conlee, executive secretary, Oregon State Board of Medical Examiners, reports 5 physicians licensed to practice medicine by reciprocity on October 12. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Northwestern University Medical School.....	(1938)		Illinois
Rush Medical College.....	(1934)		Illinois
University of Illinois College of Medicine.....	(1928)		California
University of Nebraska College of Medicine.....	(1932)		Nebraska
University of Oregon Medical School.....	(1938)		California

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Privileged Communications: Privilege Applicable to Legislative as Well as Judicial Proceedings.—The City Council of the City of New York appointed a committee to inquire into charges of negligence and malpractice in the treatment of patients at a certain city hospital. Subpoenas duces tecum were served on the commissioner of hospitals of New York City and on the medical superintendent of the hospital involved, each of whom appeared before the committee but refused to "produce any papers or documents relating to complaints made by any one with respect to any of the internes, clinic physicians or visiting staff . . . or with respect to medical or other treatment or service furnished in the wards or clinics of the hospital containing data relating to the condition of the patients or to the medical or other treatment or service furnished to them." They based their refusal on section 352 of the Civil Practice Act of New York, which provides, in part, as follows:

"a person duly authorized to practice physic or surgery, or a professional or registered nurse, shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity."

The sole question to be determined concerned the right of the defendants, by virtue of the privileged communications statute quoted, to refuse to produce the hospital records. The supreme court of New York, special term, New York County, held that the privilege applied only to judicial proceedings and directed the defendants to produce the records subpoenaed (20 N. Y. S. 712, abstr. J. A. M. A. 115:1661 [Nov. 9] 1940). That order on appeal to the supreme court of New York, appellate division, first department, was affirmed. The defendants thereupon appealed to the Court of Appeals of New York.

The plaintiff contended that the privileged communications statute, section 352 just quoted, since it is a part of the Civil Practice Act, governs only proceedings brought in a court of record, i. e. judicial proceedings, and is not available to prevent the examination of hospital records in legislative proceedings or inquiries. The Court of Appeals admitted that section 352 contained in article 33 of the Civil Practice Act entitled "Evidence" and that the term evidence is ordinarily applied to proof received in judicial proceedings, but it pointed out that it was required to give the act a "broad and liberal construction, to carry out its policy." Section 354 of the same act provides that section 352 shall apply to "any examination of a person as a witness unless the provisions thereof are expressly waived upon the trial or examination by the . . . patient. . . ." Furthermore, continued the court, the rules governing the issuance and effect of subpoenas by legislative and judicial bodies are embodied in sections 403 to 408 of the Civil Practice Act, which sections are also a part of the same article 33 entitled "Evidence." To read into sections 352 and 354 a limitation which would render them inapplicable to proceedings brought pursuant to sections 403-408 of the same article would be neither justified by implication nor in conformity with a broad and liberal construction of the act. In the judgment of the court, therefore, since the legislature had not seen fit to limit the application of the privilege it had created, a physician who is called as a witness under the "Evidence" article of the Civil Practice Act may also claim the protection provided in the privileged communications statute contained therein, even though he is acting as a witness before a legislative committee rather than before a judge or jury. Accordingly, the Court of Appeals concluded that the defendants, the commissioner of hospitals of New York City and the medical superintendent of the hospital in question, should not be required to produce the records subpoenaed and so it reversed the order of the lower court.—*New York City Council v. Goldwater et al.; In re Lincoln Hospital, Bronx, 31 N. E. (2d) 31 (New York, 1940).*

Society Proceedings

COMING MEETINGS

- Alabama, Medical Association of the State of, Mobile, Apr. 15-17. Dr. D. L. Cannon, 519 Dexter Ave., Montgomery, Secretary.
- American Association for the Study of Neoplastic Diseases, Washington, D. C., Apr. 3-5. Dr. Eugene R. Whitmore, 2139 Wyoming Ave., N.W., Secretary.
- American Association of Anatomists, Chicago, Apr. 9-11. Dr. E. R. Clark, Dept. of Anatomy, University of Pennsylvania School of Medicine, Philadelphia, Secretary.
- American Association of Pathologists and Bacteriologists, New York, Apr. 10-11. Dr. Howard T. Karsner, 2085 Adelbert Road, Cleveland, Secretary.
- American Association of the History of Medicine, Atlantic City, N. J., May 4-6. Dr. Henry E. Sigerist, 1900 East Monument St., Baltimore, Secretary.
- American College of Physicians, Boston, Apr. 21-25. Mr. E. R. Loveland, 4200 Pine St., Philadelphia, Executive Secretary.
- American Dermatological Association, New Orleans, Apr. 7-11. Dr. Harry R. Foerster, 208 East Wisconsin Ave., Milwaukee, Secretary.
- American Gastro-Enterological Association, Atlantic City, N. J., May 5-6. Dr. Thomas T. Mackie, 16 East 90th St., New York, Secretary.
- American Physiological Society, Chicago, Apr. 16-19. Dr. Philip Bard, 710 North Washington St., Baltimore, Secretary.
- American Society for Clinical Investigation, Atlantic City, N. J., May 5. Dr. Eugene M. Landis, University of Virginia Hospital, Charlottesville, Va., Secretary.
- American Society for Experimental Pathology, Chicago, Apr. 15-18. Dr. Harry P. Smith, Dept. of Pathology, University of Iowa, Iowa City, Secretary.
- American Society for Pharmacology and Experimental Therapeutics, Chicago, Apr. 15-19. Dr. G. Philip Grabfield, 319 Longwood Ave., Boston, Secretary.
- American Society of Biological Chemists, Chicago, Apr. 15-19. Dr. C. G. King, Dept. of Chemistry, University of Pittsburgh, Pittsburgh, Secretary.
- American Surgical Association, White Sulphur Springs, W. Va., Apr. 28-30. Dr. Charles G. Mixer, 319 Longwood Ave., Boston, Secretary.
- Arizona State Medical Association, Phoenix, Apr. 16-19. Dr. William R. Watkins, 15 East Monroe St., Phoenix, Secretary.
- Arkansas Medical Society, Little Rock, Apr. 14-16. Dr. William R. Brooksher, 602 Garrison Ave., Fort Smith, Secretary.
- Association for the Study of Internal Secretions, Atlantic City, N. J., May 2-3. Dr. E. Kost Shelton, 921 Westwood Blvd., Los Angeles, Secretary.
- Association of American Physicians, Atlantic City, N. J., May 6-7. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.
- California Medical Association, Del Monte, May 5-8. Dr. George H. Kress, 450 Sutter St., San Francisco, Secretary.
- Federation of American Societies for Experimental Biology, Chicago, Apr. 15-19. Dr. D. R. Hooker, 19 West Chase St., Baltimore, Secretary.
- Florida Medical Association, Jacksonville, Apr. 28-30. Dr. Shaler Richardson, P. O. Box 1018, Jacksonville, Secretary.
- Georgia, Medical Association of, Macon, May 13-16. Dr. Edgar D. Shanks, 478 Peachtree St., N.E., Atlanta, Secretary.
- Iowa State Medical Society, Davenport, May 14-16. Dr. R. L. Parker, 3510 Sixth Ave., Des Moines, Secretary.
- Kansas Medical Society, Topeka, May 13-15. Mr. C. G. Munns, 112 West Sixth St., Topeka, Executive Secretary.
- Louisiana State Medical Society, Shreveport, Apr. 21-23. Dr. P. T. Talbot, 1430 Tulane Ave., New Orleans, Secretary.
- Maryland, Medical and Chirurgical Faculty of, Baltimore, Apr. 22-23. Dr. Richard T. Shackelford, 1211 Cathedral St., Baltimore, Secretary.
- Mississippi State Medical Association, St. Louis, Apr. 28-30. Mr. E. H. Dye, Box 295, Clarksdale, St. Louis, Executive Secretary.
- Missouri State Medical Association, New York, May 13-16. Dr. G. Bartelsmeyer, 634 North Grand Blvd., New York, Secretary.
- National Gastroenterological Association, San Antonio, Tex., May 5-8. Dr. Randolph Manning, Room 319, 1819 Broadway, New York, Secretary.
- National Tuberculosis Association, New York, Secretary.
- Nebraska State Medical Association, Lincoln, May 5-8. Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln, Secretary.
- New Hampshire Medical Society, Manchester, May 13-14. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.
- New York, Medical Society of the State of, Buffalo, Apr. 28-May 1. Dr. Peter Irving, 292 Madison Ave., New York, Secretary.
- Northern Tri-State Medical Association, Tiffin, Ohio, Secretary.
- Northern Gillette, 320 Michigan St., Toledo, Ohio, Secretary.
- Post Graduate Institute of the Philadelphia County Medical Society, Philadelphia, Mar. 31-Apr. 4. Dr. Rufus S. Reeves, 301 South 21st St., Philadelphia, Director.
- Society for the Study of Asthma and Allied Conditions, Atlantic City, N. J., May 3. Dr. W. C. Spain, 116 East 53d St., New York, Secretary.
- South Carolina Medical Association, Greenville, Apr. 15-17. Dr. Julian P. Price, 105 West Cheves St., Florence, Secretary.
- Tennessee State Medical Association, Nashville, Apr. 8-10. Dr. H. H. Shoulders, 706 Church St., Nashville, Secretary.
- Texas, State Medical Association of, Fort Worth, May 12-15. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.
- West Virginia State Medical Association, Charleston, May 12-14. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

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Annals of Internal Medicine, Lancaster, Pa.

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- Early Signs of Orthopedic Conditions. J. J. Nutt, New York.—p. 1050.
- Social Components in Medicine. E. L. Bortz, Philadelphia.—p. 1065.

Hemolytic Jaundice.—Sharpe prefers the term chronic familial hemolytic jaundice to hemolytic jaundice, hemolytic anemia, acholuric icterus, acholuric ictero-anemia, hemolytic splenomegaly, splenic anemia or chronic infectious anemia with splenomegaly. He defines chronic familial hemolytic jaundice as a chronic microspherocytic anemia characterized by increased erythrocyte fragility, reticulocytosis, acholuric icterus and splenomegaly. Of his 28 patients 11 were male and 17 female; their ages varied from 3 to 63 years. The symptoms usually appeared within the first two decades of life. Occasionally, subclinical evidence of the disease would remain latent and unsuspected for many years and be discovered only when some other member of the family was found to have the disease in an active form.

The 28 cases occurred in twelve families. The etiology of the disease remains obscure. The patient obtains a symptomatic "cure" following removal of the overactive spleen, even though telltale hematologic signs persist. Undue fatigue was usually the first and most common complaint. Dyspnea, palpitation and dizziness were often intermittently present but depended on the severity of the anemia. Splenomegaly was present in all but 2 latent cases. The size of the spleen varied at different times in the same patient and bore no relation to the severity of the disease. During the course of the disease, various complications developed that often completely altered its clinical picture. The complications were chiefly of two types: acute episodes of blood destruction and the formation of gallstones. Acute hemoclastic crises occurred at irregular intervals and were characterized by a sudden onset of pain in the upper part of the abdomen, nausea, vomiting and fever, accompanied by extreme weakness with an intensification of jaundice and pallor, an increasing enlargement of the spleen and a sharp drop in the blood count. Such crises have not occurred after splenectomy. Pigment cholelithiasis probably develops as a result of the persistent increased bilirubin content of the blood producing an increased load on the excretory function of the liver and gallbladder. Of 13 splenectomized patients only 3 have had to have their gallbladders removed. Pregnancy occurred nineteen times in 7 patients, and in 52 per cent of these instances it had some deleterious effect on the course of the disease. Not only was the anemia made more pronounced, but miscarriages and premature deliveries were more frequent. Mussey and Blakley have shown no gross alteration in the course of pregnancy, confinement or puerperium of 23 splenectomized women. Among the 13 splenectomized patients, adhesions about the spleen were relatively infrequent. Neither transfusions nor antianemic therapy was necessary before or after surgery in typical cases. There were no postoperative complications or fatalities. The convalescence was surprisingly rapid, and jaundice disappeared within a few days. The reticulocytes returned to normal numbers within the week. Iron and liver therapy have been of no value in improving the anemia or in preventing complications. The patients who have elected such conservative treatment continue to be subject to chronic invalidism and to the risk and uncertainty of acute exacerbations of the disease. It is the author's practice to recommend splenectomy for persons with active clinical manifestations irrespective of complications, age, or severity of the disease. The chronicity of symptoms and the uncertainty of serious complications more than offset the slight risk of operation, especially in view of the good health which the latter offers the patient.

Formol Gel Reaction in Chronic Rheumatoid Diseases.

—Scull and Pemberton determined the formol gel reaction of 128 patients with severe and moderate atrophic, hypertrophic or mixed types of rheumatoid disease. They observed marked and early gelation, particularly among patients with active and severe atrophic arthritis, including spondylitis. Mild and late or delayed appearance of positive gelation was seen in the blood fluids of patients with mild atrophic and hypertrophic arthritis. Negative reactions were seen in arrested cases of both varieties as well as among a few normal control subjects. This indicates that the reaction is a reasonable suitable index of the extent of the systemic activity of the disease process. While less exact as a quantitative measurement than certain other measures, the authors point out that the test is simple and yet sensitive enough to be employed as a routine procedure. There is a significant degree of association of the formol gel reaction with the suspension stability of the erythrocytes. If the reaction is negative in the plasma, the sedimentation rate of the erythrocytes may reasonably be presumed to be within normal limits. Blood with positive reactions in the plasma generally shows decreased suspension stability. Positive gelation tends to occur with increased levels of globulin and with decreased levels of hemoglobin, though the latter is not high.

Chemotherapy and Serotherapy for Pneumonia.

—According to Long and Haviland, over a period of two years the case fatality rate of pneumococcal pneumonia among adults has been reduced by two thirds at the Johns Hopkins Hospital.

It seems to have been stabilized at between 7 and 8 per cent. Their experience with sulfathiazole leads them to believe that it is as effective as sulfapyridine. One definite advantage of sulfathiazole is that it produces less nausea and vomiting in adults than does sulfapyridine. While sulfathiazole seems to produce more instances of drug fever and rash, it rarely causes anemia or granulocytopenia, and the authors have not yet encountered patients in whom acute agranulocytosis developed in the course of its use. They are of the opinion that the importance of early treatment of pneumonia by chemotherapeutic agents has not been sufficiently stressed and that every effort should be made to use either sulfathiazole or sulfapyridine as early as is possible in the course of pneumococcal pneumonia. They feel that every patient who is severely ill with pneumonia should receive combined type specific antipneumococcus serum and chemotherapy. The administration of the serum should be controlled by the Francis cutaneous test. If this is not possible, an initial dose of 200,000 units of type specific serum should be given intravenously after it has been determined that the patient is not sensitive to the particular serum to be employed. One hundred thousand units of serum should be administered every eight hours until crisis occurs. The authors' experience leads them to believe that from 10 to 15 per cent of patients require combined serotherapy and chemotherapy. Fewer patients may need the combined treatment if in the future specific treatment is started earlier.

Canadian Public Health Journal, Toronto

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- Tuberculosis and the Student Nurse. R. J. Collins and C. W. MacMillan, Fredericton, N. B.—p. 579.
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Organ Specificity of Brain Broth as Shown by Passive Anaphylaxis in Guinea Pigs. G. H. Bailey and R. E. Gardner, Baltimore.—p. 543.

Journal Industrial Hygiene & Toxicology, Baltimore

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- Administration of Pure Oxygen to Compressed Air Workers During Decompression: Prevention of Occurrence of Severe Compressed Air Illness. R. R. Jones, J. W. Crosson, F. E. Griffith, R. R. Sayers, H. H. Schrenk, Washington, D. C., and E. Levy, New York.—p. 427.
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Renal Tuberculosis. P. A. Rohrer, Seattle.—p. 871.

Laryngoscope, St. Louis

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Mycotic Arteriovenous Fistula: Report of Case. W. M. Yater, W. F. Luckett and B. W. Leonard, Washington.—p. 439.

Nebraska State Medical Journal, Lincoln

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*Management of Common Duct Lesions. R. R. Best, Omaha.—p. 5.
*Rupture of Quadriceps Femoris Tendon. J. W. Martin, Omaha.—p. 11.
*Bronchogenic Carcinoma Successfully Treated by Total Pneumonectomy: Case. J. D. Bisgard, Omaha.—p. 13.
Carcinoma of Rectum. C. W. McLaughlin Jr. and W. M. Dilworth, Omaha.—p. 16.
Treatment of Intractable Pain: Report of Eleven Cases. R. A. Youngman, Falls City.—p. 22.

Therapeutic Value and Limitations of Vitamin K.—Quick lists three important ways in which a serious depletion of prothrombin (prothrombinopenia) can occur; inadequate intake of vitamin K, faulty absorption due to lack of bile salts in the intestine, and impaired hepatic function resulting in a decrease of prothrombin synthesis. Because hypoprothrombinemia is a common (or even normal) physiologic condition of the newborn, bleeding is exceedingly dangerous. Since this hypoprothrombinemia responds quickly and effectively to vitamin K it is the duty of every physician to prescribe the vitamin immediately if signs of bleeding, even insignificant ones, appear. Also in the case of any difficult delivery in which the baby may have sustained cranial injury the prompt oral administration of vitamin K is indicated. Vitamin K must be part of the preoperative treatment of newborn infants and it should also be supplied during convalescence.

Inadequate absorption of vitamin K occurs most frequently in obstructive jaundice. Only a quantitative determination of prothrombin alone can establish its level. In uncomplicated cases without hepatic injury the response to vitamin K is at times spectacular. Every jaundiced patient is apt to have a low prothrombin level and operation should be postponed until the prothrombin is raised to at least from 60 to 70 per cent of normal. Even then the prothrombin may drop precipitously soon after operation, but with adequate preoperative treatment this is rarely serious. It is best to give vitamin K postoperatively, especially if the prothrombin remains persistently low, but unless bile salts are given concomitantly little vitamin K is absorbed and no benefit is derived. When striking impairment of hepatic function exists, operation, unless absolutely necessary, should not be done until the hepatic efficiency is improved. High carbohydrate diet, intravenous dextrose, calcium salts and gelatin feeding are helpful measures. When bleeding is encountered and the prothrombin is not elevated by vitamin K and bile salts, fresh blood transfusion is necessary. Prothrombin deteriorates in stored blood. Restoration of hepatic efficiency is of paramount importance, for without its proper function all treatment with vitamin K is in vain. Vitamin K is effective only when hypoprothrombinemia can be demonstrated. Since the prothrombin is normal in hemophilia, the purpuras and a variety of other hemorrhagic diseases no benefit can be expected from its use for these conditions.

Common Duct Lesions.—Best points out that whether the common bile duct lesion is associated with jaundice or a fistula the preoperative management is the same, as the danger is failure of bile to reach the intestine resulting in prothrombin deficiency and a hemorrhagic tendency. Hepatic function must be evaluated. If found much below normal, a vigorous effort should be made to increase it before intervention is attempted. A hippuric acid test below 2.6 Gm. indicates hepatic deficiency, and one below 1.5 Gm. suggests a rather poor prognosis. Even if the function is good, every patient with jaundice or a suspected common duct lesion should have the advantage of all available measures for building up hepatic function and reserve. Any bleeding tendency should be controlled. For the last five years the author has used viosterol and bile salts in the majority of his cases, and vitamin K in comparatively few cases. Now since vitamin K is not distasteful and is easily administered, he uses it. The mechanism of the former medication is some synthesis of either viosterol or the vitamin K into the complex protein prothrombin, rather than the replacement of a vitamin. Bile is necessary for the intestinal absorption of these substances. In addition to the specific therapy, blood transfusion continues to be a valuable supplement. When a common duct lesion is known or suspected, the gallbladder should not be removed until the patency of the common duct has been ascertained, as the gallbladder may be utilized for a biliary-gastrointestinal anastomosis. Most strictures of the common duct require anastomosis of the remaining dilated portion to the duodenum or stomach. In most instances malignant lesions of the common duct are so advanced that only hepatic decompression or biliary-gastrointestinal anastomosis will relieve the jaundice. The malignant tumor which most often gives rise to jaundice is carcinoma of the pancreas compressing and obstructing that portion of the common duct which passes through or is adjacent to the head of the pancreas. Here the two stage procedure of Whipple offers some hope of a successful surgical attack. A biliary fistula should always be injected with an opaque medium and a cholangiogram made to ascertain whether a stone remains or a stricture is present, or whether merely spastic dyssynergia exists, not requiring a surgical intervention; if such is the case the condition is relieved by the biliary flush. If a biliary fistula exists and neither the cholangiogram nor the operative observations reveal any available duct tissue for anastomosis, the fistula may be dissected out as an intact tube and the end implanted into the stomach, duodenum or a loop of jejunum brought up anterior to the colon, for the biliary-intestinal anastomosis. The postoperative management of these patients is vitally important.

New England Journal of Medicine, Boston

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- Recollections and Letters of Sir James Mackenzie. J. H. Pratt, Boston.—p. 1.
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Public Health Reports, Washington, D. C.

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Radiology, Syracuse, N. Y.

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- *Solitary Myeloma of Bone: Review of Roentgenologic Features, with Report of Four Additional Cases. L. W. Paul and E. A. Pohle, Madison, Wis.—p. 651.
*Multiple Myeloma. L. C. Kinney, San Diego, Calif.—p. 667.
Intra-Orificial Roentgen Therapy: Improvements in Apparatus. W. W. Vasson, J. S. Bouslog and A. P. Jackson Jr., Denver.—p. 676.
*Value of Diagnostic Criteria for Choice of Therapeutic Procedure in Management of Acute Intestinal Obstruction: Experimental and Clinical Observations. O. H. Wangenstein, Minneapolis.—p. 680.
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Roentgenographic Findings in Neurocutaneous Syndromes. G. W. Heublein, E. P. Pendergrass and B. P. Widmann, Philadelphia.—p. 701.
Thorium Dioxide as Aid in Differential Diagnosis of Pylephlebitis. H. Koster, Brooklyn.—p. 728.
Status of Some Technic Factors in Cholecystography. M. Feldman, Baltimore.—p. 735.

Solitary Myeloma of Bone.—Paul and Pohle arrive at the following conclusions after reviewing the 41 cases of single osseous myelomas reported in the literature and their 4 previously unpublished cases: 1. Solitary bone myeloma cannot be considered rare. 2. Pathologic reports indicate no essential difference between solitary and multiple forms of myeloma. The malignant degree of bone myeloma may vary with generalization occurring early in some (typical multiple myeloma) and late or never in others. 3. Roentgenologically there are two principal forms; in one the resemblance to giant cell tumor is striking, in the other osteolysis predominates but osseous expansion may be present. While roentgenologically it is not possible to predict the malignant degree of a myeloma, the trabeculated, multicystic type tends to run a more benign course. When generalization occurs, the type is usually typical multiple myeloma. 4. Because the tumor may be relatively benign, strenuous efforts to eradicate it are warranted. In the spine, laminectomy with removal of as much of the tumor as possible, followed by thorough irradiation, is the treatment of choice. In the pelvis and other surgically inaccessible bones external irradiation may arrest or possibly cure the disease. In the long bones, irradiation is advocated as the first measure. If this fails or the lesion recurs, local excision or amputation should be considered. 5. Solitary myeloma must be differentiated, roentgenologically, from giant cell tumor, localized fibrocystic disease, malignant metastasis, osteogenic sarcoma, Ewing's tumor and some rare bone tumors. The age incidence (generally from 29 to 65 years), location (often in the dorsal spine, pelvis, femur and humerus) of the lesion, symptomatology and roentgen appearance aid in differentiation. Thirty-nine of the patients were male and 10 female. Sixteen patients were between 50 and 60 years of age. At the present time roentgen examination alone may establish the probability

of its existence. In most instances final proof will depend on microscopic examination of tissue. Biopsy is indicated so that adequate treatment may be instituted.

Multiple Myeloma.—Kinney points out that multiple myelomas are malignant osteolytic tumors which arise from cells in the red bone marrow. They have no relation to osteogenic cells and therefore do not produce bone. By the time the lesions are sufficiently large to be seen roentgenologically they are generally multiple. The four definite types of myeloma recognized by the Registry of the American College of Surgeons, depending on the predominant type of marrow cell found in the lesion, are the plasma cell, myelocyte, erythroblast and lymphocyte. As the disease progresses the lesions increase in size and number and the number of bones involved also increases. While there are no characteristic symptoms, the most usual is pain in the lumbar region or chest. The presenting symptoms may in no way point to the disease. They may be those of chronic sinusitis, gastric hemorrhage, acute pleurisy or herpes zoster, or they may be entirely absent. Multiple myeloma has been associated with the finding of Bence Jones protein in the urine, and this proteinuria has been thought characteristic of the disease. Bence Jones proteinuria occurs in from 50 to 65 per cent of cases of myeloma, but it is not pathognomonic. Its finding eliminates hyperthyroidism. Evidence of nephritis occurs in about 70 per cent of cases. The blood picture is not characteristic, although a progressive anemia is usually present. The bones most frequently involved are the spine, ribs, skull and pelvis. However, its absence from any one of these locations does not rule out myeloma. The most characteristic roentgen observations are small, multiple, clean-cut areas of osseous destruction having the appearance of being punched out of otherwise normal bone. In the skull the typical sharply circumscribed lesions are usually found in the frontal or upper parietal bones. In advanced lesions these areas may coalesce and give a diffuse mottling of the skull. In the spine the typical, small, discrete lesions may be seen in the bodies of one or more vertebrae, but there may be extensive destruction of the vertebral bodies by osteolytic lesions which presents no roentgen evidence until the cortex is involved. The usual signs are rarefaction, with fracture or collapse of one or more bodies. As the disease progresses there may be diffuse mottling and softening leading to marked swelling of the intervening disks. Usually the lesions in the spine are not characteristic and present no definite differentiation from other osteolytic conditions. In the ribs the most frequent finding is diffuse mottling and demineralization. Cyst-like areas of expansion with palpable tumors or complete destruction of portions of a rib may be present. Frequently multiple spontaneous fractures in several ribs occur. This is diagnostic of multiple myeloma. In the ends of the long bones the lesions may fuse into large cystlike areas which simulate localized cystic osteitis. Occasionally the lesions may simulate those of osteoclastic metastases, but the typical early lesions are small discrete areas of destruction in normal bone. Multiple myeloma does not metastasize to the lung fields. This is an important diagnostic feature. The author believes that the probability of multiple myeloma should be considered in any adult who has multiple osteolytic lesions or multiple spontaneous fractures. High serum calcium and secondary hyperplasia of the parathyroids in multiple myeloma are not accompanied by the low serum phosphorus and the low calcium balance typical of parathyroid disease. The reactions of osteitis and sclerosis frequently seen in and around metastatic lesions are never observed in myeloma. Multiple myeloma lesions are purely osteolytic, and osteoblastic changes are evidences of metastases. The lesions of myeloma are never accompanied by the thickening of the tables of the skull characteristic of Paget's disease.

Roentgen Identification of Intestinal Obstruction.—Wangensteen states that by proper coordination of clinical and roentgen data a large number of acute abdominal lesions may be identified correctly without operation. Roentgen studies are particularly helpful in determining the site of acute intestinal obstruction and its consequent treatment. Careful integration of clinical and roentgen data can determine that intestinal obstruction is present, whether it is simple or strangulating,

its site and whether it is partial or complete. The nature of most obstructions can be identified correctly clinically, except enteric intussusceptions and gallstone obstruction. Clinical and roentgen evidence have made the early diagnosis of gallstone obstruction possible. Such a diagnosis of obstruction and the patient's status can aid in selecting proper therapeutic measures. Liberal administration of saline solution will correct the dechlorination and dehydration of high obstruction. This expedient does not influence the obstructing agency. Blood transfusion is an important item in all strangulating obstructions in which the blood loss may be serious. In high grade obstructions, blood or plasma transfusion and the dependent (Trendelenburg) posture may have a favorable influence on the blood pressure. In all high grade obstructions, inhalation of high concentrations of oxygen is a worth while auxiliary procedure. However, without concomitant suction applied to an indwelling duodenal tube, inhalations of oxygen are not effective. Decompression is the main agency in managing intestinal obstruction. Many simple mechanical obstructions of the small intestine can thus be treated successfully without operation. These constitute largely partial obstructions caused by adhesive kinks or bands. All strangulating obstructions and all obstructions of the colon with considerable distention should be operated on at once. These two types of obstruction contraindicate all attempts of conservative decompression. In determining whether a satisfactory decompression has been achieved by conservative means, repeated roentgen study is important. Relief of pain is not enough. Failure to decompress distended intestinal coils after a reasonable time with suction suggests the need of operative intervention. Most partial obstructions of a simple nature can be decompressed satisfactorily by the indwelling tube. High grade complete obstruction, if not decompressed within twenty-four to thirty-six hours, should be submitted to operation. Enterostomy is the safest procedure in such instances. During a period of seven years, when suction has played an important part in the management of intestinal obstruction, decompression by suction alone has been accomplished in 43.6 per cent of cases encountered at the University of Minnesota Hospital. The Miller-Abbott tube did not raise this percentage, but it did prove of value in the detection of occult lesions in the intestine, such as neoplastic strictures, which often fail to exhibit roentgen evidence of their presence. Such strictures often cause recurrent obstruction. This can be identified during an obstructive phase by the presence of visible and palpable peristalsis—which suggest hypertrophy of the muscle of the intestine wall.

Rhode Island Medical Journal, Providence

24:1-18 (Jan.) 1941

- Obstructed Labor. G. W. Waterman, Providence.—p. 1.
- Manual Removal of Placenta: Twelve Year Study. C. Potter, Providence.—p. 3.
- Tragedies and Calamities of Surgery. A. W. Eckstein, Providence.—p. 6.
- Local Refrigeration and Hibernation in Treatment of Cancer. F. E. Hanley, East Providence.—p. 12.

Southern Surgeon, Atlanta, Ga.

10:1-78 (Jan.) 1941

- Ankylosis of Mandible. G. W. N. Eggers, Galveston, Texas.—p. 1.
- Endometriosis as Cause of Intestinal Obstruction: Report of Two Cases. G. P. Grigsby, Louisville, Ky.—p. 8.
- Fatal Infection of Abdominal Wall Following Appendectomy. R. J. White, Fort Worth, Texas.—p. 13.
- Diagnosis and Treatment of Trigeminal Neuralgia, with Consideration of Total and Subtotal Section of Fifth Cranial Nerve. W. M. Craig, Rochester, Minn.—p. 17.
- Perineal-Abdominal Operation for Cancer of Rectum. A. O. Singleton, Galveston, Texas.—p. 30.
- Nonparasitic Cysts of Spleen: Report of Case. T. D. Watts and H. J. Warthen, Richmond, Va.—p. 34.
- Direct X Irradiation of Tumors. J. D. Hancock and J. Love, Louisville, Ky.—p. 39.
- Sterility Relieved by Left Salpingostomy Following Right Salpingo-Oophorectomy. W. T. Black Jr., Memphis, Tenn.—p. 42.
- Ovarian Hemorrhage. H. J. Copeland and T. J. Floyd Jr., Griffin, Ga.—p. 44.
- Brief History of Surgical Societies. M. W. Sherwood and T. Speed, Temple, Texas.—p. 50.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

63:205-294 (Sept.) 1940

- *Analysis of 1,433 Cases of Paroxysmal Trigeminal Neuralgia (Trigeminal Tic) and End Results of Gasserian Alcohol Injection. W. Harris.—p. 209.
- Optic Atrophy Associated with Pernicious Anemia. J. W. A. Turner.—p. 225.
- Form of Familial Presenile Dementia with Spastic Paralysis. C. Worster-Drought, J. G. Greenfield and W. H. McMenemey.—p. 237.
- Relation of Atrophy to Fibrillation in Denervated Muscle. D. Y. Solandt and J. W. Magladery.—p. 255.
- Experimental Lesions in Basal Ganglions of Cat. E. G. T. Liddell and C. G. Phillips.—p. 264.
- Familial Pes Cavus and Absent Tendon Jerks: Its Relationship with Friedrich's Disease and Peroneal Muscular Atrophy. J. D. Spillane.—p. 275.

Paroxysmal Trigeminal Neuralgia and Gasserian Alcohol Injection.—Harris has treated within thirty years about 2,500 persons with trigeminal tic (1,056 in private practice) by alcohol injection. He has notes on only 377 of the hospital patients. Of the total of 1,433 patients 943 were women and 490 were men. Notes on the ages of 1,119 patients show that pain in 897 began between the ages of 41 and 70. Peripheral sepsis, dental caries, pyorrhea, antral abscess and sinusitis are the prime cause of the disease. Letters were written to 765 private patients whose results from alcohol anesthesia were good. Of the 457 replies received, 316 reported that there had been no recurrence of pain for from three up to thirty-one years, usually with no alteration in the numbness; 212 of these patients were still alive and completely free of neuralgic tic at the time of the follow-up. Patches of shingles of herpes febrilis type were not an uncommon sequela of gasserian injection. This requires no treatment beyond some soothing ointment and leaves no scar or any subsequent neuralgia. The sense of taste was lost completely on the numbed half of the tongue and palate of 167 patients. Sometimes taste is recovered even though complete anesthesia remains. In some cases of total ganglion anesthesia the gustatory loss is permanent, in 1 case for more than twenty-four years. In 2 cases the loss of taste was complete over the back of the tongue, pharynx and palate, as well as on the front of the tongue. However, the actual gustatory fibers are not damaged. One of the most consistent results of total anesthesia resulting from gasserian destruction is complete loss of deep pressure sensibility. Sores around the nasal alae, especially just inside the nostril, and sometimes also on the cheek or forehead occur after a few gasserian injections. The risk of neuro-paralytic keratitis complicating gasserian operation or injection is greatly diminished by the instillation of a drop of liquid petrolatum three or four times a day. Hyperesthesia to cold following gasserian injections, with resultant total anesthesia, is sufficiently frequent to prove reality. It may be due to a lowered threshold of sympathetic sensory conduction. In a small proportion of gasserian operations or injections, although the true tic may be entirely cured and the trigeminal anesthesia complete, a new type of pain may appear in from six weeks to three months. The term trigeminal causalgia may be justified by the frequent complaint of burning sensations in the face. Further gasserian injection or operation usually make the pain apparently worse. If the pain arises in the medullary nucleus, resection of the trigeminal fillet on the opposite side in the pons might give relief. This trigeminal causalgia seems to be identical with Frazier and Russell's atypical neuralgia, which may arise spontaneously in untreated cases.

Journal of Laryngology and Otology, London

55:449-472 (Oct.) 1940

- Mechanism of Acusticolateral Sense Organs in Fishes, with Special Reference to Problems in Physiology of Semicircular Canals. A. Sand.—p. 449.
- Multiple Complications Including Metastatic Lung Abscess Following Mastoid Infection. R. Smith.—p. 459.
- Bilateral Lymphosarcoma of Tonsils. S. Young and L. W. Price.—p. 463.

Lancet, London

2:799-830 (Dec. 28) 1940

- Pediatrics: Past, Present and Prospective. R. Hutchison.—p. 799.
- *Outbreak of Sonne Dysentery. R. Cruickshank and R. Swyer.—p. 803.
- Porphyria in Case of Industrial Methyl Chloride Poisoning. J. N. M. Chalmers, A. E. Giliam and J. E. Kench.—p. 806.
- *Phenothiazine as Anthelmintic in Threadworm and Roundworm Infections. P. Manson-Bahr.—p. 808.
- Volvulus of Intestine with Intertwining Loops. M. Paul.—p. 809.

Outbreak of Sonne Dysentery.—The outbreak of dysentery described by Cruickshank and Swyer occurred in a school which was temporarily in use as a nursery for infants and young children. On Nov. 15, 1939, 19 were received at the authors' hospital, where they were subdivided into small groups and all patients were strictly barrier nursed with a view to eliminating cross infection from either the alimentary or the respiratory tract. Further cases were admitted up to December 2, making a total of 32 cases. The intestinal symptoms were not severe. The average number of stools was about three a day, and in no case was there evidence of dehydration. The commonest type of stool was green, loose and offensive and contained mucus. Because it has been suggested that gastroenteritis may be either a cause for or an effect of respiratory tract disease, attempts were made to ascertain whether any such association existed. Rhinitis was present on admission in 10 instances. In 3 of these cases there was some evidence of otitis media. Bronchitis was present in 5 cases, associated with chronic otitis media in 1 case and rhinitis in 1 case. Thus gastroenteritis of dysentery type seems in some degree to be a predisposing factor to secondary infections of the upper respiratory tract. It was arranged that a specimen of feces and a rectal swab should be obtained for bacteriologic examination from every patient twice weekly during the first two or three weeks and after that at weekly intervals until discharge. These investigations brought out the following points: 1. By repeated examination of both fecal specimen and rectal swab the Sonne bacillus can be isolated from most clinical cases. The rectal swab gives a much higher proportion of positive results than the fecal specimen. 2. The Sonne bacillus persists in the intestine in a gradually decreasing proportion of cases after subsidence of the acute infection. Thus the convalescent carrier is probably an important reservoir for the spread of infection, and at least three consecutive negative reports should be obtained before a patient is released from the hospital. 3. The Sonne bacillus is more persistent than other dysentery bacilli to external destructive agents, and many remain alive for days in fecal specimens if no preservative is added. 4. The fermentation of xylose by certain strains of the Sonne bacillus is closely correlated with epidemiologic data and may thus be helpful in tracing the source or mode of spread of an epidemic. 5. The Widal reaction has some diagnostic value in Sonne dysentery, but a proportion of cases fail to produce demonstrable agglutinin in the blood.

Phenothiazine as an Anthelmintic.—According to Manson-Bahr, phenothiazine, a thiazine dye, has been shown to be effective against culicine larvae, against strongyloid worms in sheep and against stomach worms in animals. It is excreted in the urine and acts as a urinary antiseptic. Three Indian lascarcs infected with *Ancylostoma duodenale* were given phenothiazine in doses ranging from 30 to 40 Gm. but the results suggest that the drug is ineffective for worms in the small intestine; similar results have been found in animals. Nine patients with *Ascaris lumbricoides* were treated; 5 had a double infection with roundworms and hookworms and 2 a double infection with roundworms and whipworms. These 7 patients were given total doses ranging from 16 to 48 Gm. Only one roundworm was recovered, and the whipworms were unaffected. Of the remaining 2 patients, 1 had a multiple infection with roundworms, hookworms, whipworms and threadworms, the other had roundworms only. They were given 8 Gm. daily for three days, followed by a dose of sodium sulfate, and results were more satisfactory, all the roundworms being removed. Phenothiazine has given good and permanent results in the treatment of threadworm infections, especially in children. Effects on 6 children and 3 adults are recorded; all were cured, though 3 (1 child and 2 adults) required a second course. The following doses are advised: 2 Gm. daily for seven days for children under 8, and half the dose for children under 4; 8 Gm. daily for at least five days for adults.

Wiener medizinische Wochenschrift, Vienna

90:821-836 (Oct. 26) 1940

Obliteration Therapy of Bartholin's Cysts. A. Botis.—p. 821.

Treatment of Dysentery. O. Haus.—p. 822.

Spina Bifida Occulta and Calculi in Urinary Passages. M. A. Sarpnyener.—p. 823.

*Function of Parathyroids After Goiter Operations. S. von Posgay.—p. 825.

Parathyroid Function After Goiter Operations.—

According to von Posgay, there exist two opposing views regarding the changes in the parathyroids following operations on the thyroid. Melchior, Nothmann, Mandl and others maintain that after operations on the thyroid, in contradistinction to other operations, there develops a tendency to tetany which becomes manifest through an increased electrical irritability of the nerves and through a reduced blood calcium. Löwenstein and Danheiser deny the existence of parathyroid lesions and reject the possibility of latent tetany. The author investigated this problem in 59 patients who had undergone goiter operations. He examined the calcium content of the blood and the electrical irritability of the nerves before and after the operation. His investigations revealed that latent tetany was not present. Except in cases of manifest tetany he was never able to demonstrate a change in the electrical irritability of the nerves. He confirms Löwenstein's opinion that if an increase in nervous irritability occurs it is due to the unavoidable toxic condition that develops after operation rather than to an injury of the parathyroids. He found that in some cases there may be a decrease in the calcium content, but the values never go below normal. Although these reductions constitute a partial corroboration of the views expressed by Melchior and Mandl, the author thinks that they do not justify the conclusion that an occasional reduction in the calcium content is a definite sign of inadequate functioning of the parathyroids. This assumption would be justified only if the reduction in the calcium content was accompanied by an increase in the electrical irritability of the nerves and if, at least in some of the cases, the clinical signs of tetany would appear. The author concludes that the occasional fluctuations in the calcium content are the results of the sudden disturbance in the endocrine system, which in turn is caused by strumectomy or by other operations. The author cites reports from the literature describing tetany following operations in which injury of the parathyroids was impossible such as operations for duodenal ulcer or hernia.

Mitt. a. d. med. Akad. zu Kyoto, Kyoto

30:299-680 (Oct.) 1940. Partial Index

*Rapid Agglutination Test for Typhoid and Paratyphoid Fever. K. Nakamura.—p. 299.

*Clinical Observations on Transfusion of Incompatible Blood. Y. Tominaga.—p. 337.

Rapid Agglutination Test for Typhoid and Paratyphoid Fever.—

Confronted with a need for a rapid and simple method of a diagnostic test for typhoid and paratyphoid fever in a field hospital, Nakamura devised the following test: A 20 hour growth culture each of Eberthella and Salmonella on agar slant is suspended in 3 cc. of antiformin (containing from 0.5 to 1 per cent of sodium chloride) in sterile salt solution. After careful neutralization of the suspension with acetic acid, a few drops of sterile solution of Löffler's methylene blue are added and preserved with 5 per cent phenol. A drop of capillary blood is received on a small watch glass and at once diluted and mixed with 4 drops of 3.5 per cent solution of sodium chloride. One drop of this 1:5 dilution of blood is then introduced into the hollow of each of three hanging drop slides, one slide for each of the three strains of organisms to be tested; 1 drop of the test fluid is then added to each, and the contents of each slide are at once thoroughly mixed by rotating the slide for a few seconds. The extent of clumping is observed in the course of a few minutes (from five to thirty), the strongly positive reactions being visible to the naked eye at the end of five minutes and the weakly positive ones in about thirty minutes. A magnifying glass or low power microscope may aid visualization in the weak reactions. The red blood cells in the test mixture usually settle toward the central portion of the hollow in the

slide, and the agglutination, which is either bluish or sometimes greenish blue, may be clearly seen at the periphery of the mixture. This test can also be performed with a slightly lower dilution (1:2) of blood. In comparing the results of this test with those obtained by the Widal reaction in 100 cases of typhoid, Nakamura's method gave 98 per cent positive while the Widal test yielded 95 per cent, thus closely paralleling each other. The earliest positive reaction was obtained on the fifth or sixth day of infection. The author tested the blood of 30 persons who had previously been vaccinated against these organisms and found seventeen negative, ten weakly positive and three intermediary positive reactions. Of the latter, the reactions tended to become negative when retesting was done in about one week.

Transfusion of Incompatible Blood.—Tominaga reports clinical and hematologic observations on the effects of therapeutic transfusions of 30 patients with various types of infection. After the blood group to which the recipient belonged was determined, a small amount (5 to 10 cc.) of incompatible blood from a donor was injected slowly by means of a glass syringe. The donor's blood, after first being rendered noncoagulable by sodium citrate (0.5 per cent), was mixed with the recipient's blood in a syringe and the combined fluids were then injected into the recipient's median basilic vein. Following the transfusion the patient's temperature showed a definite elevation, usually in about one hour, and then gradually subsided. In febrile patients decided changes in the temperature curve were encountered, but with improvement in general condition the temperature receded to the normal level. A slight increase in arterial blood pressure was noted after transfusion. The pulse rate usually increased up to 20 per minute, but no patient showed any weakness, irregularity or blocking. The respiratory rate was not noticeably affected. In a few instances there was a transient increase in urobilinogen excretion, but no hemoglobinuria, hematuria and anuria. These findings showed no definite correlation between the amount of transfused blood and the combination of blood groups, probably because of the small amount of blood employed. The reactions following the transfusion consisted of mild chills, occasionally accompanied by mild dyspnea and cyanosis, and—though rarely—stupor and other manifestations of shock. The latter group of symptoms, when present, were but transient, no permanent after-effects being observed. A definite relation of the reactions to the amount of blood given was noted, although it was difficult to determine any relation between the degree of agglutination and the extent of reactions. About five hours after a transfusion of 10 cc. the peripheral erythrocyte count increased by an average of 520,000 and by an average of 386,000 for 5 cc. per cubic millimeter of blood. After a temporary decrease on the third day, the red cell count again increased. The hemoglobin values showed parallel variations with the erythrocyte counts. Increased reticulocyte counts were evidence of bone marrow stimulation (0.23 to 0.48 per cent increase). The blood platelets also showed a tendency to increase (124,000 to 110,000 per cubic millimeter) but in a few instances a decrease was also noted. The increase in leukocyte count was at the level of 1,640-4,350, with a shift to the left, in most instances occurring within five hours. The erythrocyte sedimentation rate fluctuated slightly but never exceeded 10 mm. The isoagglutinin titers exhibited no appreciable changes. The effect of transfusion of incompatible blood in patients suffering from acute pyogenic diseases was found to be favorable in that it improved the general clinical condition and shortened the course of illness. In patients with surgical tuberculosis the only effect was the production of transient fever followed by improvement in appetite and clearing of the sensorium. These observations led Tominaga to recommend, in cases in which it is definitely indicated, transfusion of incompatible blood, preferably in small doses (5 cc.) at frequent intervals. The effect of such transfusions is interpreted as being due to the stimulating action of the products of the hemolysis. This method of treatment may be regarded as a type of shock therapy. The transfusion of incompatible blood appears to be particularly useful when it is used as an interim treatment for the stimulation of hemopoietic organs in many conditions associated with anemia. In severe anemia adequate replacement can of course be accomplished only by transfusion of large amounts of compatible blood.

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The Contribution of Liberal Education to Professional Studies

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The discussions of premedical education recorded in the medical journals have dealt primarily with the content of the curriculum. Some appear to favor a program highly restricted with a large amount of science training, others insist on a broader and more liberal selection of subjects outside the science field. One would judge that the majority is in favor of the latter plan, though the reasons for this opinion seem rather vague and indefinite. My purpose in this paper is to analyze the nature of the liberal arts program and the sort of contribution it should make to the development of the student and hence to his preparation for professional study, with special reference to preparation for the study of medicine. Some such analysis should throw light on the question of the desirable background of education to be sought in the prospective medical student.

GOAL OF LIBERAL EDUCATION

Before one attempts to deal with the elements which compose the premedical curriculum, it is important to consider the qualities which the college years should develop in order to send to the professional schools properly qualified candidates. This raises the question of the aims and objectives of the college. Since some eight hundred colleges prepare students for medical schools it is perhaps presumptuous to attempt to state the goal of liberal education, for obviously there is wide variety of purposes and methods of achieving them in so many different institutions. Despite this fact there are certain relatively definite aims that are more or less clearly conceived by all these institutions that merit consideration in an effort to evaluate the significance of the arts college as preparation for medical education.

What are the colleges attempting to do for their undergraduates? In the first place, they hope to acquaint them with the broad fields of knowledge embraced by the humanities, the

social science and the science divisions. A student must have some knowledge of the heritage from the past, the literature and language of peoples past and present, in order to understand the civilization of which he is a part and in the advancement of which he should share as a leader in his profession. If he is to take his place in a complex social structure and understand the intricate and involved human relationships with which he must cope, he must have some knowledge of social science, which through its several branches, sociology, economics, political science and history, seeks to give one an understanding of man and the currents and countercurrents at work in human society. Finally, without a knowledge of the natural sciences, the scientific method and the scientific advances which have transformed modern society, it is impossible to comprehend the basis of American culture and progress.

But as important as an understanding of the broad fields of learning is, it should be remembered that it is only a part of the real value which comes to one in one's college years. The acquisition of facts is but the first step in liberal education. Learning to think for oneself, to stand alone intellectually, to venture a little beyond the beaten path in the realm of ideas is by far the more important goal. Increasing emphasis is being given to this objective in the arts college. The results have been all too meager in the best institutions, and perhaps negligible in some, but to an extent they are in evidence in the stronger graduates of all institutions. As a test of the fitness of an applicant for admission to a medical school, intellectual initiative is more significant than the subjects covered in the undergraduate years. It is more difficult to measure than the knowledge of chemistry, English or history, but it is not impossible to discover this power and to what extent it has been cultivated.

Another quality which the arts college seeks to develop is intellectual curiosity. It is being recognized that if it fails to establish vital and

permanent intellectual interests it has failed in one of its chief tasks. The graduate who has not succeeded in discovering some definite interest in learning for its own sake has not been liberally educated. It is only the urge to know, the love of knowledge, that can drive one on to independent study after formal schooling is over. Without it one of the chief aids to successful professional study is lacking. The desire to learn in order to be able sometime to practice a profession is immensely strengthened by a highly developed urge to learn for the sake of knowing more about the subject of one's interest. Indeed, when the latter desire is so strong as to dominate the former the best results will be obtained. If committees on admission to medical or other professional schools would take into consideration this quality, in the attempt to judge the effectiveness of the applicant's college training, it might prove helpful.

SOCIAL UNDERSTANDING AND RESPONSIBILITY

In selecting men for the medical schools particularly there is another phase of the student's training and personality that should not be overlooked. Medicine is one of the great agencies of social progress. Men who enter the profession should have not only an understanding of its place in the social structure but deep seated and genuine social interests. It is difficult to see how one without broad human sympathies could succeed in a profession which on the one hand requires such intimate contact with individual human problems and, on the other, exerts so profound an influence on society as a whole.

Now one of the objects of education which is becoming more and more clearly recognized is the development of social understanding and along with it a sense of social responsibility. The great emphasis on the social sciences in recent years is evidence of that fact. It does not appear, from a study of the literature on the subject, that committees on admission have concerned themselves particularly with the depth and breadth of the social interests of those who seek admission to medical schools. Indeed, it is a fact worthy of mention that, while all pre-medical curriculums prescribe a reasonable number of courses in both the science and the humanities divisions of the arts college, few, if any, require any study of the social sciences. In all the discussions of the subject of premedical training there seems to be no one who has advocated a real requirement in the fields of history, economics, sociology or political science. A good case could be made out for the practical value of these courses for one who plans to practice medicine, but apart from that a broad background of social understanding is essential to a well rounded personality, which is clearly basic to success in medicine. Again, it is not merely knowledge of social problems that is important but a desire to make some contribution toward

their solution. It is this which the arts college strives for. Incidentally, the professional schools should make some provision for continuing this interest in their students through the training which they provide. The time has come in American life when education on all levels must emphasize the obligations as well as the rights and privileges that belong to one who has had superior educational advantages.

FOREIGN LANGUAGES, HISTORY, MATHEMATICS

Thus far in this paper the emphasis has been on the more or less intangible and general values which liberal education contributes to professional studies. It might now be profitable to consider the significance of certain individual courses and their importance as elements in the educational background of the student who wishes to enter a learned profession. Obviously, it would be impossible to discuss all of them in detail. A few illustrations will suffice for the purpose of this discussion.

What are the values of foreign language study, Latin, Greek, French and German? The obvious reply is that Latin and Greek are needed in order to understand the meaning of the terms used, the vast number of words derived from them, and that modern foreign languages are essential in order to enable the student to read French and German articles in scientific journals. That is a partial answer, but it is by no means complete. Foreign language study gives one an understanding of one's own language and a facility in the use of it that can be gained in no other way. There is perhaps no subject so valuable as a means of developing accuracy of expression and hence accuracy of thought as this study. The ability to use words discriminately denotes the power of clear and precise thinking, for shades of meaning in the use of words means shades of thought. It is doubtful whether one ever knows anything thoroughly if one has not the words to express it concisely and exactly. The matter then of knowing one's own language well is more than merely an asset in conversation or public address. It is an indispensable element in clear thinking. It is this important contribution which the study of Latin and Greek or French and German makes to the intellectual evolution of youth which is often overlooked. It develops a sense of the value of words and a feeling for shades of meaning which are necessary to accurate and precise thought processes. Other values that might be mentioned are the practice in analysis and synthesis which is necessary in the translation of a foreign language and the habit of sustained mental effort required in the mastery of another tongue. In short, the qualities of mind so necessary in scientific studies of every kind are developed through foreign languages as through few if any other subjects. These intangible values are

more significant than those more practical values that are usually cited.

Why should a prospective medical student spend (or waste) his time studying history? Would it not be much better if in its stead advanced courses in biology, chemistry or physics should occupy his attention? The answer to these questions naturally depends on what one considers the significance of historical studies to be. Reference has already been made to the importance of an understanding of the background of Western culture. But a study of history should provide much more than merely a knowledge of what the past has bequeathed to the present. It develops a sense of perspective that applies in the consideration of any problem. It deals with origins, with cause and effect, with precedents to any given situation. It cultivates a habit of mind essential to successful and effective study in any field. Quite apart from the knowledge acquired, the mental attitude which it develops manifests itself in the approach to all types of problems. Nothing is viewed as in and of itself alone. Any given fact is recognized as part of a pattern, and the natural inclination of the history student is to comprehend the pattern. This is a mark of the liberally educated person. It is an essential attitude for any one who expects to make a success in any of the learned professions.

Science subjects are accepted as prerequisites to entering medical college, and many believe that mathematics should be required. Ordinarily the reasons advanced are that chemistry, biology and physics provide the knowledge required in medical studies and that a modicum of mathematics is necessary to successful mastery of the sciences. These are valid reasons, but they do not account for some of the more significant contributions which these subjects make to later studies. The information acquired is secondary in importance to the habits of exactness and accuracy of thought which mathematics and science develop. Long hours spent in the laboratory experimenting with and proving the laws of physics and chemistry, and observing through the microscope the behavior of animal life, fixes in the mind of the student the nature of the scientific method and inculcates the scientific attitude so necessary to his later education. These intangible but nonetheless real contributions which the sciences make to the intellectual growth of the student are so frequently ignored in the attempt to evaluate their importance that it seemed worth while to call attention to them, despite the fact that they are recognized by all as essential elements in preparation for the study of medicine.

Fundamentally, then, the contribution of the arts college to the development of youth is far more than merely getting them acquainted with useful knowledge. Its emphasis is on values and

a sense of values rather than on facts and information. Essentially its curriculum is a value-searching, value-creating program. In history, the classics, literature, foreign languages and philosophy there is a search for values, the significance of events (in history), an evaluation and understanding of the ideals and aspirations of ancient people (through the classics), the beauty of thought and expression (in literature), discrimination in the use of words (in foreign language study) and the evaluation of truth as sought by the philosophers (in philosophy). What more valuable asset could the student have than a well developed sense of values when he presents himself for admission to the medical school? This quality sought by the arts college is frequently missed. Not all students are capable of developing it. The task of the admission committees is to distinguish between those who are capable and who have taken advantage of the opportunities and those who were either unable or unwilling to attain the real goal of undergraduate education.

SUMMARY

To sum up briefly then the conclusion of the matter, it will suffice to say that the real contributions of the college to the medical school are those intangible qualities and powers which it is able to develop in its students. Intellectual independence and initiative, social intelligence and understanding, accuracy of thought and expression, a sense of perspective and of values, these are the qualities which have traditionally belonged to the liberally educated person; they are again being emphasized in the stronger institutions. As criteria for selection of students for professional schools they are more important than the subjects taken and the grades received as an undergraduate. Emphasis on these qualities and on the means of evaluating them on the part of admission committees would, I believe, result in improving the personnel of the medical schools.

The Origin of Great Clinicians.—There is no better student than the son of a medical father if the boy's heart is in the work, but none is worse than he who, not caring for, or even disliking, the practice of medicine, is urged on by a medical parent to qualify in order to take his place. Better even than the student who, having family traditions, takes to medicine almost by instinct is the boy who, lacking any such associations, determines, whilst still a child, that he will be a doctor. For, in this last case, he may have more than an ideal to study and to advance the science of medicine—he may have a real call to heal the sick and alleviate human suffering. It is from this class that the truly great clinician is derived. Often these students are what might be termed freaks in their families. They appear in every social stratum, and their early decision to become doctors seems often to be unrelated to any outside circumstances.—Jones, F. Wood, in *Doctors in Shirt Sleeves*, edited by Sir Henry Bashford, London, Kegan Paul, Trench, Trubner & Co., Ltd., 1939.

Digests and Reviews

THE CARE OF THE PATIENT

Condensation of a lecture on Medical Ethics, presented by Dr. Charles R. Austrian of the Johns Hopkins University, Baltimore, at Harvard Medical School, April 15, 1940, and published in the Diplomat, January 1941.

The student may be skilled in the sciences, facile with chemical and biologic technics and know the physical manifestations of disease, but he will not be a physician until he has developed a clinical sense. This is an acquired faculty based on broad knowledge, a retentive memory, a discriminating and orderly habit of mind, combined with an understanding of mankind. That instruments of precision or methods of chemical or physical analysis have been supplanting the clinical study of the patient is not surprising. These procedures are helpful but they are only accessories in the care of the patient.

Occupied by his interest in scientific methods, the doctor is apt to forget that the beginnings of disease are insidious, cause little disturbance of function and give no detectable signs. The affected person feels that he is not well, and he may seek advice first at a time when the most careful examination will fail to disclose an objective cause for his discomfort. His subjective sensations are the earliest manifestations of ill health. How little many of them are understood! Who among physicians has not labeled such a complainer a neurotic only to find later that disease had developed? The late William S. Thayer said "After twenty years I relabel my neurotics my diagnostic errors." There are many people with functional disorders who apparently have no organic disease, but until precise studies have established all the causes and the significance of pain, weakness, dizziness and palpitation the differentiation between a neurosis and an early stage of physical disease may be impossible.

The patient is endowed with a capacity to feel, to think and to act as an individual. He has an endurance, a reserve, a resistance peculiar to himself. He is identical with no other. Encouraged to tell what troubles him, listened to with sympathy, questioned intelligently, impressed by your interest in him, he will disclose the type of man he is; than this there is no single datum more valuable as a guide to correct diagnosis and proper treatment. However, if your attitude is cold and your questions are badly phrased, his response may be worded to conceal essential facts. The manifestations of a disease may vary and the factors responsible for an atypical response cannot be determined except through a better understanding of the patient as a whole.

In the clinic a patient may be content to be "a case," but in the home he regards himself as

your patron; he has chosen you because of some aptitude he has heard that you possess. He expects your personal attention and solicitude, as well as your study that is his by right. The attention given to the patient's sensations and responses to his environment is as important in determining the outcome of minor ailments as are the remedies prescribed.

A sufficiently complete survey should be made of each condition until its nature is clear, but the routine performance of needless tests indicates a lack of skilful observation and thinking, dulls clinical acumen, penalizes patients, wastes time and gives the public an incorrect view of the cost of sound medical care. Do not expect mere elaboration of procedure to replace your clinical sense.

At the risk of being considered backward, learn better to look and to see. Observation, still the most informative of all clinical methods, seems so simple that it is practiced too little. To the observing eye a glance reveals the apparent age, size, color, nutrition, mood, changes in the skin, discomfort, clues of circulatory, pulmonary, abdominal and endocrine disease, and even of habits and occupation.

During your investigation avoid working by the clock, for haste causes errors of omission frequently more serious than those of commission. In giving advice be deliberate, cheerful and understanding, but sympathetic only so far as this will not be prejudicial to treatment.

A knack in carrying out what are considered nursing procedures is useful; the arrangement of pillows and rolls probably accomplishes as much for Rollier in his treatment of tuberculosis of the bones and joints as do the supports and extension used generally by others. If you can supply a hobby for idleness, you may convert a complaining parasite into a cheerful worker.

To gain the full cooperation of the patient in many cases you must tell him exactly the nature of his illness. Hard facts may be softened by careful phrasing.

When a patient is seriously ill, it is justifiable to express the hope that the chances for his recovery are better than they seem to be at the moment; but if he is fatally sick it is rarely well to indicate to him the outcome. There is no rigid rule that will meet all situations. The full truth should be told to some responsible relative or friend. Generally a partial truth is worse than a lie, but incomplete information told without distortion of fact will spare avoidable sorrow. There is no more helpful ability in time of crisis than skill to tell bad tidings.

Patients with functional nervous disorders are perhaps more numerous in private practice than

they are in the hospital. These patients will be your despair because of the obscure problems they may present or your delight because, cared for properly, they will recover; they cannot be dispatched with "There is nothing wrong with you."

In contrast, there are patients who are neither neurotic nor organically ill but still are not quite healthy. They practice moderation in all things yet they are hampered by fatigue, aches and pains. They do more than their capacity warrants; they try to pursue the ways of the vigorous and, unlike psychoneurotic patients, ignore their symptoms. Well balanced emotionally, occupied constructively, they are often the recipients of medicines instead of instructions as to how to live within the range of their capacities. They must be taught to realize that their bodies are sound but their reserve is low; they must be persuaded to curb ambition, to limit their activities and to replace medication with limited living that can still be useful. In these cases a new way of living must be sought, for an attempt to improve their general condition too much may result in complete disability. Nature shows the way when it slows him who has myocardial disease with an intermittent claudication and when it halts the tuberculous with lessened endurance.

The purpose of all you do in studying the patient is to relieve him of his symptoms. You must detail directions so clearly that an untrained aide can comprehend them. Uninfluenced by fashion, use measures as simple and inexpensive as possible without sacrifice of merit, but be ready to use new remedies if you have the means available to control their action. Avoid administration by injection when oral medication is as effectual. Endeavor to utilize accepted drugs, notwithstanding the enthusiastic claim made for the superiority of proprietary preparations. Be informed of therapeutic advances and, although quick to adopt new measures when their worth has been established, avoid prescribing those which have only novelty to commend them.

Finally, the care of the sick includes teaching them to live in accordance with the rules of hygiene in the fullest sense. If charged with the care of a patient who has a hereditary or contagious disease, teach him measures to prevent its transmission to others.

The functions of him who ministers to patients are to individualize them, to treat them rather than their diseases, to protect them from misguided direction, to guide them and their families in a way that will bring a good adjustment to an altered status with a minimum of strain and that will restore well ordered ways of life. As Trudeau said, "To cure sometimes, to relieve often, to comfort always," that is the job of the doctor.

THE STORY OF A SURGEON-ADVENTURER

Condensation of an article by Dr. Edgar L. Gilcreest, San Francisco, published in California Monthly, September 1940.

Seventy-six days out of Independence, Mo., in the year 1852, a dusty wagon train rumbled into Stockton, Calif. At the side of one of the wagons rode a man over 6 feet tall, erect, wearing a great black cape over his shoulders and displaying a well-being not usual to those who came west for gold. In one of the wagons lay his dying wife.

This picture introduces the story of Dr. Hugh Huger Toland, written by Dr. Edgar L. Gilcreest. Dr. Toland left a lucrative practice and position of esteem in South Carolina to come to California at the age of 46. He had graduated in 1827 at the age of 22 from the University of Transylvania in Lexington, Ky. He went to Paris in 1831 for further study with such masters of surgery as Dupuytren, Rousseau and Lisfranc. His colleagues had been Oliver Wendell Holmes, Bowditch and Bethune of Boston, and Pepper, Gerhard and Peace of Philadelphia. Dr. Toland's dexterity in operating, particularly for the relief of clubfoot and strabismus, and his classic methods of using lithotomy forceps, had brought him to the attention as early as 1841 of James Marion Sims of Montgomery, Ala.

When Hugh Toland purchased the Gwinn Gold Mine, the fortune he had brought with him was rapidly depleted rather than increased. He went to San Francisco to practice medicine and soon had a large practice. He saw in this period, it is said, a hundred patients a day in his office and made half as many visits to homes. Within a short time his annual income from practice amounted to \$42,000. Toland's method was impressive. He had a gift for diagnosis. He read the patient's face. He knew what a tongue can show, how to listen to a chest, the story a pulse can tell. Critics sometimes claimed that Toland's methods were not always ethical. He had his own drugstore and but two favorite prescriptions, one consisting of various mixtures of potassium iodide, the other of mercury with nauseous drugs as adjuvants. He kept office hours in the morning for private patients and in the afternoon for clinic patients, for whom no charge was made for the prescription, but at the end of the corridor was the drugstore, and no one but his pharmacist could decipher the scrawls of Dr. Toland's squeaking pen. An idea of the volume of business done could be estimated from the row of prescription filled scrapbooks on the top shelf which encircled the room. Prescriptions were renewed at \$5 a bottle, but he never gave out their contents except when teaching students.

As there was no fast transportation in those days, Toland did a large prescription business by mail. The miners in California and Nevada found it easier to write to him about their symptoms than to make the long journey by stage. Medicine was then forwarded to the miners by Wells Fargo & Co. Express, which collected the doctor's fees.

By 1864 Toland realized the fulfilment of a wish which he had long cherished, the founding of a medical school. Toland Medical College, a handsome brick and stone structure on Stockton Street between Chestnut and Francisco streets, at first was eminently successful and received the confidence of the public. However, a division occurred in the faculty which led after a few years to the formation of the Cooper Medical School. The county hospital, which had been next door to the Toland Medical School and was indispensable to its work, now was moved away and several important faculty members went over to Cooper Medical College, taking with them practically all the students. Unable to close this breach, Dr. Toland donated his school in 1873 with its furnishings and land to the University of California and it became an integral part of the university, and Dr. Toland remained the professor of surgery until his death.

If the advances in surgery that have been made since his time are considered, Toland was a great surgeon in his day. His assistant and successor, Dr. Robert A. McLean, said that "he possessed in a marked degree the qualifications we look for in a great surgeon—steadiness of hand and boldness combined with caution. The rapidity of his execution was remarkable and was based on a thorough knowledge of anatomy. Few surgeons possessed more manual dexterity. He was cool, imperturbable and decisive in execution. He had great poise in the midst of an unexpected emergency or eventuality and would, when circumstances demanded it, relinquish further procedure without a moment's vacillation. As an operator his success was proverbial." Although often generous and courteous to critics, when the welfare of a patient was at stake Toland occasionally would

violate all the rules of medical ethics by refusing to protect a practitioner who had called him in consultation. A story handed down from Dr. Robert McLean has it that once when his colleague was late to a consultation and he could wait no longer, Toland learned from the patient that the diagnosis of the attending physician was an axillary abscess. Toland pinned to the patient's clothes before he left a note saying "Dear Doctor: Do not lance this patient's axillary abscess or he will at once bleed to death." It was, of course, an aneurysm.

Dr. Toland's work ran the gamut of general surgery. As early as 1858 he did trephining and thyroidectomies, ligated for aneurysms, repaired vesicovaginal fistulas, did radical bone operations for osteomyelitis, removed torn cartilages from the knee joint and did partial resections of the tongue with ligation of the lingual artery. He was also a plastic surgeon of no mean ability, and his knowledge of the fundamental principles of success in this field is impressive. According to Dr. McLean, Toland ligated the external iliac artery more frequently than any other surgeon of his time, and his cures following lithotomy were higher than any other surgeon. Yet, in spite of his adventurous spirit, Toland was conservative, as the following teaching shows: "A limb should never be amputated for ulceration of the soft parts unless disease of either the bone or joint existed, and very seldom even then."

Toland belonged to a generation of surgeons which is rapidly passing, and one which the specialist, Dr. Gilcreest believes, can never fill. Toland had the quality in common with such great figures as William Osler, John B. Murphy, Frank Billings and William J. and Charles H. Mayo to inspire patients with implicit faith, and that is an essential attribute of the successful practice of medicine.

A few of his patients are still living, and the impression that Dr. Gilcreest gained in conversing with them was this: "We remember him vividly as one who, above everything else, was kind and wise and who came to cure us. To us he was the doctor with all that the appellation conjured up in our minds at that time."

Comments

BOOKS RECOMMENDED

Hard work, faith in the principle of mutual aid and good emotional control are the benefits we should most desire by the way. Some of our help will come from friendships, some from books. Of books on the borderland of our common subject let me recommend a friendly shelf-full. Osler's "Aequanimitas" and "An Alabama Student" and Osler's own favorite, Sir Thomas Browne's "Religio Medici," at once occur to me.

Harvey's "Circulation of the Blood," Michael Foster's "Lectures on the History of Physiology," Fulton's "Selected Readings in the History of Physiology" should implement your textbook reading. For relaxation, Dr. John Brown's "Rab and His Friends," with his other essays and short stories, and Balzac's "Country Doctor." Darwin's "Expression of the Emotions in Man and Animals," Cannon's "Bodily Changes in Pain, Hunger, Fear and Rage" and Pavlov's "Condi-

tioned Reflexes" should be read before any page of a modern textbook of psychiatry is turned. Galton's "Enquiries into Human Faculty" and Kropotkin's "Mutual Aid" should set you thinking and talking. I would like to think that some of these old friends of mine, five or six of which are published in the Everyman edition, will become your friends and help to keep your science in perspective. Misapplied science, it would seem, is trying to destroy our race and all its priceless treasures of hand and mind. It must not and cannot succeed. And how grand it will be to be given the chance of applying our own science and our own humanity to the salvage and the mending of old treasures and to the discovery of new ones.—Ryle, John A.: *Cambridge University Medical Society Magazine*, Michaelmas Term, 1940.

THE LITERARY VALUE OF OSLER'S ESSAYS

With the recent publication of "This Generation," an anthology of selections from recent literature, Sir William Osler's chapter on neurasthenia from the 1930 edition of his "Practice" was included along with selections from Robert Frost, Edna St. Vincent Millay, Theodore Dreiser, Eugene O'Neill, Robinson Jeffers and James Joyce. "This Generation" was prepared in the Department of English of Pacific States University. This is not the first time, William White¹ states, that Osler's writings have been included in anthologies, but it is the first time that selections from his "Practice" have been used for their literary value. The most popular of Osler's essays has been "The Student Life," a part of which another anthology, "Reading and Thinking," included side by side with Oliver

1. White, William: *The Literary Physician: A Note on Osler's Essays*, California & West. Med. 54:79 (Feb.) 1941.

Wendell Holmes's "Autocrat of the Breakfast Table." No one can avoid, on reading Osler's essays, or even his "Practice," Mr. White says, coming to the conclusion that innumerable classical allusions and the wealth of literary flavor must have been born of a tremendously wide reading and research. In addition there is a diversity that is astonishing. This remarkable physician, teacher, essayist, lecturer, historian and bibliographer has books and essays in no less than six departments of the Los Angeles Public Library.

FREEDOM TO THINK

We all pass through a stage of thinking that our generation in its day was a little wiser than the one that followed it. In this we are doubtless very often wrong, but I believe that my generation of medical students was more alive to the uses and interests and educational value of the debating and scientific criticism than the generation that came between the two great wars. Make every use of your opportunities here. Learn to speak in public and test for yourselves the mental stimulus of logical dispute.

You cannot afford to school yourselves in science alone. You must know something of men and movements too. You must qualify for citizenship as well as for your baccalaureate or doctorate in medicine. Whatever form our future state may take the doctor will always be a key-man in its organization. He must earn his freedom to think and to advise and must seek by every means in his power to become, like Grenfell of Labrador, like Balzac's "Country Doctor," like many a good physician who dies unsung after an arduous life devoted to the community, a man of ideals, a man of judgment and a man of action.—Ryle, John A.: *Cambridge University Medical Society Magazine*, Michaelmas Term 1940.

Correspondence

SIX PHYSICIANS SIGNED DECLARATION OF INDEPENDENCE

To the Editor:—In regard to your question in the Student Section of THE JOURNAL, February 22, page 793, concerning the physician who was one of the original signers of the Declaration of Independence, your readers may be interested to know that, besides Benjamin Rush, there were five other physicians who

were signers. There were Josiah Bartlett and Matthew Thornton representing New Hampshire, Lyman Hall representing Georgia, George Taylor representing Pennsylvania and Oliver Wolcott representing Connecticut. Thornton and Taylor were born in Ireland.

The medical profession needs to know more medical history. Keep up the good work.

JOHN LABRUCÉ WARD, Asheville, N. C.

DO YOU KNOW WHAT PHYSICIAN—

1. Was regarded as the English Hippocrates?
2. Was chief sanitary officer during the building of the Panama Canal?

3. Led the movement which resulted in the establishment of the Army Medical School in Washington, D. C.?

The answers are on page 1332.

Medical College News

Medical schools, hospitals and individuals will confer a favor by sending to these headquarters original contributions, reviews and news items for consideration for publication in the Student Section.

Course in Military Medicine for Seniors

A course for senior students in the fundamentals of military medicine is being conducted at Albany Medical College, Albany, N. Y. The course is being devoted to general problems in aviation medicine, naval warfare and chemical warfare. The purpose is to give a general background of the principles involved rather than highly technical instruction. The instructors, it is expected, will include officers from the War Department—medical, aviation and chemical warfare services—as well as members of the staff of the Albany Medical College.

New Fraternity Home at Texas

The Phi Chi medical fraternity has begun construction on a \$50,000 brick veneer house at the medical branch of the University of Texas, Galveston, which will accommodate about fifty members. The study and sleeping quarters will be arranged around an open court. The home will have also a library, lecture room, game room, living room and dining room. About \$1,600 has already been spent on kitchen equipment for the new house.

Premedic Prize at Ohio State University

The Ohio Alpha chapter of Alpha Epsilon Delta, national honorary premedical fraternity, has established a \$50 prize contest to stimulate original work and creative writing among premedical students at Ohio State University. Hugh E. Setterfield, Ph.D., chapter adviser and associate professor of anatomy at the college of medicine, is chairman of the awards committee and announced the establishment of the prize. Half of the award is being provided by Dr. Leslie L. Bigelow, professor in the college of medicine. The prize will be awarded at the June commencement for the best paper on any phase of study or research in the College of Arts and Sciences in its relation to preparation for the study of medicine.

Wayne University

The newly organized student-faculty glee club of thirty-six members at Wayne University College of Medicine, Detroit, has made its first public appearance and was enthusiastically received. The director of the glee club is Leroy W. Juhnke. The guest speaker at the student convocation of the college of medicine, February 10, was Dr. Armand J. Quick, associate professor of pharmacology at Marquette University School of Medicine, Milwaukee. Dr. Quick's subject was "A Discussion of Hepatic Functions and the Significance of Liver Function Tests."

New Members of Louisiana's Circle

The annual ceremony of the presentation of keys to new members of "The Circle" at Louisiana State University School of Medicine, New Orleans, was held February 14. The new members are Frank Arbutnot Cain '41, Saul Sheldon Daiell '41, Mitchell Alexander Brucker '41, Thomas Malcolm Deas '41, Dionisus Vincent Cacioppo '42, Louis Allen Lazarowitz '42 and William Emmet Wilkinson Jr. '42. Emanuel Dubow '41, Spurgeon Meek Wingo '41 and Norman Cooper Woody Jr. '41 were elected to membership last spring as the highest ranking students in the (then) third year class. The principal address was presented by

Dr. George W. McCoy, director of the department of preventive medicine at the university, whose subject was "Landmarks and Horizons in Public Health."

The Circle is the honor scholastic society at Louisiana State University School of Medicine, membership being limited to the upper tenth of the fourth year class and the three highest ranking juniors in the third year class. The advisory committee from the faculty at present consists of Dr. B. I. Burns, dean, Dr. J. D. Rives, professor of clinical surgery, and Dr. Charles Midlo, assistant professor of anatomy.

University of Tennessee

Dr. Fred L. Adair, professor of gynecology and obstetrics at the University of Chicago, Department of Medicine, gave the address to the December 1940 graduating class at the University of Tennessee College of Medicine, Memphis. The graduation address to the March 1941 class will be delivered by Dr. Sam L. Clark, professor of anatomy at Vanderbilt University School of Medicine, Nashville. Dr. Simon Rulin Bruesch, at present an intern at Passavant Memorial Hospital, Chicago, will become an instructor in anatomy at the University of Tennessee College of Medicine, beginning with the next fall quarter, and Arthur R. Lack Jr. '42, now a senior at Stanford University School of Medicine, San Francisco, will become an instructor in anatomy at the college of medicine beginning with the summer quarter.

"DO YOU KNOW WHAT PHYSICIAN"

Following are answers to the questions appearing on page 1331:

1. Thomas Sydenham (1624-1689). Sydenham rejected the traditional dogmas of medicine and insisted that observations should have precedence over theory. He studied the natural histories of diseases and gave clear accounts of the diseases of his day and thus gained the title of founder of modern clinical medicine. He is credited with the first diagnosis of scarlatina and with the modern definition of cholera. Sydenham graduated from Oxford in 1648, continued his researches at Montpellier and in 1663 passed the examinations of the College of Physicians, which permitted him to practice in London.

2. Dr. William Crawford Gorgas, who was later Surgeon General of the U. S. Army throughout most of the World War and was President of the American Medical Association in 1909-1910. Dr. Gorgas was born in Alabama and received his degree from Bellevue Hospital Medical College in 1879. He retired from the army on Oct. 3, 1918, having reached the age limit, and in May 1920 left for the west coast of Africa to head a sanitary commission of the Rockefeller Foundation. While en route in London he was stricken with cerebral hemorrhage and died there on July 4, 1920.

3. Surgeon General George M. Sternberg, who also had the honor of recommending the appointment of a board of army officers for the study of the cause of yellow fever in Cuba. After a famous series of experiments, the board discovered that a certain species of mosquito transmitted yellow fever. Dr. Sternberg was born in New York in 1838 and graduated from the College of Physicians and Surgeons, New York, in 1860. He was President of the American Medical Association in 1898.

Book Notices

Epitome of the Pharmacopeia of the United States and the National Formulary with Comments. Corrected and Revised in Accordance with the First and Second Supplements of the Pharmacopeia, Eleventh Revision, and the First and Second Correction Lists of the National Formulary, Sixth Edition. Prepared for the Use of Physicians under Authorization of the Council on Pharmacy and Chemistry of the American Medical Association by a Committee of Council Members: Robert A. Hatcher, Ph.D., M.D., Chairman of the Committee, C. W. Edmunds, M.D., Professor of Materia Medica and Therapeutics, University of Michigan Medical School, Ann Arbor, Morris Fishbein, M.D., Editor of *The Journal of the American Medical Association*, Ernest E. Irons, Ph.D., M.D., Clinical Professor of Medicine and Chairman of the Department of Medicine, Rush Medical College, University of Chicago, and Paul Nicholas Leech, Ph.D., Secretary of the Council on Pharmacy and Chemistry. Sixth edition. Cloth. Price, 60 cents. Pp. 246. Chicago: American Medical Association, 1940.

This edition is revised in accordance with the second supplement of the United States Pharmacopeia. As in the case of previous editions, it is prepared by a special committee of the Council on Pharmacy and Chemistry and is published under the authorization of that council. All the official preparations are listed, along with an evaluation of their usefulness or uselessness in modern therapeutics. Asterisks indicate those items which, in the opinion of the Council, deserve sufficient recognition to be included in the latest edition of *Useful Drugs*. Unlike *Useful Drugs*, this volume does not deal with any but the official preparations. The various official drugs are listed alphabetically, according to their Latin names, and the official preparations of those drugs listed thereunder in each case. The extensive index is based principally on the English names of the official drugs. This edition deserves the popularity enjoyed by the previous editions.

Abdominal Operations. By Rodney Maingot, F.R.C.S., Senior Surgeon to the Southend General Hospital, and to the Royal Waterloo Hospital, London. Volumes I and II. Cloth. Price, \$18, per set. Pp. 893; 807-1385, with 298 illustrations. New York & London: D. Appleton-Century Company, Incorporated, 1940.

Abdominal surgery has made spectacular progress in the past fifty years. Its contributions to clinical medicine and pathology are well known. The physiology and pathologic variations of the intestinal tract have in recent years become of increasing importance to the surgeon. Even the application of roentgen rays to the diagnosis and evaluation of intra-abdominal conditions is almost entirely limited to the past quarter century. These factors must be heeded when books such as this are considered. The assessment, recapitulation and condensation of surgical endeavor now constitute an important and vital task.

The author begins with some cogent remarks on the proper choice of incisions. A few of the more useful incisions are described together with several methods of closure. The subject of drainage and care of wounds is considered. Maingot's attitude is conservative, although he advocates removal of drains sooner than some surgeons feel desirable. The first volume is then devoted to diseases of the stomach, duodenum, spleen, pancreas, gallbladder and bile ducts. A chapter is given to congenital pyloric stenosis in infants. In its thoroughness, yet brevity of presentation, this chapter is exemplary. Preoperative and postoperative care, diagnostic features, pathology, symptoms are all combined in satisfying fashion. The interspersing of historical sidelights adds color to the text.

The topic of peptic ulcer occupies the largest single portion of the book. The author, while recognizing a possible similarity in etiology, wisely separates the discussion of duodenal and gastric ulcer. The tendency of gastric ulcer to become malignant cannot be overlooked. The operative technics presented are thoroughly modern, and each is accompanied by some mention of its indication and value. The great number of names and technics associated with gastric surgery is a source of much confusion. The fact that a certain operation has been performed does not necessarily make it valuable. The proper application of surgical procedures for the treatment of ulcer is a delicate matter requiring keen judgment even more than skill. It is pleasingly evident that the author has threaded through the maze with great finesse. He is highly in favor of partial gastrectomy for the treatment of peptic ulcer but points out that other procedures have much to offer if prop-

erly used. Although mention should have been made of hiatal hernia as a source of gastric disorder, this section is a superb effort.

The portions devoted to diseases of the spleen and pancreas are completely adequate and modern. There are many practical points in the latter chapters; for instance, the brief section on the care of T tubes. These are not dismissed with the casual remark that they are to be removed in so many days. Rather, enough is said to demonstrate their possible value in the postoperative management of biliary tract disease.

The second volume is devoted to diseases of the liver, appendix, peritoneum and intestine. There are also chapters on hernia and postoperative chest complications. The excellent presentation continues in this volume. The value of such operations as omentopexy is considered. Detailed suggestions are recorded for the treatment of subphrenic abscess and for hepatic abscess. The treatment and concept of appendicitis are along usually accepted lines. The obstructive features of appendicitis are not discussed with sufficient emphasis. The replenishment of electrolytes and fluids in those diseases of the alimentary tract in which drastic losses occur receives due attention. The ileocecal valve as an important factor in obstruction of the large intestine is not stressed, although the preoperative preparation of patients with this disturbance is well presented. A large part of the second volume is devoted to cancer of the colon.

The whole is an excellent summary of accepted indications and technics. The general form and make-up are splendid. Illustrations are clear and abundant. The two volumes are treated as a single book with continuous pagination regardless of chapter or part. This feature facilitates cross reference. References are numerous and apt; sources are given directly after the author. Thus a good deal of the modern history of surgery is delineated. There is a plethora of witty and sagacious quotations from various noted authorities, well salted with pithy remarks by the author. It is evident that this work is a remarkable contribution to surgical literature and is destined to achieve a deservedly great popularity.

Heart Failure. By Arthur M. Fishberg, M.D., Associate in Medicine, Mount Sinai Hospital, New York City. Second edition. Cloth. Price, \$8.50. Pp. 829, with 25 illustrations. Philadelphia: Lea & Febiger, 1940.

This book is a worthy successor to the first edition and will occupy the same high position of authority that was accorded its predecessor. Attention should again be directed to the fact that this work is an exposition only of heart and circulatory failure. Heart disease is discussed only in reference to failure of the heart or peripheral circulation. This method of dealing with the subject permits the author to limit sharply his discussion and, more important, it permits him to discuss his subject with great thoroughness and accuracy within a single volume. Every important fact pertinent to the cause, recognition or treatment of heart failure will be found in this book.

The discussion is initiated with a description of the concept and the types of circulatory failure. The cardiac output, blood velocity and volume, under normal conditions and in failure, are then set forth. The arterial and venous phenomena are similarly dealt with. Respiratory symptoms, edema and cyanosis are next taken up. The effect of failure on the lungs, liver and spleen, kidney and central nervous system come next in order. Several chapters are now devoted to the behavior of the heart itself under the stress of failure from a variety of causes. An important chapter follows dealing with peripheral circulatory failure and its differentiation from heart failure. The treatment of heart failure in its various stages and types is then discussed, and the final chapter tells of the treatment of peripheral circulatory failure.

The manner in which the author has dovetailed the various technical procedures into the clinical observation of the patient is especially to be commended. He shows how observations on the cardiac output, the circulation time, the venous pressure and similar measures may be easily applied to the patient in heart failure and how these measures offer an accurate guide to the clinical progress or the lack of it. It is in the application of these measures that much has been added in this edition. He discusses, for instance, the effect of septal defects on the tests for circulation time. He has added some information relative

to regional differences in venous pressure as well as a discussion of normal values of the venous pressure by the direct method. There has also been added a paragraph on postural hypotension. These few examples will show how meticulously careful the author has been in reediting the work throughout.

The usual excellent bibliography is again evident.

The book may be unreservedly recommended as a reference work for students and practitioners. All who are particularly interested in disease of the circulatory system should be thoroughly familiar with it.

The Diagnosis and Treatment of Diabetes. By W. Wilson Ingram, M.C., M.D., F.R.A.C.P., Director, Institute of Medical Research, Royal North Shore Hospital, Sydney. Third edition. Cloth. Price, 6s. 6d. Pp. 150. Sydney & London: Angus & Robertson Limited, 1940.

The foreword, by Prof. C. G. Lambie of the University of Sydney, emphasizes the intention of the author, a famous Australian physician, to supply a manual intended primarily for the use of the general practitioner in Australia. The book therefore deals with the arrangement of diets of less caloric value than those used in America, an arrangement that the author feels is more practical for people living in subtropical Australia. The book includes an account of the use of high carbohydrate diets, a dietary scheme that has many practical advantages. Dr. Ingram advocates a rearrangement of the carbohydrate allowance, reducing the breakfast allowance so that the carbohydrate content of the diet may be spread throughout the day, an increased amount being allowed for supper in order to meet the maximum absorption of the protamine zinc or modified insulin. This method of rearrangement of the carbohydrate portion of the diets to meet the absorption of the modified insulin has not been generally adopted in the larger clinics of America, although under the special conditions which exist in Australia it may be effective. The author claims that all unmodified insulin should be injected twenty to thirty minutes before, not after, each meal. However, in discussing the cases of diabetic patients who are making sea voyages, he writes "Patients taking large doses of insulin have partaken of the meal only to lose it almost immediately, with resulting severe and dangerous hypoglycemia." Such reactions might result in serious accidents in the presence of coronary disease. Then, in these cases at least, why not give the insulin after the meals, as is the growing custom of many American doctors? The chapters on complications, coma, arteriosclerosis and infection, as well as the food tables are of much value for any busy general practitioner. The book on the whole is excellent, being simple and practical, so that it can be readily referred to by any practitioner.

Report of the Secretary of Agriculture 1940. U. S. Department of Agriculture. Paper. Pp. 184. Washington, D. C.: Government Printing Office, 1940.

The work of the Farm Security Administration in providing medical care for their clients was developed because surveys in a Southern state revealed that 50 per cent of the borrowers who failed to keep up their payments were victims of bad health. A recent study of one hundred low income families in two Southeastern counties disclosed one thousand three hundred and seventy-three ailments among five hundred and seventy-five persons. The ailments included 132 cases of rickets among children, 31 cases of suspected tuberculosis, 14 cases of pellagra, 288 cases of diseased tonsils, three hundred and sixty individuals with defective teeth and one hundred and twenty-four with defective vision. The medical plans of the Farm Security Administration are supported by loans extended to the families and call for free choice of physician and the pooling of funds. Most families pay from \$20 to \$30 a year. They choose their doctor from among local cooperating physicians and receive medical benefits which usually include (1) ordinary medical examination, diagnosis and treatment, (2) emergency surgery necessary to save life or limb, (3) emergency hospitalization, (4) obstetrics with antepartum care, delivery and postpartum care, (5) ordinary drugs dispensed or prescribed by the attending physician and (6) dentistry prescribed by the attending physician to relieve disease or pain. Doctors, hospitals and dentists are paid out of the general funds. Cooperating physicians have collected an average of 64 per cent payment on all bills submitted. Such medical care plans are now operating in four hundred and twenty-seven counties in

twenty-six states and affect sixty-five thousand one hundred and fifty-seven low income farm families, or about three hundred and thirty-nine thousand persons.

Green's Manual of Pathology. Revised and Enlarged by H. W. C. Vines, M.A., M.D., Director of the Charing Cross Hospital Institute of Pathology, London. Sixteenth edition. Cloth. Price, \$8.50. Pp. 1,166, with 701 illustrations. Baltimore: William Wood & Company, 1940.

One is impressed by three statements in the first chapter: "Vital processes are not governed by man-made classifications and subdivisions . . ." Writing of "similar signs and symptoms it is often quite possible to forecast the course the disease is likely to take. This is called prognosis, but it is no more than a forecast of events in the average case. . . ." "The powers of accurate observation and of critical judgment can only be developed by long and often painful experience, because the training of these faculties is consistently ignored in all forms of early education." The spirit of the truth of these statements exists throughout this book, which, unlike most textbooks, deals with the great generalities of disease rather than picturing conditions as unchanging entities. One is left with the feeling that morbid conditions are not as distinct as many textbooks and teachers make them. The book is well written but, like most textbooks, retains many old concepts that would not remain with us if textbook writers really could be familiar with the latest research on all subjects they write about. The illustrations, largely photographic, are good. The author refrains generally from giving original sources and credit to original and modern investigators. A student might well read this book with many others. This would teach him that different stories in medicine, like fiction, are written on the same theme.

Manual of Specifications for the Purchase of Hospital Supplies and Equipment. Prepared by the Committee on Simplification and Standardization of Hospital Furnishings, Supplies and Equipment of the Council on Hospital Planning and Plant Operation of the American Hospital Association. Bulletin No. 208. Fabrikoid. Price, \$5. Pp. 734, with illustrations. Chicago: The Association, [n. d.].

This manual is useful in the purchase of hospital supplies and equipment. It presents specifications for three hundred and sixty-two commodities used by hospitals. It is not contemplated that the hospital buyer will be limited to the details of the specifications presented. He is furnished a description of materials, workmanship and construction details which serve as a guide but still permit him to make such alterations as may be necessary to suit the particular use for which the commodity is intended. Consideration is given to simplification and standardization in the interest of economy. There are four special chapters on purchasing, testing, storage and standardization of commodities.

Essentials of Nutrition. By Henry C. Sherman and Caroline Sherman Lanford, Columbia University, New York. Cloth. Price, \$3.50. Pp. 418, with 34 illustrations. New York: Macmillan Company, 1940.

This book by Dr. Sherman and his daughter is a thoroughly readable and adequate review of the essentials of nutrition. Scientific terms which are not reducible to everyday words are clearly defined in a glossary. After an introductory chapter on the far-reaching significance of the newer knowledge of nutrition on the improvement of life, the subject matter of the book is divided in four sections: (1) the energy aspects of nutrition, (2) the proteins and their amino acids, (3) the mineral elements and (4) the vitamins. The last chapters of the book are concerned with food costs and the values and the problem of better nutrition for the individual. Tables showing the protein, fat, carbohydrate, calcium, phosphorus, iron, vitamin A, vitamin C, vitamin B₁, riboflavin and energy value of an extensive list of common foods are provided. These tables represent quantitative data from evidence available to the authors up to the end of February 1940.

This book is recommended to all persons interested in an up-to-date review of the essentials of nutrition. It is especially helpful to persons who have no special training in science and are interested in knowing the relation of food to health. The exercises and suggested reading lists at the end of each chapter make the work useful as a textbook for college or adult education classes.

Nurses Handbook of Obstetrics. By Louise Zabriskie, R.N., Director Maternity Consultation Service, New York City. Sixth edition. Cloth. Price, \$3. Pp. 740, with 395 illustrations. Philadelphia, Montreal & London: J. B. Lippincott Company, 1940.

The author is undoubtedly convinced that nurses should know not only all about nursing but also much about the practice of medicine, including obstetrics. In its seven hundred and forty closely printed pages is much about obstetrics which is irrelevant for nurses. In the preparation of the book, the author enlisted the aid of fourteen contributors who wrote brief sections on such subjects as developmental anatomy, the use of roentgen rays in obstetrics, the Bay Jacobs forceps, a new manikin, prenatal and early postnatal phenomena of consciousness and the menopause. The vast majority of the illustrations were borrowed from other books, institutions, physicians and commercial firms. Some of the illustrations do not belong in a book for nurses, and a few have no bearing on obstetrics. There are even illustrations of clothing for grown-up children, including windbreaks which may be used for a child when playing or walking in the snow. The parts devoted to actual nursing are unsurpassable.

Methods of Treatment. By Logan Clendening, M.D., Clinical Professor of Medicine, Medical Department of the University of Kansas, Kansas City, Mo., and Edward H. Hashinger, A.B., M.D., Clinical Professor of Medicine, Medical Department of the University of Kansas. With Chapters on Special Subjects by J. B. Cowherd, M.D., et al. Seventh edition. Cloth. Price, \$10. Pp. 997, with 138 illustrations. St. Louis: C. V. Mosby Company, 1941.

The seventh edition of this well known work is supplemented by the addition of a co-author and a number of contributors. Entirely new sections have been added on chemotherapy, anesthetics and the treatment of some diseases. Many sections have been completely rewritten. There are also references to new drugs such as dilantin and heparin. The work manifests the special interests of Dr. Clendening in its historical and literary references. The section on psychoanalysis is somewhat elementary and perhaps many psychoanalysts would call it distorted. Indeed, it might be questionable whether or not such an unsatisfactory portion of the book might not better be eliminated. Elsewhere the volume is marked throughout by good common sense and will be found most helpful to every practicing physician.

French-English Science Dictionary for Students in Agricultural, Biological and Physical Sciences. By Louis De Vries, Professor of Modern Languages, Iowa State College, Ames, Iowa. With the collaboration of Members of the Graduate Faculty. Fabrikold. Price, \$3.50. Pp. 546. New York & London: McGraw-Hill Book Company, Inc., 1940.

In addition to words pertaining to the agricultural, biologic and physical sciences, this dictionary contains many literary terms, forms of irregular verbs and about five hundred common idioms. There are forty-three thousand entries in all. According to the author, not all names of animals, insects, plants and chemical compounds are included. Because of the scope of the work, medical terminology is necessarily limited. Typography is excellent and the volume easy to handle. It will be welcomed by scientific workers because of the great lack of material of this type.

A Guide to Human Parasitology for Medical Practitioners. By D. B. Blacklock, M.D., D.P.H., D.T.M., Professor of Tropical Hygiene, Liverpool school of Tropical Medicine, the University of Liverpool, Liverpool, and T. Southwell, D.Sc., Ph.D., A.R.C.Sc., Director of Fisheries to the Governments of Bengal, and Bihar and Orissa. Fourth edition. Cloth. Price, \$4. Pp. 259, with 124 illustrations. Baltimore: William Wood & Company, 1940.

The publication of the fourth edition of this authoritative handbook is indicative of its usefulness, which depends in part on its brevity, succinctness and diagrammatic figures. This edition contains important modifications in the life history of *Strongyloides stercoralis* and additions to the section on *Filarioidea* of *Microfilaria malayi*, Brug, 1927, which has been distinguished from *M. bancrofti* and has been found widely in Malaya, the East Indies, India and China.

Net Tuberculosis Mortality in 46 Large American Cities for Year 1939. Tuberculosis Deaths Allocated to Residence. Proportion of Deaths Among White and Negro Residents. Paper. No pagination. New York: New York Tuberculosis & Health Association, 1940.

The tuberculosis death rate in forty-six large American cities having a total population of 31,715,186 has declined from 62.0 in 1938 to 59.4 in 1939 per hundred thousand of population. There is not only a decline in the rate but an absolute decline

in the number of deaths from 19,509 in 1938 to 18,799 in 1939. The variation between cities is striking. Akron, Ohio, and Minneapolis have rates of 26 and 31 respectively. Detroit with 58 and Toledo with 60 are representative of the average for the United States, while Memphis with 103 and San Antonio, Texas, with 153 are at the other extreme. While Negroes make up but a little over 10 per cent of the population, they suffered 32 per cent of the deaths, in contrast with 68 per cent for white persons, who constitute almost 90 per cent of the population.

Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists. Editorial Board: W. W. Skinner, Chairman. Committee on Editing Methods of Analysis: E. M. Bailey (Chairman), L. E. Warren, J. W. Sale, G. G. Frary, H. A. Lepper and Marlan E. Lapp. Fifth edition. Cloth. Price, \$5. Pp. 757, with 61 illustrations. Washington, D. C.: The Association, 1940.

This edition marks another step in the standardization of chemical and physical methods of control and research in agriculture and related fields by the Association of Official Agricultural Chemists. A review of the fourth edition (*THE JOURNAL*, May 15, 1937, p. 1742) covered the general subject matter. The present volume has been expanded to more than seven hundred pages, with the addition of subject matter for chapters on fish and other marine products, vitamins, microbiologic methods and microchemical methods. Significant additions have been made to chapters on drugs, dairy products, grain and stock feeds, standard solutions, and oils, fats and waxes. The material is presented in a condensed form, covering a large variety of subjects. It is a valuable addition to the analyst's library.

Rose & Carless Manual of Surgery. American (Sixteenth) edition edited by William T. Coughlin, B.S., M.D., F.A.C.S., Professor of Surgery and Director of the Department of Surgery, St. Louis University School of Medicine, St. Louis. From the Sixteenth English edition by Cecil P. G. Wakeley, D.Sc., F.R.C.S., F.R.S.E., Senior Surgeon, King's College Hospital, London, and John B. Hunter, M.C., M.Chir., F.R.C.S., Surgeon, King's College Hospital. Cloth. Price, \$9. Pp. 1,608, with 1,034 illustrations. Baltimore: William Wood & Company, 1940.

This textbook, which has provided instruction in the fundamental principles of surgery to many thousands of medical students throughout the world, has been again rather thoroughly revised. Moreover, many changes have been made to adjust the text to American teachings and practice of surgery. Sections dealing with basic sciences, such as bacteriology and hematology, have been entirely rewritten and somewhat shortened. The entire text has been brought up to date, particularly with regard to abdominal surgery, surgery of the nervous system and traumatic surgery. The chapter on war surgery, which the authors mention in the preface, is not contained in the book sent the reviewer. This volume should continue to be a leading textbook for instruction of medical students and an excellent reference book for the general practitioner.

A Study of the Results of Treatment in 1,103 Cases of Lobar Pneumonia. By Hugo Mella, M.D., Postgraduate Instruction and Medical Research Division Medical and Hospital Service, Veterans Administration, Washington, D. C. Paper. Pp. 37. Bedford, Massachusetts: Occupational Therapy Printing Department, Veterans Administration Facility, 1940.

This booklet summarizes two years' experience in treating some 1,100 patients with lobar pneumonia in Veterans Administration facilities. The mortality, leukocyte counts, types of treatment and other features are analyzed in tables and summarized.

Poems of a Doctor. By Edward Lovell Stewart, M.D. Cloth. Price, \$2. Pp. 157, with illustrations by Charlene Blackburn. Kansas City, Missouri: Brown-White Company, 1940.

The author has been practicing medicine for thirty-seven years and nearly all of that time has been a professor in a dental college, as well as a writer of verse. He loves rhyme and rhythm and has a facile pen, although he wrote at odd times for three years on his epic ballad "The Mongrel Crew." He often stays after his teaching period at the dental college to recite poems before his class. His poems are human, understandable and enjoyable, and there is one for almost every occasion. Some of the titles are "The Doctor's Lunch," "The Christmas Card," "We'll Clean the Attic Out," "Good Night," "My Neighbor," "The Shooting of 'Faro Dan,'" "Our Nell," "The Beggar" and "The Tree."

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

SULFANILAMIDE OINTMENT

To the Editor:—In *Queries and Minor Notes* in *The Journal*, January 25, I note a rather elaborate formula for making a satisfactory sulfanilamide ointment. My druggist incorporates sulfanilamide directly in a petrolatum base as well as an aquaphor base without any difficulty. Could you tell me the advantage of going to all the trouble laid out in the procedure described?

Joseph W. Shaw, M.D., Seattle.

To the Editor:—In reading over the query entitled "Ointment Base for Sulfanilamide" the druggist here does not have any knowledge of what sodium alginate is or where it can be obtained, so I would like that information. He suggested this formula, and would like your opinion on it: 10 parts of sulfanilamide in 25 parts of almost boiling water; filter; add to 100 parts of hot starch solution; cool and add 15 parts of hydrous wool fat and 50 parts of petrolatum. Why was sodium chloride added to the formula? Could it be mixed with a cod liver oil base ointment and get desired results?

George U. Ivers, M.D., Fargo, N.D.

To the Editor:—In the January 25 issue of *The Journal* is an answer to a query on an ointment base for sulfanilamide which suggests the use of sodium alginate. This product is new to me. What is it? Have any studies been made on the toxicity of this product? Can it be taken internally?

Adolph Meltzer, M.D., Worcester, Mass.

ANSWER:—The ointment formula presented in *THE JOURNAL*, January 25, was prepared with the idea in mind of getting a base for sulfanilamide and its derivatives which would not be greasy and would be nonirritating. By utilizing such a base, one can obtain a smooth ointment. Sodium alginate of the best grade should be used, as there are several commercial grades. It can be obtained from Kelco, 31 Nassau Street, New York City. Sodium chloride was added to the formula because it seems to act as a stabilizer. Hydrous wool fat or cod liver oil base ointments are not used because at times a tendency for such sulfanilamide ointments to "cake" in wounds has been observed. The type of ointment described in *THE JOURNAL* has been used extensively in ophthalmologic work and has shown itself to be nonirritating and nontoxic when applied to the conjunctiva, sclera and cornea. There seems to be no good reason for prescribing sodium alginate for internal use.

TREATMENT OF PARKINSON'S DISEASE—WHOLE PITUITARY GLAND

To the Editor:—I have a patient with "Parkinson's disease." For this condition the English translation of Dr. Alfred Martinet's textbook (*Clinical Diagnosis*, Philadelphia, F. A. Davis Company, 1924) recommends the extract of the whole pituitary gland. I am eager to try this, as my patient has had from other physicians almost every medication save this one without beneficial results, but my trouble is where to get this product and full directions about the dosage and time and number of doses to be given: in other words, a general plan of treatment with this extract. It may not be amiss to add that if there has been anything developed more recently for the malady and one which would give better results I would be glad to hear from you relative to it and the literature containing the plan of treatment.

W. R. Knoefel, M.D., Hot Springs, Ark.

ANSWER:—Whole pituitary gland may be obtained by any pharmacist in this country. The whole gland is not listed in the *Pharmacopeia* (XI, 1936) but does appear in the *National Formulary* (VI, 1935). It is obtainable as a desiccated powder. The drug is best given by injection, although slight effects may be expected after oral administration. Among other effects, it acts on the small muscles of the body, causing a rise in blood pressure, a stimulation of the uterus and increased intestinal peristalsis. The posterior lobe principle, moreover, has a slight antidiuretic effect and is useful in diabetes insipidus.

It would seem that there is no good reason for giving the whole gland preparation as recommended by Martinet. Even solution of posterior pituitary, moreover, would not be expected to affect the voluntary musculature, which is primarily disordered in Parkinson's disease. The lesion of paralysis agitans is usually considered as being in or near the basal ganglions of the brain, giving rise to the extrapyramidal symptoms. Practically all the symptoms of paralysis agitans can be accounted for by difficulty in the use of the voluntary muscles. If the posterior lobe has no effect on this musculature, it seems unlikely that a whole

gland preparation would be of any benefit in the treatment of Parkinson's disease.

Many glands in addition to the pituitary have been tried in the treatment of paralysis agitans. All have universally failed in the experience of most judges. A recent report is that of Wilson: "Since the disease usually starts after the climacteric in women, or at an early involutional phase in men, any chance of staving off its progress by resort to glandular, in particular perhaps to gonadal, extracts seems therapeutically sound, but the results in my personal experience have never been good." Wilson's experience (*Neurology*, Baltimore, William Wood & Co., 1940, vol. 2, p. 804) is the same as that of many other physicians throughout the world.

Other forms of treatment are no more effective in curing the disease than pituitary; however, a number of drugs, particularly of the atropine series, are moderately useful in controlling the rigidity of the voluntary muscles, which is such a frequent and distressing feature of the disease. Two drugs widely used are stramonium and scopolamine hydrobromide. The stramonium is given in pills of stramonium leaves, $2\frac{1}{2}$ grains (0.15 Gm.) from 4 to 12 pills a day. Scopolamine hydrobromide is used in pill form, $\frac{1}{100}$ grain (0.6 mg.), 1 or more a day. As scopolamine sometimes causes severe mental perturbation with irrational behavior in sensitive patients, it is wise to begin with a smaller dose such as $\frac{1}{200}$ grain twice a day and gradually increase the dose if the medicine is well tolerated. Some patients are known to take as much as $\frac{1}{50}$ grain three times a day. Favorable action is the releasing of some of the rigidity, thus making it easier for patients to talk, eat and move about and carry on their ordinary activities. The drug should be brought to a point where the maximum effect is established and then an attempt made to maintain the patient at this level. As the disease is progressive, one cannot expect to maintain a high level continuously, and increasing the dosage of scopolamine in order to do this usually leads to toxic symptoms from the drug itself. Much relief, however, can be expected in most instances by careful use of these drugs; but constant supervision is necessary in order to get the maximum effect without untoward symptoms.

PROTEIN INTAKE IN ECLAMPSIA

To the Editor:—I have seen little if anything on the newer advances in the treatment of eclamptic patients. Is it considered good treatment as yet to give a high protein diet when patients are excreting large quantities of albumin in the urine, as is true in nephrotic stages of nephritis? If not, why not? Best, in his new book, suggests that this is true but fails to come out flatfootedly in favor of it. Eyebrows have been raised when I have resorted to this practice, but patients seem to do well and I should like to know whether I'm with the "accepted" or an "outcast."

Walter R. Miller, M.D., San Pedro, Calif.

ANSWER:—Contrary to old beliefs, proteins given to women who have toxemia of pregnancy not only do no harm but actually are beneficial. On the other hand, the administration of large amounts of sodium in the form of table salt, sodium bicarbonate or "patent medicines" rich in alkaline salts may bring about severe symptoms of toxemia of pregnancy. M. B. Strauss (*Am. J. Obst. & Gynec.* 38:199 [Aug.] 1939) gave sodium to 10 women with low plasma proteins and produced significant gains in weight, obvious edema, hypertension, increasing albuminuria and in 3 instances such preeclamptic symptoms as headache, visual disturbances, vertigo and epigastric pain. When the retained water could be eliminated, all these manifestations subsided. Since hypoproteinemia is one of the more important factors which permit the development of water retention, adequate antepartum care must include attention to the prevention of this condition. Although disturbances of absorption, assimilation, manufacture and urinary loss of protein may be involved, it appears that the chief cause of hypoproteinemia in pregnancy lies in inadequate dietary intake of protein of good biologic values, especially in view of the increased demands for protein for the developing fetus and also for the maternal organism. It is therefore of the greatest importance that the diet in pregnancy contain more, not less, protein than an adequate diet for non-pregnant subjects. Hypoproteinemia results in water retention. Two Gm. of protein per kilogram should be administered, if necessary, to combat loss of protein through excretion. Treatment of true eclampsia is similar to that of nephrosis. The protein should be relatively free of sodium ion. It is likewise important that the pregnant woman avoid an excessive intake of sodium salts under any conditions, and, if she has low plasma proteins, sodium restriction must be used. Anemia, which is conducive to water retention, is to be avoided by proper prophylactic measures. It is certainly safe for women with toxemias of pregnancy to take 60 Gm. of protein daily and in addition 30 Gm. of fat and 400 Gm. of carbohydrate.

ALLERGIC CONJUNCTIVITIS

To the Editor:—A widow aged 58 has as her chief complaint periodic severe conjunctivitis. The attacks occur at intervals of from two weeks to two or three months, never starting in the same eye but invariably affecting both eyes before the attack is over. The swelling and redness of the conjunctiva are preceded by severe "pulling" back of the eyeballs and soreness of the whole head during the height of the eye inflammation or conjunctivitis. The mucosa of her nose will assume a fiery red appearance with occasional slight bleeding. Her external ear will look as in erysipelas, swollen and bluish red and sore to touch. This redness will extend to the eardrum around the external auditory canal. At the height of the conjunctivitis the nose culture yields *Staphylococcus albus*, and a small pimple on the ear during one of these attacks contained *Staphylococcus albus*. She has no rise in temperature. Her blood cell count is not changed during these attacks and her physical condition is normal. The blood pressure is 140 systolic and 80 diastolic. The urine is negative to albumin and sugar. The specific gravity varies but little. She is high strung and worries about herself and eyes a great deal, but this does not prevent her from doing housework in various places nearly all the time. Since her eyes started to bother her she has had a complete hysterectomy and a perineal repair and has had various intramuscular and intravenous treatments of endocrine substances, vitamin combinations of various kinds and staphylococcus vaccine and foreign protein. Sulfapyridine and sulfathiazole have been used and also sulfanilamide. Her condition is just as bad now as it was three years ago. Are there any suggestions or is there any authority that I can consult that will be of help? When she has the conjunctivitis in the right eye it will be the right ear that will be inflamed, and when the conjunctivitis is in the left eye it will be the left ear that will be inflamed; if both eyes are inflamed both ears will be inflamed. D. C. Y. Moore, M.D., Manchester, Conn.

ANSWER:—The history and observations in this case sound like those of a typical case of nasal and conjunctival allergy. A scraping and smear of the conjunctiva and nasal mucosa should reveal a large number of eosinophils.

The intradermal testing for the causative agent may reveal little, as cutaneous tests seem to be of little value in allergic conditions of the eye. A careful history of exposure to irritative agents may locate the cause. Particular attention should be paid to contacts, probably inhalants in the place she worked the day before or on the day when the attack occurred. Cases in which powdered soap caused such trouble have been noted, and, of course, animal fur is a common cause. If contact sensitivity is not found, a careful search for food allergy should be instituted. Such foods as pork and shellfish, eggs or fowl are among the common causes of conjunctival allergy.

SULFANILAMIDE FOR PERITONITIS AND AFTER
APPENDECTOMY

To the Editor:—I should like information regarding the use of sulfanilamide deposited at the area of the appendical stump after an appendectomy. There has been a difference of opinion locally among surgeons as to its value. One of the criticisms offered is that the sulfanilamide is altered during the process of autoclaving for sterilization and that the new chemical resulting has not the desired effect. Is there any report on the use of sulfanilamide deposited at the area of the appendical stump in cases of ruptured appendix with peritonitis or of acute suppurative appendicitis without rupture? If some surgeons have used the drug in this manner, what has been their method of sterilizing it and what has been the average amount of the drug placed in the peritoneal cavity? With the use of sulfanilamide in cases of peritonitis has drainage been used, and if so what type of a drain, or has complete closure without drainage been used? Barney Lihn, M.D., Vineland, N. J.

ANSWER:—The sterilization of sulfanilamide powder is not a difficult procedure. Key and Burford (*South. M. J.* 33:449 [May] 1940) state that they have autoclaved sulfanilamide powder in a bottle that was not tightly sealed. One can also sterilize sulfanilamide by heating the powder at 140 to 145 F. for a period of two hours. If the temperature is kept constant throughout the period of sterilization, no chemical change will occur in the sulfanilamide. Ravdin and his associates (*Ann. Surg.* 111:53, [Jan.] 1940) have reported on the oral use of sulfanilamide in the prophylaxis and treatment of peritonitis associated with appendicitis. Recently one of these observers has stated that sulfanilamide crystals have been introduced with satisfactory results directly into the peritoneal cavity in cases of peritonitis. The question of drainage or closure in peritonitis due to acute suppurative appendicitis is still an open one. Ravdin and his associates stated "When widespread peritonitis was present and the local exudate extensive, the appendical site was usually drained with iodoform packing covered with a sheet of rubber dam, the lateral colic gutter with a cigaret and the pelvis with a soft rubber tube or a cigaret and a tube. In such cases the wound was closed loosely." In pneumococcal, gonococcal and beta hemolytic streptococcus peritonitis it is a good plan to close the abdomen completely and not to attempt drainage if the best results from the use of sulfanilamide or its derivatives are to be obtained.

CHRONIC SUPPURATION OF NECK AFTER
TONSILLECTOMY

To the Editor:—Three months ago I removed the tonsils of a man under local anesthesia. The operation was performed in the usual manner with procaine and epinephrine tablets. About ten days later he noticed that he could not open his mouth as wide as usual, which condition was followed by a progressive swelling in the area of the angle of the mandible. This became worse and fever developed. Four weeks after the operation he was hospitalized and a large amount of foul smelling pus was evacuated from what I decided was the pharyngomaxillary fossa. Penrose drains were put in and left for several days. Since then small pus pockets have formed in the region in front of the sternocleidomastoid muscle and above the hyoid bone requiring frequent drainage. When drainage ceases, the site of the original swelling becomes inflamed and swollen, again producing a fever. He has been able to work as long as the drainage is not interrupted. We have used roentgen therapy, sulfanilamide internally and the powder in the sinus tracts, and sulfathiazole in proper dosage without any permanent relief. Several specialists have seen him but they have not been able to suggest anything more than was being done. We have not identified the causative organism nor have we tried an autogenous vaccine. Would you suggest a method of treatment that might relieve this condition? M.D., Indiana.

ANSWER:—The condition of the patient's general health should be thoroughly investigated, with particular emphasis on tuberculosis. Any deficiency that may be detected during the study should be corrected. Local measures of irrigating the fistulous tracts with mercury bichloride 1:8,000 or hexylresorcinol full strength may be tried, if they have not already been used.

Repeated bacteriologic studies should reveal the causative organism or the predominating ones; an autogenous vaccine may be used.

Infra-red irradiation to the fistulous tracts or the application of ultraviolet rays, either air cooled or water cooled, are sometimes helpful.

Failure to attain any degree of success by conservative means would necessitate, after due deliberation, recourse to surgical measures.

A regular dissection of the neck with the view to dissecting out the fistulous tracts, as well as the exposure of the lymph nodes underneath the sternomastoid muscle, the pharyngomaxillary fossa and such other processes and also of the deep cervical fascia where connective tissue is abundant and where blood vessels, lymph vessels and nerves travel through might reveal the locus or loci of the persistent suppuration.

The danger of thrombosis of the internal jugular vein is probably remote now, because sufficient time has elapsed for the development of defensive mechanisms.

DEMENTIA PARALYTICA

To the Editor:—A white woman, married, aged 36, has a diagnosis of central nervous system syphilis with dementia paralytica. The blood Wassermann reaction is 4 plus and spinal fluid examination was as follows in March 1938: Wassermann 4 plus, colloidal gold 5555543210, cells 97 per cubic millimeter. She was given therapeutic malaria in March 1938 and during a period of two weeks had nine chills, with a spontaneous remission after the ninth. Subsequently she was given twenty-one intravenous injections of aldersone (a pentavalent arsenical, sodium methylene-sulfonamino-hydroxy-phenyl arsenate). After the twenty-first treatment she had what appeared to be an arsenical reaction. The arsenical was stopped and courses of bismuth salicylate were alternated with mercuric succinamide as follows: aldersone twenty-one injections (0.25 Gm., 0.5 Gm. and the remaining 1 Gm. each); bismuth salicylate thirty-six intramuscular injections of 2 grains (0.13 Gm.) each; mercuric succinamide twenty-three injections of $\frac{1}{16}$ grain (0.01 Gm.) each. The last injection of bismuth was given on July 15, 1940. At the present time both blood and spinal fluid Wassermann reactions are 4 plus. There has been good symptomatic improvement. Please criticize and suggest plan of future care. M.D., Minnesota.

ANSWER:—There is nothing to criticize in the program thus far. The full effect of the fever therapy has not as yet been reached, as the majority of the patients manifest the maximum benefit approximately three years after the fever course has been completed. Symptomatic improvement usually precedes by a year or more the serologic reversals. The best results in dementia paralytica have been seen in patients who were given trypanamide and bismuth compounds after the fever course, and, although the patient in question displayed an arsenical reaction, it would seem advisable to try her now on trypanamide and bismuth compounds. Before this treatment is started the patient's eyegrounds should be checked and if abnormalities of syphilitic origin are found the trypanamide should not be given. Also in view of the demonstrated sensitivity to arsenic the doses of trypanamide should be small, starting with 0.5 Gm. and increasing the dose slowly, stopping on the slightest sign of cutaneous reaction. It is not uncommon for patients to tolerate trypanamide satisfactorily, although they showed evidence of intolerance to an arsphenamine. If the trypanamide is tolerated the patient may be given ten injections of trypanamide and a bismuth compound to a course, with a two month rest between courses for a total of at least seventy-five injections of each drug.

TETANUS FROM MIDDLE EAR INFECTION

To the Editor:—A patient recovered from severe tetanus six months ago. Enormous doses of specific antitoxin were used. The organism was recovered from a chronic middle ear discharge. A modified radical mastoidectomy was performed but the ossicles and tympanum could not be removed. The ear discharge continues but the organism can no longer be recovered. The question of further management of this case arises. Do you think that further operative therapy directed toward complete eradication, if possible, of the focus is indicated? If the organisms are present in the depths of the middle ear or its neighboring bone, do you think that the patient possesses enough passive or active immunity to protect him against another attack of tetanus? Do you think that a course of tetanus toxoid with repeated injections at yearly intervals is indicated?

M.D., New York.

ANSWER.—If the patient is symptom free and in good physical condition it would be inadvisable to operate because tetanus might be stirred up again by the surgical trauma induced, in the endeavor to eradicate the focus completely.

It is difficult to evaluate with precision just how much immunity, active or passive or both, the patient now possesses, but that he has immunity is proved by the fact that he has recovered.

Whether he has a sufficient reserve of immunity to protect him against another attack is questionable.

A course of tetanus toxoid with repeated injections at yearly intervals should be undertaken, however, in order to heighten immunologic powers. At the same time gentle conservative treatment to the involved ear may be carried out at regular intervals, using wicks of cotton soaked with peroxide, then dried and replaced with cotton twists soaked in 50 to 70 per cent alcohol. Baking before an infra-red lamp for twenty minutes may be carried out with the cotton-alcohol ear pack.

A conservative policy may be followed unless indications arise that might demand radical measures.

BAD FEEDING HABIT IN NINE MONTHS OLD BABY

To the Editor:—A boy aged 9 months seems to have a bad tendency to drink his milk at night on the average of four bottles, using Baker's modified milk feeding. During the day he has his fruit, vegetables, egg, cod liver oil and vitamins but seems to have the profoundly embarrassing habit of wanting to drink milk during the night at intervals of one to two hours. I have used sedatives at bedtime, later repeated, and have tried to overfeed him before bedtime but seemingly have failed to correct his night bottle milk drinking. Could you suggest anything—any trick of the trade other than permitting him to cry half the night to learn that he is not supposed to do his "drinking" at night? Incidentally, pediatricians have advised me that as long as the boy is in excellent health, feed him. It is hard on his parents, however.

M.D., Pennsylvania.

ANSWER.—Drinking milk at night by a healthy infant 9 months old is nothing more or less than a bad habit established by not eliminating the 2 a. m. feeding by 6 weeks of age and the 10 p. m. feeding by 6 months of age. It differs in no way from the adult who must raid the ice box before bedtime. There is only one treatment and that is to stop any feeding or drinking between 6 p. m. and 7 a. m. Naturally the infant will put up a fight to continue a pleasurable habit, as apparently thus far he has been victorious. However, each successive night he will cry less and less, until finally he will learn that it is better to sleep at night. It is justifiable to use a sedative (the proper dose of one of the barbiturates) for a week or two to diminish his resistance to the breaking of the habit; also to enable the attendant or parents to obtain more sleep. The sedative can be gradually decreased as the infant rests more comfortably. The longer the inevitable is postponed, the more difficult will it be to break this habit.

TRANSPPOSITION OF CORD IN FRONT OF FASCIA
IN HERNIA OPERATION

To the Editor:—What are the contraindications, if any, during a hernia operation to the transposition of the cord in front of the fascia, leaving it free behind the subcuticular fat? Is there any objection to this procedure, and has it been used in any type of operation? If so, may I have the name of the operation?

M.D., Massachusetts.

ANSWER.—There are no contraindications to transposition of the cord in front of the fascia during the hernia operation. The procedure is described by Seward Erdman (in Christopher, Frederick.: *Textbook of Surgery*, ed. 2, Philadelphia, W. B. Saunders Company, 1939, p. 1309):

"Extra-aponeurotic transplantation was first practiced by Halsted and later modified by Andrews, Woolsey, Stetten, Downes and Erdman. It is indicated in direct hernia and in old large obliques, also in most recurrent hernias. This operation makes use of a strong fascia to fascia overlap of the aponeurotic flaps to fortify Hesselbach's triangle and its weak inner angle. In direct hernia the sac bulges through the posterior wall of the structures of the cord. After the cremaster is split

the transversalis fascia must be opened to expose the sac. After excision of the sac the hernioplasty proceeds (a) with separate suture of the transversalis fascia, (b) suture of the conjoined muscle to Poupart's ligament and, (c) with the cord still elevated, the upper or mesial leaf of aponeurosis is sutured to Poupart's ligament and the lower leaf is overlapped upward and sutured to the surface of the upper leaf. Sometimes it is best to excise the cremaster from the canal. The cord then emerges through the aponeurosis opposite the internal ring and runs down toward the scrotum subcutaneously."

SPINAL ANESTHESIA FOR OBSTETRICS

To the Editor:—What is the present position of spinal anesthesia in obstetric practice? Should one introduce it in a forty bed hospital in a community of six thousand people?

O. O. Lyons, M.D., Powell River, B. C., Canada.

ANSWER.—Spinal anesthesia is in use in but few clinics in this country. The method carries greater danger for the obstetric patient than for the nonpregnant woman. It arrests the progress of labor and increases the incidence of obstetric complications. The only indication for its use would be a person for whom inhalation anesthesia was contraindicated, although local infiltration and nerve block are equally effective and less hazardous to the mother. It would be distinctly unwise to introduce spinal anesthesia in an obstetric service of a small hospital.

HEREDITY IN LEUKEMIA

To the Editor:—A woman aged 30 requested me to obtain information on heredity of leukemia. She had a child who at the age of 5 died of myelogenous leukemia. She would like to have another child but is in mortal fear that this tragedy may recur.

Norman F. Szold, M.D., Lakewood, N. J.

ANSWER.—There is little basis for the mother's fear of a recurrence of leukemia in her next child. Up to 1933 there were only eleven authentic reports of leukemia occurring in members of the same family. The majority of these cases were of the lymphatic type (Petri, S.: *Acta path. et microbiol. Scandinav.* 10:330, 1933). The chances of such an occurrence in this family are therefore slight.

There is no conclusive evidence of an hereditary basis for leukemia in man. In mice, however, several investigators (Slye, Macdowell, Richter) have shown that leukemia, particularly lymphatic, like a neoplasm, is subject to genetic control, governed by mendelian laws. This subject is fully discussed by Slye (*Am. J. Cancer* 15:1361 [July] 1931) and by Richter in Downey's *Handbook of Hematology* (New York, Paul B. Hoeber, Inc., 1938, vol. 4, p. 2998).

WIRES AND PINS FOR FRACTURES

To the Editor:—Will you kindly publish a statement regarding the sites for the placement of Kirschner wires and Steinman pins in both the upper and lower extremities?

Edwin B. Bailey, M.D., Linton, Ind.

ANSWER.—Transfixing Kirschner wires and Steinman pins through bones can be used at any site to maintain traction or fixation by incorporating them in plaster of paris casts. Böhler's book "Treatment of Fractures" gives a good description of the way in which these pins should be used. Dr. H. Winnett Orr's articles on the treatment of compound fractures are available in the current literature, and he describes the use of pins.

If traction is to be used, generally speaking the pins and wires are better placed through the expanded end of the bone in which the traction is to be used; for example, the lower end of the femur for fractures of the femur and the lower end of the tibia for fractures of the tibia.

PHENOL FOR BURNS

To the Editor:—I remember hearing, years ago, of the treatment of first and second degree burns with phenol (carbolic acid). The idea was that phenol coming in contact with the raw surfaces would form an albuminate of phenol, which is an impermeable membrane. It is also analgesic and antiseptic and closes the lymphatics, thus preventing absorption. I am anxious to know if any research has been done along these lines and how much surface could be painted without causing phenol poisoning.

Joseph L. DeCourcy, M.D., Cincinnati.

ANSWER.—While the single application of phenol has been recommended for first and second degree burns, all authorities condemn its use. The antiseptic and analgesic properties of this drug are more than outweighed by the fact that it acts as a protoplasmic poison. The dangers of irritation of the wound and phenol poisoning are definite contraindications to its use.

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ROLE OF THE PHYSICIAN IN INDUSTRY IN THE CONTROL OF ACUTE RESPIRATORY DISEASES

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PHILADELPHIA

The prevention and control of acute disease of the respiratory tract is the most serious problem and at the same time the most urgent challenge that today confronts medicine in general and industrial medicine in particular. Although diseases and injuries of occupational origin have long claimed the chief interest and attention of physicians in industry, it is now well established and generally recognized that in their frequency and importance nonoccupational diseases far outweigh those conditions which arise from industry. The latter are chiefly responsible for the stupendous losses in both time and money to employer and employee alike that have already been so well emphasized. This is strikingly illustrated in a report made by Newquist of the American College of Surgeons, in which a comparison is drawn between time lost per employee annually from occupational diseases as compared with the loss from nonindustrial diseases and injuries among 352,591 workers employed in 160 different companies. This study shows a net annual loss from occupational diseases and injuries of six-tenths a day per person, whereas nonindustrial illness accounted for eight and eighty-five one hundredths days loss per employee annually. In other words, the average employee suffers a time loss fifteen times greater from nonoccupational causes than from disease or injury incident to employment. The conspicuous role of nonindustrial disease as a factor in industrial inefficiency is too well known to require further elaboration.

In view of the appalling economic losses due to the ravages of nonoccupational diseases among workers, employers and industrial physicians are evincing an ever increasing interest in the control of such diseases among their employees. Nonoccupational lost time in industry is caused by the same diseases that are found everywhere among the community in general. Therefore, as the industrial physician seeks to control these diseases, he is brought more and more in contact with private physicians and public health agencies. It is only through the cooperation of all these forces that ultimate success can be attained in the prevention of nonoccupational illness. This emphasizes the well known fact which should never be lost sight of, that industrial medicine is in fact only a specialized part of the broad

domain of public health and hygiene and that the most legitimate and constructive activities of the industrial physician should be exerted in the field of preventive medicine.

An analysis of the nonoccupational diseases that are so disastrous to the workers of this country indicates that acute infections of the respiratory tract are the leading offenders. Sappington gathered statistics over a five year period among 2,200 employees of a public utility company, regarding the incidents and causes of absenteeism. He found that sickness accounted for 92.1 per cent of all absences, whereas accidents of all kinds accounted for the remaining 7.9 per cent. Out of 14,280 cases of sickness that caused lost time to a greater or less extent, 6,335 cases were due to so-called minor infections of the respiratory tract such as the common cold, pharyngitis and tonsillitis. This did not take into account some of the more serious acute infections such as influenza or pneumonia that were included in a group of 4,634 cases classed as miscellaneous diseases. It is therefore no exaggeration to state that in this group of employees over 50 per cent of the cases of sickness were due to acute infections of the upper respiratory tract. These observations are in accord generally with the clinical experience of practitioners and industrial physicians. Numerous studies in the field of industrial medicine have amply demonstrated that more than 50 per cent of the time lost from work is caused by colds and their complications. According to a survey made several years ago by the United States Public Health Service, it is estimated that each of the 42,000,000 gainfully employed persons in the United States loses two and one fifth work days each year because of the common cold. The costs of this lost time to the workers and employers of this country runs into a staggering figure, which has already been emphasized. Without further elaboration it is apparent that no more urgent problem presents itself to the physician in industry than devising ways and means for the control of acute infections of the respiratory tract. Not only is the problem of grave import from the economic and industrial aspects, because of the tremendous losses which these conditions entail and the disruption of and delay in production which they are capable of bringing about, a factor of vital importance at this particular time, but it is of equal or even greater importance from a purely medical point of view.

Although the common cold and other infections of the upper respiratory tract may, as a rule, be classed among minor illnesses, they are potentially serious and if overlooked or neglected may be responsible for serious complications. For example, infections of the middle ear may lead to mastoiditis and its complicating sinus thrombosis, brain abscesses and meningitis. The lower respiratory tract may become involved in a

bronchitis which may go on to bronchopneumonia or chronic disease of the bronchial tubes with its attendant bronchiectasis. Among the more serious complications that may result from minor infections of the respiratory tract may be mentioned pneumonia, pleurisy and involvement of the endocardium with its train of disastrous results, as well as blood stream infections. The control of acute infections of the respiratory tract merits the best efforts of industrial medicine, not so much because of their effect on industry as because they jeopardize the health and even the lives of those who are employed.

REASONS FOR SLOW PROGRESS IN CONTROL

It may well be asked why so little progress has been made until this time in the control and prophylaxis of acute infections of the respiratory tract. The first reason is that the specific etiologic factor has not yet been discovered. From the extensive researches of Dochez and his associates, of Rivers and many others, it is now generally agreed that the important etiologic agent is a filtrable virus rather than the various pathogenic bacteria that are harbored in the nose and throat, particularly during the winter months, of persons who live in the temperate zone. They must be looked on as secondary invaders whose virulence is increased by the presence of the virus of the common cold and influenza. However, it is these bacteria that probably are responsible for the severity of the symptoms and for the more serious complications.

When the specific cause of any disease is known, as for example typhoid, diphtheria and more recently pneumonia, its control becomes a reasonable possibility, especially if a method of immunization can be developed or if the causative agent is susceptible to chemotherapeutic attack. Until this time, in spite of repeated efforts and much research, no satisfactory method of immunization has been developed against these virus-born diseases. Therefore no specific prophylactic agent is available against the basic cause of most of these acute infections, although along this line headway has been made in dealing with the secondary invaders.

The second reason why so little progress has been made in the control of the common cold and kindred disorders is psychologic rather than bacteriologic. It is due to the general lack of understanding of the importance of these common diseases. It has been difficult to arouse the interest of both the industrial and the nonindustrial public to the seriousness and far reaching consequences of so widespread and commonplace a disorder as a cold. It has not been difficult to obtain the cooperation of workers in movements directed toward accident prevention. It has, however, proved an uphill struggle to arouse their enthusiasm for sickness prevention. There is no difficulty in impressing on even the dullest laborer the disastrous effects of a fractured skull or a crushed leg, but it is no easy task to convince even the worker with a high intelligence quotient that minor respiratory infections to which every one is subjected at some time are far more serious to the community as a whole and to industry in particular than the comparatively rare major accidents. When lay and professional apathy toward the consequences of minor illnesses shall have been overcome, a definite beginning will have been made toward the control of acute respiratory tract infections and their sequelae.

METHODS AVAILABLE TO INDUSTRIAL PHYSICIANS

The efforts of the industrial physician to control infections of the respiratory tract begins with the pre-employment examination. There are certain defects which predispose to acute respiratory diseases. Among these can be mentioned enlarged infected tonsils, nasal obstruction, adenoids, deflected septums, hypertrophied turbinates, the existence of nasal spurs and polyps as well as chronic infections of the sinuses. At the time of this examination one can recognize the existence of a phthisinoid or an emphysematous chest or the presence of a chronic bronchitis or bronchiectasis as well as the condition of the cardiovascular system, bearing in mind the fact that cases of mitral disease are notoriously liable to recurring bronchial infections. The general nutrition of the patient, the existence of anemia, the presence of various chronic visceral diseases should all be taken into account. When conditions such as the foregoing, which obviously predispose the applicant for employment to acute respiratory infections, are discovered it should be the duty of the industrial physician to make plain to the applicant the seriousness of these conditions, to urge their correction and to do everything possible to induce the applicant to place himself or herself in the hands of a private physician in order that suitable remedial measures may be instituted. In this way the industrial physician may prove a distinct aid to local practitioners, will gain their cooperation, will more closely cement friendly relations with them and, at the same time, do a piece of constructive public health work.

One of the most important steps in the proper control of respiratory diseases among any group of workers is to institute an adequate system of checking up absenteeism and the reporting of all acute illnesses. In many plants it is a practice not to determine the cause of absences until the employee has been away from work a number of days, often as long as a week. With such a system it is impossible to keep a proper record of minor acute respiratory infections, as most of these run their course in less than seven days. The ideal plan is to have all absenteeism investigated at the end of the first twenty-four hours. Preferably investigation of such illnesses should be carried out by the medical department or one of its representatives rather than by some lay member of the organization. By the early reporting of time-losing illnesses, a valuable and effective record of the existence of respiratory infections may be made. If a trained representative of the medical department visits the homes of such ill employees, some ideas may be obtained of the environment in which the ill employee lives, and often this is an important factor in recurring illnesses of the respiratory tract. If a given employee is repeatedly absent because of minor acute infections, it should be the duty of the medical officer to see that such an employee is given a thorough examination in order to determine the existence of any conditions that predispose to such infections with the idea of having them remedied at the earliest possible moment. In addition to having individual absences reported within the first day or two, it is also of advantage to institute a system by which the supervisors of the various departments of a given plant render to the medical department at stated intervals, a week or a month, a sickness disability report on which is recorded the names of employees, their particular duties, and the cause and duration of their absences. With a series of such reports before him, the industrial medical officer can

readily determine in what department the greatest incidence of respiratory diseases occurs. When it is found that they occur with abnormal frequency in any given portion of a plant, steps should be taken to determine by careful inspection the conditions that may exist which are responsible for this undue frequency of respiratory infections. Thus an opportunity is given the medical officer to correct various unhealthful conditions such as overheating, improper ventilation, the existence of drafts, working in wet clothing or various factors that make for undue fatigue, all of which may be important contributing causes in the production of colds and like infections.

It is unnecessary to stress the fact that the industrial physician should be primarily responsible for the general sanitation of a plant. In the course of his inspection he should have in mind not only those factors which are connected with occupational diseases and accident hazards but also those conditions which tend to increase the frequency of colds and other respiratory infections. These conditions should be well known to every trained physician and scarcely require detailed consideration at this time.

It is well known and repeatedly demonstrated in the experience of every physician that infections of the respiratory tract are readily transmitted to noninfected persons by sneezing and coughing of infected persons and by contamination with infected hands and various articles such as towels, napkins, drinking vessels and doorknobs. The most important problem therefore in the control of acute disease of the respiratory tract is the proper supervision and regulation of those persons who are infected, in the effort to prevent further spread. It is not those who are sufficiently sick to be confined to bed that offer the difficulty but those who are slightly ill and ambulatory and as a consequence are able to continue their work and mingle with their co-workers. The adequate control of the infected worker will depend largely on the intelligence and the cooperation of their immediate supervisors. Without this, little can be accomplished; for the majority of such ambulatory persons rarely seek the advice of the medical department. Supervisory employees should be thoroughly instructed as to the transmissibility and the potential seriousness of even minor acute respiratory disease. They should be prompt to recognize the existence of such an infection in those under them. Obviously the most effective means of preventing the spread of these infections is to remove those who are suffering from such infections from contact with their fellow employees. Such a procedure is essential if infections are severe and are associated with much sneezing, coughing and nasal discharge. Such persons should be urged to go home and promptly seek medical advice. If such steps cannot be brought about by a supervising employee, the aid of the medical officer should be invoked. In any event the existence of such cases should always be brought to his attention. Every person with recurring or unduly protracted respiratory infection should be sent whenever possible to the family physician for careful examination and adequate treatment. Such persons should not be allowed to return to work where others may become infected until the condition has been cleared up.

In many instances it is not practical and sometimes it is impossible to remove from their work employees who are suffering from minor colds and similar infections. Under such circumstances, however, they should

be thoroughly instructed as to the ordinary precautions that are necessary in order to minimize the possibility of spreading the infection. When possible they should work as far away from other employees as is consistent with the job. They should be cautioned about covering the mouth and nose when sneezing or coughing. They should be supplied with and made to use suitable tissue paper handkerchiefs for wiping the nose and mouth, which can be kept in a container and readily and promptly destroyed. The use of soiled linen handkerchiefs to be crammed in pockets or allowed to lie around workrooms should be firmly discouraged. Frequent washing of the hands should be encouraged. These employees should be instructed to keep away from the mouth or nose their fingers and such articles as pencils, papers and tools. In addition to specific instructions to individual employees, supervisors should be thoroughly versed in the procedures which are most likely to limit the spread of infection among any group. They should see that all tools and equipment are kept clean. They should learn the importance of moderate heating and proper ventilation of workrooms. As far as possible they should avoid overcrowding of those who work under them, and they should see to it that articles such as drinking cups and towels are not used in common by those in their charge. Above all, supervisors should constantly urge the early and adequate treatment of every infection of the respiratory tract, however minor it may seem.

In the presence of extensive epidemics, or when at any given portion of a plant an abnormally large number of respiratory tract infections develop, it is sometimes advisable for the industrial physician to institute active medical measures with a view to combating the spread of the infection. Personal experience has indicated that it is helpful under such conditions to have a competent medical officer visit the portions of the plant where infections are unduly active, to make a daily systematic inspection of all the employees in order to recognize new cases and have them removed from contact with other employees, and to subject every member of the group to systematic spraying of the nose and throat by a suitable mild antiseptic. Doubt may be expressed on the part of some as to the value of such a procedure. If properly carried out by a qualified doctor and if mild antiseptic solutions are used, it can do no harm; it appears to have been productive of some good and, in any event, it has proved a definite benefit to employee morale and has done much to increase the confidence of employees in the medical department.

EDUCATION OF EMPLOYEES

The education of employees in health matters is undoubtedly an important function of the industrial medical officer. Nowhere is this of greater importance than in the campaign against infections of the respiratory tract. Effective propaganda of this kind requires the close cooperation and support of the management and those charged with publicity as well as the medical department. Various methods may be employed such as timely posters, health bulletins, lectures, and suitable articles appearing in company magazines. But whatever method or methods are employed, they must be well prepared and presented in a way that appeals to and makes an impression on the employee. The statements must be authoritative. They must be accurate. They must be couched in terms that are readily understood by those who have no technical knowledge of health matters. They must be timely and prepared

in a way that attracts the attention of employees, appeals to their imagination and amuses at the same time that it instructs. Hackneyed, trite, dull and outworn material will lessen rather than stimulate the interest of employees in sickness prevention and health preservation. It is unnecessary to dwell on the detailed information that should be contained in such literature. The method and type of presentation must be modified to suit the kind of employee to be reached and should be left to the ingenuity and originality of the medical officer and his publicity advisers. However the subject is presented, the employees should be impressed with the fact that infections of the respiratory tract are potentially serious, that the advice given is solely for the protection and good of the employee, that the reporting of illness in no way jeopardizes their jobs and that nothing that is being done or said in reference to their health is designed to interfere with their personal liberty or in any way restrict their free choice of their own physician.

Whenever possible, the industrial physician should urge the establishment of health and nutrition courses. No better method can be found to arouse among employees a responsibility for their own health and that of their families and associates than a systematically arranged, simple course of instruction taken voluntarily and without expense and conducted by specially trained fellow employees under the general supervision of the industrial physician. When time is not available for the conduct of such courses, employees may be given suitably prepared elementary textbooks on health and nutrition, and a course may be conducted by mail.

ABSENCE OF A SPECIFIC

When a specific and effective prophylactic has been found for the control of the common cold and allied infections of the respiratory tract, the problem will have been solved and many of the elaborate and cumbersome procedures to which we are now forced to resort will be superseded. At the present time, unfortunately, no satisfactory method of active immunization against colds and influenza has as yet developed. For years active efforts along these lines have been made. Vaccines made from the bacteria commonly found in the nasal pharynx, now recognized as secondary invaders rather than as the initial etiologic factor of colds and infections of the upper respiratory tract, have been repeatedly used. Reports as to their efficacy vary. The weight of evidence, however, would seem to indicate that the results to date are not sufficiently consistent to justify advocating the wholesale use of such a procedure among employees. Recently the use of enteric coated vaccine tablets for administration by mouth which contain the common types of pneumococcus, *Micrococcus catarrhalis*, influenza bacillus, various forms of streptococci, staphylococci and the Friedländer bacillus have been put on the market and have their advocates. Here again reports are conflicting, and one is forced to the conclusion that at present there is not available any effective specific method for the prevention or control of acute infections of the respiratory tract. The modern trend of chemotherapy offers much hope, and what has come to pass in the management of pneumonia may be repeated in the case of virus-born infections.

The common cold and acute infections of the respiratory tract still remain the outstanding problem in industrial medicine. Until our knowledge of virus

diseases is further advanced, they will continue to tax the resourcefulness and the best efforts of the physicians in industry. The urgent need to bring under control this group of infections, which more than all other diseases disable the workmen of this country, is particularly vital at this time. With our nation committed to a vast program of rearmament, it is the duty of industrial physicians to contribute to our preparedness efforts by bending all their energies to keep the wheels of industry from being clogged by epidemics of respiratory disease.

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INCIDENCE AND COSTS OF ACUTE RESPIRATORY DISEASE IN INDUSTRY

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The common cold has been the subject of intensive study for a number of years. In 1923 Frost and his co-workers in the United States Public Health Service commenced a study of the incidence of colds that extended over ten years, and numerous statistical studies emanated from the Public Health Service, prepared by Brundage, Britten and others. All these studies showed a fair degree of unanimity, allowance being made for the fact that the term "common cold" is descriptive rather than scientifically accurate. It is difficult, if not impossible, at times to determine when a cold is not a cold, and the term itself, in the popular usage, is mingled with other terms, such as grip, influenza, nasal infection, cough and sinus trouble so as to constitute a statistical headache for any one who strives to be accurate.

In recent years attention has been focused on sick absenteeism among industrial workers, and an increasing number of industrial firms began to compile records of such absenteeism among their employees. Allowing for variations in computing lost time, one fact stood boldly out in all such compilations, namely the preponderance of colds as a cause of lost time. The nature of the occupation could in some instances be linked to colds, but geographic location did not cause any important variation. Sex did; women consistently show a higher absenteeism rate from this cause than men.

In 1927 Brundage¹ stated that "colds caused far more absences and much more lost time than any other specific disease or condition." Subsequent investigations have not impaired the accuracy of this statement.

How common are common colds? Even the least observant person would answer that everybody has them. There are few people indeed who are not familiar, through personal experience, with their discomforting effects. The Committee on the Costs of Medical Care has shown that when visits are made to families every four or five days with the specific purpose of discovering minor respiratory illnesses, survey records yield a rate of three to five colds per person annually. Many of these, it may be assumed, were not severe. An annual average of two severe colds, though not necessarily severe enough to cause

¹ Read before the Third Annual Congress on Industrial Health, Chicago, Jan. 14, 1941.

1. Brundage, D. K.: A Ten Year Record of Absences from Work on Account of Sickness and Accidents, Pub. Health Rep. 42: 529 (Feb. 25) 1927.

confinement at home, under our present popular attitude toward treatment and toward the protection of others would seem to be a conservative estimate.

In considering colds which incapacitate workers from carrying on their daily tasks, one can speak with a little more definiteness. There again the comparison of various groups and the combination of various experiences to arrive at a total present definite difficulties. There is a growing tendency for persons who have colds to stay away from work when the industrial medical service has put emphasis on this phase of prevention. This tendency, if it can really be called such, is influenced by whether the person who is going to stay at home with a cold will suffer monetary loss by so doing.

The following figures are presented as being well on the conservative side, having in mind the various reports of investigations that are available as well as first hand experience.² Among a group of fourteen thousand clerical workers last year there were sixty-one colds per hundred male employees, causing a loss of one day or more. Female employees averaged one cold per person. More than half of the time lost through absences of one week or less was caused by colds. Under this heading are included cases diagnosed as "grip" and "influenza" which were of less than eight days' duration.

A study dealing with sick absenteeism among the employees of a public utility company covering the years 1933-1937 inclusive shows that the annual average number of colds, disabling for one day or longer, was twenty-two per hundred male employees and forty per hundred female employees. My surmise is that in the latter group persons came to work with colds who would have stayed at home in the first group. Some of the more serious cases were classified under other headings.

Taking into account various studies, including our own experience, the best information available indicates that time lost from work because of the disorders grouped under the name of colds and acute respiratory infections averages one day a year for each worker, male and female. Some figures higher than that will be found in the literature and I believe we are well on the conservative side. At the rate of one day off for all employed persons, one arrives at a figure of a loss of forty-five million days of work each year, or the full time work of a hundred and fifty thousand persons for a year. The cost of this falls on employee and employer alike.

As far as the employee is concerned, it is mostly a total loss, as the various forms of sick benefit plans do not cover absences of less than eight days. If we may assume an average wage of \$4 a day, a rough approximation of the wage loss by employees is \$150,000,000 a year. To this must be added the cost of medical care and drugs. If we take as our average a conservative figure of \$5 per person a year so as to exclude the more severe types of respiratory diseases which may have weighed heavily in calculating the usual estimate of the cost per case, the medical cost to employed persons would run about \$250,000,000 a year. Adding this to the wage loss, as far as the worker is concerned, gives a total loss of \$400,000,000. As stated before, this estimate is undoubtedly a conservative one.

What about the employer? Obviously the loss in production and that due to the disarrangement of plant routine is high. In a recent study it is estimated that the indirect costs of occupational accidents are four times as great as the costs of compensation and medical care. Again in the interest of conservatism, we will assume that the indirect costs of a cold are only as great as the direct costs and put the loss of the employer as being at least equal to that of his employee. Carrying the burden of the waste of one hundred and fifty thousand man years a year is not to be lightly put aside. One arrives then at another \$400,000,000 lost, in all close to a billion dollars, and one would not have to strain the figures or imagination far to round out the total to a billion dollars.

It is a great deal of money even in these days of superfinancial computations. It carries with it its own argument for scientific study and attack.

PROTECTIVE EQUIPMENT FOR EYES IN INDUSTRY

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Our essential purpose in this paper is to acquaint the medical profession with the ways and means in vogue at present of protecting the eyes in industry.

"Of all the injuries sustained by industrial workers, those to the eyes are utterly preventable and wholly inexcusable." This statement, made by the safety director¹ of a large industrial concern, may at first seem rather broad. In 1936 this same safety director² reported that it had been over ten years since any one of his concern's 22,000 employees had lost an eye or suffered partial loss of vision.

A review of the medical literature will reveal that voluminous material has been written concerning the treatment of injuries of the eye but comparatively little about their prevention. Just a cursory study of a few statistics will show the obvious need of protection for eyes in industry. Unfortunately, accurate records of industrial ocular injuries are not maintained by all of the states or by the industries themselves. Most of the data compiled have been computed on the basis of the records in a few states, such as Ohio, New York and Pennsylvania. As many writers have pointed out, the figures physicians now possess are extremely conservative. It has been estimated that at least 15 per cent³ of the blind of America have lost their sight because of occupational hazards. It is probably conservative to say that 10 per cent of all industrial accidents in the United States concern the eye and that, of the estimated three million accidents yearly, three hundred thousand are accidents involving injury to the eye and incapacitating the worker for one day

Read before the Third Annual Congress on Industrial Health, Chicago, Jan. 14, 1941.

Mr. H. Guilbert, safety director of the Pullman Company, the National Society for the Prevention of Blindness, the National Safety Council, and Dr. Hart Fisher aided in the preparation of this article. Much of the material used has been drafted from the American Standard Safety Code for Heads, Eyes and Respiratory Organs.

1. Guilbert, H.: No One Enters This Plant Without Goggles, Factory Management & Maintenance, March 1938.

2. Guilbert, H.: Eye Protection: The Importance of Goggles and Other Safety Equipment, Proceedings of the Industrial Session, National Society for the Prevention of Blindness, December 1936.

3. Resnick, Louis: Eye Protection in Industry, Sight-Saving Rev. 1:7 (June) 1931.

2. My collaborator, Mr. R. J. Vane, has worked out these averages.

or more.⁴ About two thousand eyes are lost in industrial accidents in one year. That is, two thousand eyes either are removed or have their vision entirely destroyed.⁴

Fifty million dollars is lost every year by employers and employees of American industry as the direct result of preventable injuries of the eye. This sum is the estimated cost of compensation paid, medical care received and time lost. This does not include the indirect losses, which are considerably greater.⁵ It is rapidly becoming more difficult for a one-eyed man to find employment in any of the large industrial plants, and when he does he finds his earning power reduced.

Who is responsible for the occurrence of industrial injuries to the eye? Employer? Safety director? Industrial physician? Employee? All four are responsible,

small shops using machinery, and small construction jobs such as carpentry, plumbing, road building and stone masonry. Large industries employ both a safety director and a physician. In the case of smaller industries, injured employees are usually directed to a local physician. It is the duty of that physician to enlighten the employer about protective equipment for his employees' eyes. In a small industrial organization the same principles that govern the safety campaigns in larger concerns should be observed. One large industrial concern spent \$25,000 in two years to reduce ocular injuries and saved \$116,000. The percentage probably holds for any industry, large or small. The benefits accrued, such as the prevention of blindness, decreased loss of working time and increased confidence and efficiency, are proportionately as great in the small concerns.

A. PRELIMINARY EXAMINATIONS

General physical as well as visual examinations of every employee should be made at least every two years. The importance of this is obvious. Presbyopia, changes in refractive error and ocular and systemic disease may have reduced the vision of the employee since his previous examination. After any illness or injury the employee should be reexamined. If a worker is reemployed after employment with another concern he should be reexamined. All visual examinations should be made under the supervision of competent ophthalmologists. The value of visual and physical examinations is threefold. First, records of examinations eliminate medicolegal disputes which often arise concerning the employee's status at the time of employment. Second, workmen with no physical abnormalities and good central and peripheral vision are more alert and less prone to accidents. The correction of an existing refractive error, such as myopia or astigmatism, which reduces vision should be a prerequisite of employment. As Edward Jackson⁶ has pointed out, "The exactness of orientation and coordination depends on accurate vision, which is often impossible without correcting lenses. Instant response to impending danger cannot be developed in one who has myopia or astigmatism, except for the limited range of accidents that can be apprehended with diminished visual acuity." Third, good health and good vision help eliminate mistakes and poor workmanship.

B. SURVEY OF THE INDUSTRY

It has been estimated that 80 per cent of industrial injuries to the eye are due to flying bodies, 8 per cent to tools or parts of machinery, 7 per cent to splashing liquids, 2.5 per cent to explosions, 2 per cent to falls and 0.5 per cent to infections. The states of Illinois, Indiana, Massachusetts, New York and Wisconsin classify certain of their accidents to eyes according to the kind. Of 12,347 accidents, 30 per cent were classified as lacerated wounds, 12 per cent as contusions, 20 per cent as burns and scalds and about 38 per cent as due to foreign bodies and all other causes.⁴ From these figures one can see that the majority of injuries is due to flying bodies.

A complete and detailed study must be made of every type of operation in the plant. This investigation must be carried on continually by the safety director, or in a small plant by the manager, to determine those

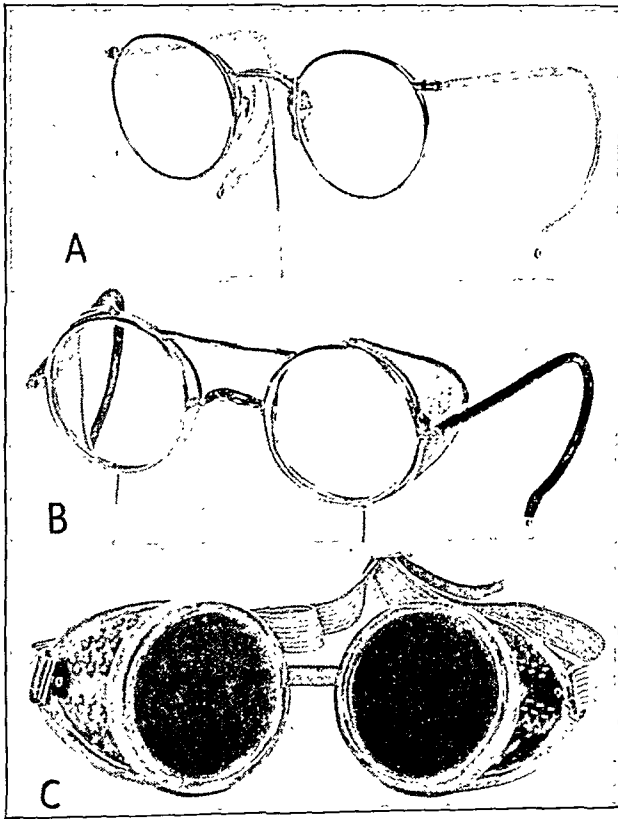


Fig. 1.—A, spectacle type goggles; B, impact goggles with metal side shields; C, goggles with eyecups and colored filter lenses. (Courtesy of the American Optical Company.)

but the burden of eliminating injuries to the eye falls on the first three. The employee cannot be expected to take the initiative. The first responsibility lies with the management. A management is just as responsible for the safety of its men as it is for production. The duty of the industrial physician does not stop with the treatment of ocular injuries. The physician and the safety engineer should work together and analyze the various factors responsible. This end obtained, the next step is to persuade the management to adopt a safety program for their prevention.

A large percentage of all ocular injuries occurs in small shops or on jobs in which only a few men are employed, for example as in garages; all varieties of

4. Schwartz, L.: Injuries to the Eye in Industry, read before the third annual Greater New York Safety Conference, Feb. 24, 1932.
5. Resnick, Louis: Fifteen Years Progress in Eyesight Conservation in Industry, *Sight-Saving Rev.* 9: 105 (June) 1939.

6. Jackson, Edward: *Physiology of the Eye*, in Berens, Conrad: *The Eye and Its Diseases*, Philadelphia, W. B. Saunders Company, 1936, p. 90.

occupations which are actually hazardous and those which are potentially hazardous. It is necessary for the physicians of large concerns to spend some of their time in the shops, and a physician who merely remains in his office and never visits the scene of an accident is negligent. True, the development of a safety program belongs in the realm of the safety director, but not infrequently the physician may be able to render valuable aid and counsel.

This brings up the question "What types of work are hazardous?" From an industrial point of view all occupations are hazardous. No one can foretell where, when or how an ocular injury may occur. For example, the occupations of cabinet makers, seamstresses and stenographers may be considered nonhazardous. Yet one large industrial concern, prior to the establishment of an effective safety campaign, reported injuries to the eye in these three occupations. It is evident that to attempt an ambient classification of all hazardous industrial processes or operations is impossible. However, one can outline those which have been proved to be the most hazardous. The American Standard Safety Code for the Protection of Heads, Eyes and Respiratory Organs⁷ has outlined several classes of industrial processes which are definitely hazardous. The outline is illustrative only and was not intended to be a complete list of all the various types of industrial operations. The following is the outline given by the head and eye code:

GROUP A.—Processes where protection from relatively large flying objects is required. Examples of these processes are chipping, calking, some riveting operations and sledging in quarries.

GROUP B.—Processes where protection from dust and small flying particles is required. Examples of these processes are scaling and grinding of metals, stone dressing where quartz is not involved and some woodworking operations.

GROUP C.—Operations where protection from dust or wind is required. Examples are automobile driving, airplane piloting in open cockpits and electric spot welding where there is no exposure to radiant energy.

GROUP D.—Processes where protection from splashing metal is required. Examples are babbitting, pouring of lead joints for cast iron pipes, casting of hot metal if there is a possibility that water is present and dipping in hot metal baths.

GROUP E.—Processes where protection from gases, fumes and liquids is required. Examples are handling of acids and caustics, dipping and galvanizing tanks and some japanning operations.

GROUP F.—Processes where protection from an excessive amount of dust and small flying particles is required. An example of these processes is sand blasting.

GROUP G.—Operations where protection is required from reflected light or glare. Examples are long exposure to snow-covered ground, exposure to reflected sunlight from roofs, roadbeds and bodies of water.

GROUP H.—Processes where protection from injurious radiant energy with a moderate reduction in intensity of the visible radiant energy is required. Examples are oxyacetylene and oxyhydrogen welding and cutting; tending electric arc furnaces; open hearth, Bessemer and crucible steel making; furnace work; electric resistance welding; brazing, and testing of lamps, involving exposure to excessive brightness.

GROUP I.—Processes where protection from injurious radiant energy with a large reduction of the visible radiant energy is required. Examples are electric arc welding and cutting, irradiation with ultraviolet light and hydrogen welding.

7. American Standard Safety Code for Protection of Heads, Eyes and Respiratory Organs, United States Department of Commerce, National Bureau of Standards.

For a detailed classification of occupational hazards the reader is referred to bulletin 582 of the Bureau of Labor Statistics, United States Department of Labor.

A thorough survey of the plant having been made, the next step is to formulate a safety campaign. The means of preventing injuries to the eye by mechanical aid is just one phase of the campaign. The two most difficult features of any safety campaign are first its institution and second its continuation.

C. MECHANICAL PROTECTIVE DEVICES

After the completion of preliminary examinations and a survey of the plant the next thing to consider is a choice of the best protective equipment. From the preceding paragraphs it was learned that about 80 per cent of all ocular injuries are due to flying bodies. For this reason goggles are the most important and the best means of protection. Consequently the greater part of our discussion will center around the subject of goggles.

1. *Goggles*.—To date there is no one particular standard which is universally accepted. It is advised that all bear in mind that most injuries are due to impact, and therefore any clear or transparent goggles which will qualify as a good protection against impact will be suitable, except in those few cases in which special types are required. Many different kinds of impact goggles are on the market, but the fewer types used in any one industry the better.

Goggles may be classified according to the hazard they guard against, such as impact, dust, splash, fumes or gases and glare and injurious light rays. (Three types are shown in figure 1.) A description of some of the features of these goggles is necessary. Here we need merely to point out some of the salient features of each type. For further guidance and a more detailed description it is advised that the reader procure the series of federal specifications which have been prepared for the purchase of goggles and helmets by the federal government for the use of its own employees.⁸

The American Standard Code aims to give the essential qualities of protective devices and does not cover anything but the minimum essentials for such equipment. The person who is not familiar with this subject should insist that his protective equipment comply at least with the code.

Impact: Any goggles when provided with clear, hardened glass lenses⁹ and side shields will afford protection against impact. The frames must be able to withstand hard usage and should be so designed that the lens will not be forced out of its seat by any but an exceptionally severe blow; then if the lens is broken, all large fragments will be retained and small bits not projected backward into the eye.

Dust: Protection against fine particles of dust and fine droplets of vapor can be obtained with goggles which enclose the eyes completely. Whether the goggles should be ventilated through minute holes or baffled slots depends on the composition and quality of the dust. Suitable hoods advantageously placed, proper

8. These specifications may be obtained from the Superintendent of Documents in Washington, D. C., by requesting catalogues G. G. G.—G.—501; G. G. G.—G.—511; G. G. G.—G.—521; G. G. G.—G.—171; G. G. G.—G.—201, and G. G. G.—G.—211.

9. A hardened lens is one which has been tempered in a way similar to the process of tempering steel, thus rendering the glass exceedingly hard and resistant to impact. It is a breakage-resistant glass which is about ninety times harder than the common glass used in spectacles today. This type of glass is preferable to the so-called shatter-proof variety, which is made of laminated glass and does not afford adequate protection against impact.

ventilation of the room and the removal of dust by mechanical suction methods should be studied. In most operations in which particles of dust and vapor are a factor respirators are definitely indicated.

Splash: Goggles must afford protection from splashing liquids, such as acids, and also from molten metal. Goggles of the eyecup type made of a material such as rubber, which is impervious to chemicals, are necessary for protection against liquid splashes. A recently produced bakelite substitute with baffled ports for ventilation appears to have some advantages over rubber, particularly in regard to fogging. Those made of non-inflammable material which fit the face snugly and yet do not easily fog afford the best protection against splashes of molten metal. Clear hardened glass lenses are imperative in both types of goggles.

Fumes or Gases: Protection from fumes and gases is largely a matter of proper ventilation of the room and the use of respirators and hoods, some of which completely cover the head. However, if goggles are to be used, the same type described as suitable for protection against splashes is usually adequate except that the goggles should have no openings for ventilation.

Glare: Goggles with hardened colored glass lenses in a spectacle type of frame with or without side shields or eyecups are usually used for protection against glare. For details of the depth of color to be used in the glass, the reader is referred to the catalogue of federal specifications G. G. G.—G.—511.

Injurious Light Rays: Goggles of the eyecup type in which the hardened glass lenses are of a color sufficient to stop all infra-red and ultraviolet rays are indicated in such occupations as oxyacetylene and oxyhydrogen welding and cutting; tending electric arc furnaces; open hearth, Bessemer and crucible steel making; furnace work; electric resistance welding and brazing and testing of lamps. These lenses should

protection (fig. 2). Goggles should not be used except as added protection. Nearby workmen should be protected by adequate shields or goggles.

Construction of Goggles: The individual parts of goggles necessitate further description. The frames must be as light as possible and comfortably fitted to the face. They should have a smooth finish and be made of a material which will not corrode, will not discolor the skin and will withstand sterilization.

Eyecups, except those used for protection against splash, fumes or gases, should be made of a high grade moisture-resistant fiber or high grade condensation product. They must be of such shape as to conform to the contour of the right and left eye sockets of the average face. They must completely cover the sockets. In all cases the edges of the eyecups which touch the face should be of non-heat conducting material and should permit circulation of air. Goggles used for protection against fumes, gases and fine dust should not have openings for ventilation. The interior surfaces of the eyecups should have a permanent, nonreflecting finish. All direct light from a source in front of the wearer not passing through the filtering lenses and all intense stray light at the sides which may be dangerous or disagreeable to the wearer must be excluded by the eyecup.

Nose pieces should be covered with tan leather, treated cambric or soft rubber. If the weight of the goggles is borne by the bridge or nose piece resting on the crest or sides of the nose, these portions of the goggles should have broad, comfortable surfaces. Zylonite is often satisfactory.

Side shields are best made of metal. The material should be sufficiently pliable to permit adjusting the shield to the contour of the face. The ventilating holes must be baffled or small enough to prevent particles from entering. The edges coming in contact with the face should be smoothly finished to avoid irritating or cutting the skin. The side shields should be constructed to permit their being folded, so that the goggles may be placed in a case.

Goggles may be held in position either by temple pieces and ear hooks ("temples") or by a head band. If the latter is used it may be made of a cotton elastic webbing or solid rubber; it should be so fastened to

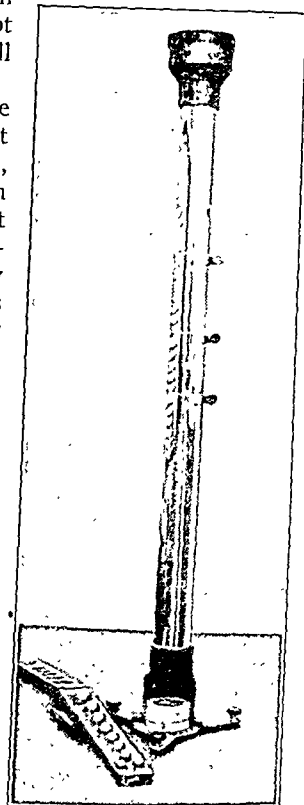


Fig. 3.—Lens-testing apparatus. The lens is removed from the eyecup and placed flat on the end of a wooden tube having an internal diameter of $1\frac{7}{100}$ inches (45 mm.) and a rim to fit the lens. A washer of rubber packing, not more than $\frac{3}{8}$ inch (3 mm.) thick and of the same internal diameter as the tube, is placed between the lens and the tube. A $\frac{5}{8}$ inch (16 mm.) steel ball is freely dropped from a height of 39 inches (1 meter) on the horizontal outer surface of the lens. The lens must not fracture from the impact of the steel ball. Any tendency to break with concentric lines of cleavage or cleavage parallel to the surface indicates an unsatisfactory hardening process. (Courtesy of the Riggs Optical Company.)

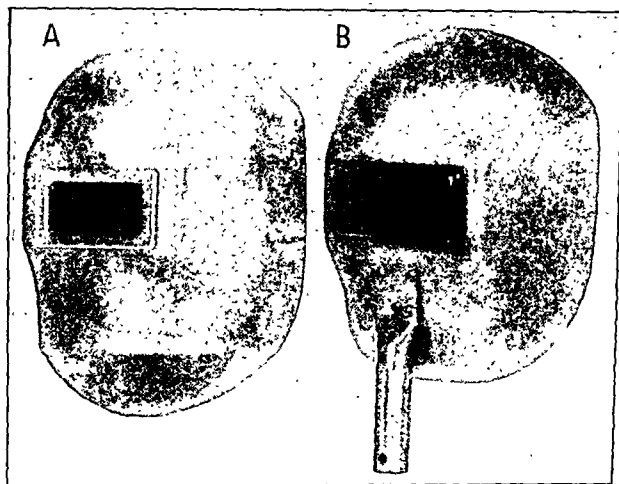


Fig. 2.—A, welder's helmet; B, welder's hand shield. (Courtesy of the American Optical Company.)

meet the absorption and transmission requirements of the catalogues of federal specifications G. G. G.—G.—511 and G. G. G.—G.—211. Until recently it was not practical to make hardened glass lenses in color, but this difficulty has now been overcome.

For electric arc welding and cutting and irradiation with ultraviolet light and for hydrogen welding, proper helmets or shields are best because the intensity of the infra-red and the ultraviolet rays requires full facial

the goggles as to be easily replaceable and should not interfere with the facial fit of the eyecups. If temples are used they should conform to the requirements of the frames. Ear hooks should be flexible, properly formed to fit the ear and so finished or covered as not to cut or irritate the skin. The temples should be a separate unit and not a fixed part of the goggles.

All lenses should be hardened, clear and free from air bubbles, waves and other flaws. Many organizations still cling to nonhardened lenses for welders, although greater protection is now available. The resistance of the lenses to impact should be tested with the "drop ball" test and should at least meet the requirements of the federal government's specifications as shown in figure 3. According to the American code, in all cases except those in which they are ground to provide proper optical correction for defective vision, the front and rear surfaces of the lenses should be smooth and parallel within the following limits: lenses 9 minutes of arc ($\frac{1}{8}$ prism diopter) and cover glasses 35 minutes of arc ($\frac{1}{2}$ prism diopter). Specifications of the federal government require that the optical surfaces should not be effectively out of parallel by more than 4 minutes of arc (0.058 prism diopter). The purpose of these specifications is to insure that the lens is plano and has practically no refractive power. All lenses should have dimensions of not less than 38 mm. in the vertical and 44.5 mm. in the horizontal diameter. Most lenses today are larger.

It is a common practice in many industries to fit employees whose vision requires corrective lenses with goggles to wear over their own corrective lenses. This, in our opinion, should not be condoned. The employee is burdened with an extra pair of glasses, and it is conceivable that a blow striking the cover goggles may shatter the lenses beneath, with disastrous results to the eye. All employees with ocular defects necessitating corrective lenses should have their goggles ground for the correction of their individual refractive error.

All lenses except those for protection against glare and injurious light rays should transmit not less than 89 per cent of the incident visible light. Every lens should have a permanent and suitable label or mark by which the manufacturer and the grade of lens may be identified.

Enforcement of Wearing Goggles: After the industry has been surveyed and the correct type of goggles has been selected there remain three important phases of a good safety campaign: (1) purchase of the goggles, (2) maintenance of the goggles and (3) persuading the employees to wear the goggles.

The most satisfactory way of insuring authorized and standard protective devices for every employee is for the management of the industry concerned to purchase all equipment. Some companies supply goggles without cost to the worker; others sell them at approximately cost price. Goggles with optical corrections, even bifocals, are available at surprisingly low cost, so there is no excuse for workers in any industry, large or small, not having protective goggles. Goggles and other protective devices should be obtained from firms which guarantee their products to comply with code requirements. If proof of such compliance is desired, representative samples of the equipment may be tested by the purchaser if he has the testing facilities, or they may be submitted to a competent technician.

Maintenance: Maintenance of the goggles is exceedingly important. The immediate replacement of old and worn or broken parts is essential. In the long run makeshift repairs with substitutes for the proper parts greatly reduce the efficiency of goggles and prove more costly. The resistance of hardened glass lenses to impact is reduced by age, continuous exposure to intense heat and repeated trauma. This statement has been questioned by at least one reliable authority. Hardened lenses should probably be replaced no less often than every three years and immediately after a severe blow that does not break the glass. All goggles and other protective equipment must be at all times in perfect condition. In any industry, large or small, the responsibility of maintenance should be carried by the management. A central department, with a competent and trained attendant in charge, to which the employees may bring their equipment for repair is by far the best solution for large concerns. Small shops

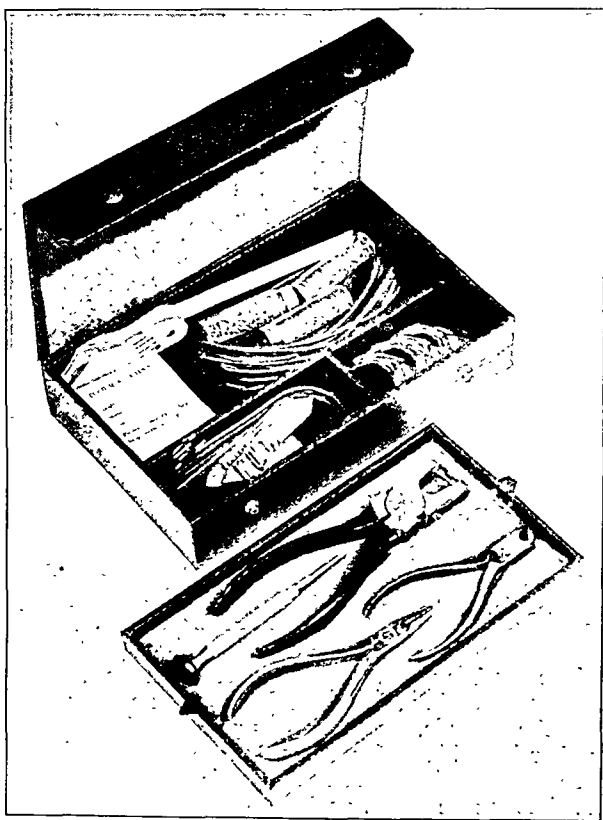


Fig. 4.—Small portable repair kit. Note the extra parts and the tools necessary for the repair of goggles. (Courtesy of the Pullman Company.)

employing only a few men may find it advantageous to send their repair work to an outside repairman. One company maintains small but complete repair kits for use in small branch shops in which only a few men are employed (fig. 4). The foreman in charge of the shop has been trained to make all minor repairs. All equipment should be inspected frequently, to make sure that it is in good condition.

It is most important that every pair of goggles be properly fitted to the individual wearer. If the goggles are not comfortable the worker will not wear them. Every worker who has defective vision that can be corrected should have the proper corrective lens ground for his goggles.

Condensation of moisture on the lenses of goggles (fogging) is frequently observed. This can be controlled to some extent by the proper ventilation and adjustment of the goggles. Many antifogging compounds are sold on the market, but for the most part they are expensive and no more efficacious than more simple remedies. A small amount of soap rubbed on both sides of the lenses and polished with a dry cloth will serve just as well as more elaborate substances.

All goggles should be sterilized at frequent intervals, and goggles worn by one employee must be sterilized before being issued to another. The Head and Eye Code recommends that all goggles be of a material which will withstand sterilization by any of the following methods: (1) immersion for ten minutes in a solution made by placing one part of 40 per cent formaldehyde solution in nine parts of water; (2) subjection to sterilization in a moist atmosphere of a suitable antiseptic gas, preferably formaldehyde, for a period of ten minutes at room temperature; and (3) immersion in either boiling water or live steam for a period of ten minutes.

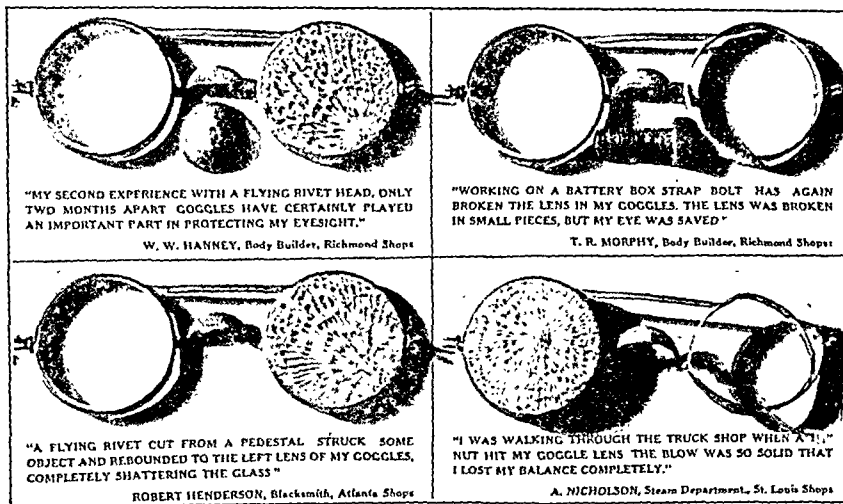


Fig. 5.—These goggles saved eyes. A statement by the workman whose eye was saved gives the circumstances of fracture. (From a larger display, courtesy of the Pullman Company.)

The problem of persuading the worker to wear goggles is a difficult one. However, one should not take the attitude, so generally accepted today, that the worker is to blame for not using the safety equipment provided for him. The best plan is the issuance of a mandatory rule which applies to all employees without exception and includes managers, foremen and visitors. If a worker fails to comply with the order, some concerns warn the person for the first offense and then impose a penalty for the second. The penalties are usually of a monetary nature. Education of the worker to make him safety conscious is essential. An object lesson in wearing goggles is given in figure 5.

2. Safety Devices on Machines.—Many devices such as metal and glass shields are placed on machines to prevent flying bodies from striking the face of the operator. It is our opinion that in no case does such equipment suffice in place of protective goggles; such devices should be used only as an adjunct to goggles. A problem that is largely out of the realm of the physician is that of engineering revision. Louis Resnick¹⁰

defined this subject as "accident prevention through fundamental changes, rather than through the addition of protective devices to an inherently dangerous machine or operation." This aims at elimination of the underlying cause of accidents rather than the covering up of danger points. There is no doubt that much will be accomplished by this method of attack, and for the astute safety engineer it presents an exceedingly fertile field for investigation.

3. Illumination and Ventilation.—The importance of proper illumination as a factor in the prevention of ocular injuries is obvious but generally it is disregarded. As LeGrand H. Hardy¹¹ has stated, "Eye fatigue" and defective vision are two of the common causes of accidents. The condition usually is traceable to one of two sources, the environment or the eye. The most common environmental cause of eyestrain or poor vision is defective illumination." It is not within the scope of this paper to deal with the enormous and highly technical subject of illumination. It is urged, however, that the reader refer to the literature for articles on this subject written by Hardy and others.

It is well known that dust and some gases and vapors can and do produce ocular injuries which not infrequently result in the loss of function of the eye. Proper ventilation of the space and the removal of noxious agents by special mechanical appliances are obvious necessities. The subject of ventilation, like illumination, is far too large for discussion in this paper.

D. FIRST AID

It is not one of our purposes in this paper to discuss the first aid treatment of injuries to the eye except to call attention to the fact that blindness is often prevented by the proper and judicious first aid treatment of an injury. It is well to bear in mind that there are no trivial injuries to the eye and that every

such injury deserves expert care. First aid should be administered only by a physician or else by a thoroughly trained nurse or first aid man who will recognize his limitations. The first aid station should be centrally located, with an attendant constantly on duty during working hours.

COMMENT

There exists still another hazard to the eyes of workers which has not been discussed and about which comparatively little information is available. That is the field of industrial poisons. The ever increasing number of poisonous chemicals that are being used in industry constitute not only a hazard to the safety of the eye but also a general hazard with regard to systemic disease. It therefore becomes the responsibility of all industrial physicians, safety engineers and nurses to familiarize themselves with all the poisonous substances that are used in their respective plants. The means of eliminating this hazard will come only through a study of these poisons.

10. Resnick, Louis: Elimination of Eye Hazards Through Engineering Revision, Industrial Relations Director, National Society for the Prevention of Blindness.

11. Hardy, L. H.: Illumination and Eyesight in Industry, *Sight-Saving Rev.* 2:104 (June) 1932.

VISUAL EFFICIENCY IN INDUSTRY

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In the first draft of the last war visual defects led all other causes for rejection and were three times as common as the next in importance.¹ Such common defects must receive the first attention of the industrial physician.

Psychologists have found that approximately six times as many perceptions are based on vision as on all the other senses combined. Industrial efficiency, therefore, depends almost directly on visual efficiency. The industrial physician is, in fact, caught between the horns of a dilemma when he considers the prime importance of visual efficiency and the great prevalence of visual defects. This means that he has the task not of weeding out the defectives but of evolving a program of visual efficiency which will increase industrial efficiency. This means that industry must not be disrupted by adherence to arbitrary visual standards but that the efficiency of the individual workman may be increased through placement in a job in which he is not handicapped visually.

What data are available on the present visual efficiency in industry?

The most comprehensive record of vision in industry was a cross section survey made by the Eyesight Conservation Council in 1924.² This covered 204,817 employees of one hundred and seventy diversified industrial and commercial establishments in twenty-three states. Naturally, there was wide variation in the statistics from different plants, but the average was only 55.7 per cent of all employees with normal vision without glasses. An additional 19.6 per cent obtained normal vision with glasses. This left approximately one employee in every four working with subnormal vision (table 1).

Kuhn³ found 21 per cent with visual acuity below 20/30 and 12 per cent whose vision had not been corrected with glasses in 16,332 industrial examinations (fig. 1).

The Life Extension Institute in an examination of 10,000 employees of diversified industries found 13 per cent wearing glasses, but 53 per cent had uncorrected defective vision.

The Eyesight Conservation Council was of the opinion that the percentage was increased by careful examination and estimated that 54 per cent of the employees of industry were working with subnormal vision. However, Kuhn's examinations reported this year were the most careful and exhaustive that have been done on a large scale, and her statistics show a much lower percentage of failures on visual acuity alone. This is partially explained on the basis of standards. The Eyesight Conservation Council accepted 20/20 as normal and acceptable. Dr. Kuhn adopted 20/30 as the lowest level of acceptable visual acuity. Is it not possible that a much lower level is acceptable in many occupations?

Industry is now employing about one workman in four with a visual acuity of less than 20/30. An additional 20 per cent have some other ocular defect.

Careful evaluation of this situation is necessary. Are all these persons with defective vision inefficient? Should they be weeded out of industry, as they will be weeded out of the army, or what degree of perfection should the industrial physician demand?

Some of the most valuable men in a plant have poor vision. Fortunately there are comparatively few occupations that require perfect vision. It is impracticable to demand that every employee have perfect vision, but it is important to place employees in work that is within their visual capacity. Visual efficiency in an establishment depends on a knowledge of the visual defects of the employees and proper placement, with defects taken into consideration.

An important point in this connection is the effect of age. The gradual loss of elasticity of the lens throughout life unmasks refractive errors in the higher decades. This is demonstrated in table 2, which shows

TABLE 1.—Statistics of 204,817 Employees *

	Number	Per Cent
Normal vision without glasses.....	114,078	55.7
Defective vision uncorrected.....	50,566	24.7
Defective vision corrected.....	40,173	19.6

* Summarized from data compiled by Eyesight Conservation Council² in 1924.

TABLE 2.—Variation in Vision with Age *

Age	Total	Normal	20/50 or Less
6-7	697	58.6%	5.1%
8-9	1,221	61.8%	4.1%
10-11	1,251	65.3%	7.1%
12-13	977	69.0%	7.3%
14-15	532	69.4%	7.5%
16-19	184	71.7%	8.6%
4,862 school children examined			
Age	Total	Normal	20/50 or Less
Under 20.....	356	77.2%	9.0%
20-24	896	67.7%	9.6%
25-29	1,137	61.3%	11.4%
30-34	1,078	60.1%	12.1%
35-39	1,023	54.8%	15.7%
40-44	715	49.5%	15.0%
45-49	572	34.6%	25.2%
50-54	341	22.6%	39.3%
55-59	196	17.9	52.0%
60-over	165	5.5%	67.9%
6,449 industrial workers examined			

* Summarized from data compiled by U. S. Public Health Service.⁴

the result of a survey conducted by the United States Public Health Service in 1924.⁴ Defective vision is not common among children but increases greatly in occurrence as age increases. Over the age of 60, only 5.5 per cent of persons have normal vision for distance without glasses. Periodic examinations are justified by this well recognized influence of the presbyopic process on visual acuity.

The statistics just given are based on the visual acuity for distance. Is this an adequate index of visual efficiency? The eyes are two finely coordinated organs which give not only an image of the object being fixed but a field of vision surrounding the point of fixation and a sense of orientation or depth perception through fusion of the images from the two eyes.

Visual efficiency, therefore, depends on several factors besides central or fixating vision, and even central vision may be considerably different for distant and for

Read before the Third Annual Congress on Industrial Health, Chicago, Jan. 14, 1941.

1. Seymour, Gertrude: The Health of the Soldier and the Civilian, Survey, 39: 227 (April 27) 1918.

2. Hamm, J. E., and Henry, G. A.: Eyesight Conservation Survey, New York, Eyesight Conservation Council, 1925, p. 81.

3. Kuhn, Hedwig S.: An Appraisal of Visual Defects in Industry, Am. Acad. Ophth., to be published.

4. U. S. Public Health Service: Variation in Eyesight at Different Ages, as Determined by the Snellen Test; A Statistical Study of the Results of Vision Tests of 4,862 Native White School Boys and 6,479 Male White Industrial Workers in the United States, Pub. Health Rep. 39: 3189 (Dec. 19) 1924.

near objects, as in presbyopia. The appraisal of the relative importance of these different factors would seem to be almost a hopeless task. However, the Committee on Compensation for Eye Injuries, after six years of work, succeeded in reducing all these factors to a formula, which was approved by the House of Delegates of the American Medical Association in 1925. It has proved such a sound basis for the evaluation of visual efficiency that no scientific reason for any modification has been suggested since its adoption.

The following is a summary of the standard adopted:⁵

There are three coordinate elements of vision (a) visual acuity, distant and near, (b) field of vision and (c) muscular function. Other functions such as depth perception, color vision and accommodative power are recognized as secondary functions, even though they may be necessary to certain jobs.

(a) The visual acuity of each eye for distance is measured by the ability to recognize Snellen test letters at a distance of 20 feet (6 meters) and in an illumination of 3 to 10 foot candles.

The industrial vision test chart for near vision is employed at a distance of 14 inches (35 cm.) in an illumination of 3 to 10 foot candles. The reading ability



Fig. 1.—Graphic representation of the percentage of persons who failed various tests of visual efficiency in the survey conducted by Dr. Hedwig S. Kuhn in 1940.

for distance and nearness is reduced to a percentage of central visual efficiency by consulting the table provided for this purpose. A onefold value is given to the distance percentage and a twofold value to the near percentage. Thus, if the visual efficiency for near vision is 40 per cent, and the visual efficiency for distance is 70 per cent, the efficiency of central visual acuity for the eye in question would be $\frac{(40 \times 2) + (70 \times 1)}{3} = \frac{150}{3} = 50$ per cent visual acuity efficiency.

The best central visual acuity obtainable with correcting glasses is used in determining the degree of visual efficiency, unless there is a difference of more than 4 diopters of spherical correction between the two eyes.

(b) The extent of the field of vision is determined by the use of a perimeter employing a white target which subtends an angle of 1 degree and an illumination of at least 3 foot candles. The arcs of field in the eight principal meridians are added and this number is divided by 420 (which is the sum of the arcs adopted as normal). This gives efficiency of the visual field of one eye in percentage.

(c) Muscular function, especially as it concerns diplopia, is measured in all fields of binocular fixation. This is plotted on a standard chart which is divided empirically into twenty rectangles. Partial loss of muscular function is that proportional area which shows diplopia as indicated on the plotted chart compared with the area of the entire motor field. Diplopia involving the entire motor field causes a loss of coordinate visual efficiency equal to the loss of one eye; partial loss is proportionate.

The industrial visual efficiency of one eye is determined by obtaining the product of the computed efficiency in (a) visual acuity, (b) field of vision and (c) muscular function. Thus if the efficiency of central visual acuity is 40 per cent, that of the visual field 81 per cent and the efficiency of muscular function 100 per cent, the resultant visual efficiency of the eye is $0.40 \times 0.81 \times 1.00 = 32.4$ per cent. Should diplopia be present in part of the motor field so that the motor efficiency is reduced 50 per cent, the visual efficiency would be: $0.40 \times 0.81 \times 0.50 = 16.2$ per cent.

The visual efficiency of a person is not reduced to one half by the complete loss of one eye, vision in the fellow eye remaining normal. The committee therefore adopted a weighing factor of 3 applied to the more efficient eye. This gives a practical appraisal of disability which is in substantial agreement with the consensus of technical judgment.

The industrial efficiency of a person is computed as follows: To the percentage figure which has been determined as the industrial visual efficiency of the less efficient of the two eyes, three times the percentage figure that has been determined for the more efficient eye is added; the result is divided by 4. The quotient is the industrial visual efficiency of the person in percentage.

Thus, if the individual efficiency of the injured eye is 40 per cent and that of the fellow eye is 100 per cent, the visual efficiency of the person will be

$$\frac{(40 \times 1) + (100 \times 3)}{4} = \frac{340}{4} = 85 \text{ per cent.}$$

When it is needed, it is therefore possible to make a fair estimate of visual efficiency in percentage. However, this requires a thorough examination by an ophthalmologist, which is both impracticable and unnecessary as a routine procedure in industry. A standardized visual examination is needed which will assure the necessary visual efficiency for the job. In addition, practically all industrial compensation codes provide that deduction from compensation shall be made for preexisting subnormal vision in case of additional loss.

In case there is no record of preexisting subnormal vision, it is assumed that visual efficiency prior to the injury was 100 per cent. It is imperative that every person employed in industry have his visual acuity for distance tested on a Snellen chart at 20 feet with and without his correction, and that a permanent record of this be made. Kuhn criticized the Snellen test because it is often made improperly at the wrong distance, with dirty cards and with poor illumination; and because workmen often memorize the cards while standing in line for the test. These are sound criticisms, but the shortcomings can all be corrected. It is important that the record be accurate. There should be three or four clean charts which are interchanged to discourage memorization. There should be constant illumination by a fixed cabinet which provides 7 foot candles of illumination.

5. Black, N. M.; Snell, A. C.; Patton, J., and Gradle, H. S.: Report of Committee on Compensation for Eye Injuries: Appraisal of Loss of Visual Efficiency—Standard Method Approved by the House of Delegates of the American Medical Association, Atlantic City, N. J., May 26, 1925; Tr. Sect. Ophth., A. M. A., 1925, p. 368; Report of Committee on Compensation for Eye Injuries, *ibid.* 1927, p. 370.

Page 1351-52 continuing

ing broken glasses than there is for replacing pants torn on the job. This is simply a matter of the coverage which the industrial insurance affords. It is not necessary to pretend that refractive errors do not affect visual efficiency. The man who breaks his glasses still has to pay for them, even if the commission decides to compensate another person for a disability or a degree of disability which he did not suffer. This is unfair to those employees who are forced to wear glasses after an injury and are not compensated for the defect. It

employee had a disability of 96.7 per cent unless the employer could produce a record to prove preexisting disability. Fortunately, the employer could do that, and the patient produced his glasses. He still had a defect of 30 per cent in the injured eye and received some \$800 compensation, whereas, in fact, after a period of discomfort he had his eyes refracted himself and with an outlay of \$20 has no visual defect at all.

The employer has no defense against this unjust ruling except for the partial protection of his records

TABLE 5.—Summary of State Compensation Laws Relative to Visual Disability*

State	Date of Last Revision	Loss of Both Eyes	Loss of One Eye		Partial Loss Determined			A. M. A. Standards†
			With Enucleation	Without Enucleation	Without Glasses	With Glasses	With and Without Glasses	
Alabama.....	1936	55% - P. T.†	65% - 100 weeks	.....	..	+	..	0
Alaska.....	1937	\$7,200	\$2,100-\$2,500	.....	No law	No law	..	0
Arkansas.....	.....	No law	.....	.....	..	+	..	0
Arizona.....	1933	65% (av.) - P. T.	55% - 120 weeks	100 weeks	..	+	..	+
California.....	1935	65% - P. T.	No law	.....	..	+	..	mod.
Colorado.....	1935	50% - P. T.	50% - 130 weeks	104 weeks	+	..	..	0
Connecticut.....	1937	50% - 520 weeks	50% - 208 weeks	.....	..	+	..	0
Delaware.....	1937	50% - 475 weeks	50% - 113 weeks	.....	..	+	..	0
District of Columbia	1934	60% - P. T.	60% - 140 weeks	.....	..	+	..	0
Florida.....	1937	50% - 350 weeks	50% - 100 weeks	.....	+	+	..	+
Georgia.....	1937	50% - 350 weeks	50% - 100 weeks	.....	+	..	..	0
Idaho.....	1947	55% - 450 weeks	55% - 110 weeks	120 weeks	+	..	..	0
Illinois.....	1936	50% - P. T.	50% - 120 weeks	.....	+	..	..	mod.
Indiana.....	1937	55% - 500 weeks	55% - 150 weeks	.....	..	+	..	0
Iowa.....	1937	60% - P. T.	60% - 100 weeks	.....	..	+	..	0
Kansas.....	1931	60% - 416 weeks	60% - 110 weeks	.....	+	..	..	mod.
Kentucky.....	1937	65% - 416 weeks (\$6,000)	65% - 100 weeks	.....	+	..	..	0
Louisiana.....	1936	65% - 400 weeks	65% - 160 weeks	.....	No law	No law	..	0
Maine.....	1931	66% - 500 weeks (\$6,000)	66% - 100 weeks	.....	..	+	..	+
Maryland.....	1937	66% - \$6,000	66% - 100 weeks	.....	+	..	..	0
Massachusetts.....	1937	66% - 500 weeks (\$4,500)	50% - \$4,500	.....	..	+	..	0
Michigan.....	1937	66% - 500 weeks (\$9,000)	66% - 100 weeks	.....	..	+	..	0
Minnesota.....	1937	66% - \$10,000	66% - 100 weeks	.....	+	..	..	0
Missouri.....	1931	66% - 300 weeks	66% - 118 weeks	108 weeks	..	+	..	0
Montana.....	1937	50% - P. T.	66% - 120 weeks	100 weeks	..	+	..	0
Nebraska.....	1937	63% - 100 weeks 45% - P. T.	50% - 120 weeks	100 weeks	..	+	..	0
Nevada.....	1936	60% - P. T.	50% - 120 weeks	100 weeks	+	..	..	0
New Hampshire.....	1937	No law	.....	.....	..	+	..	0
New Jersey.....	1936	60% - 400 weeks	66% - 100 weeks	.....	..	+	..	0
New Mexico.....	1937	60% - 550 weeks	60% - 125 weeks	110 weeks	..	+	..	0
New York.....	1937	66% - P. T.	66% - 160 weeks	160 weeks	..	+	..	0
North Carolina.....	1935	60% - 400 weeks (\$6,000)	60% - 100 weeks	.....	+	..	..	mod.
North Dakota.....	1935	66% - P. T. (\$15,000)	66% - 100 weeks (\$1,000)	.....	..	..	+	+
Ohio.....	1935	66% - P. T.	66% - 125 weeks	.....	+	..	..	mod.
Oklahoma.....	1933	66% - 500 weeks	66% - 100 weeks	.....	..	+	..	+
Oregon.....	1937	\$10-\$35 mo. P. T.	\$1,000	.....	..	+	..	+
Pennsylvania.....	1936	65% - 500 weeks	65% - 125 weeks	.....	..	+	..	0
Rhode Island.....	1937	50% - 150 weeks (\$10,000)	50% - 80 weeks	.....	..	+	..	0
South Carolina.....	1937	60% - 500 weeks	60% - 100 weeks	.....	..	+	..	0
South Dakota.....	1933	55% - 312 weeks	55% - 100 weeks	.....	..	+	..	0
Tennessee.....	1933	50% to max.	50% - 100 weeks	.....	..	+	..	0
Texas.....	1937	60% - 401 weeks	60% - 100 weeks	.....	..	+	..	0
Utah.....	1937	60% - 260 weeks 45% - P. T.	60% - 120 weeks	100 weeks	+	..	..	0
Vermont.....	1937	50% - 260 weeks	50% - 100 weeks	.....	..	+	..	0
Virginia.....	1936	55% - 500 weeks	55% - 100 weeks	.....	+	..	..	0
Washington.....	1933	\$33-\$15 mo. P. T.	\$1,440	\$1,080	..	+	..	0
West Virginia.....	1947	66% - P. T.	66% - 132 weeks	.....	..	+	..	+
Wisconsin.....	1937	70% - P. T.	70% - 275 weeks	250 weeks	..	+	..	+
Wyoming.....	1935	\$1,000	\$1,800	.....	..	+	..	+
United States.....	.....	.....	.....	.....	..	+	..	+

* From material compiled by Dr. Albert C. Snell, Rochester, N. Y.

† P. T. indicates percentage of average weekly wage paid for life or for number of weeks indicated, or until sum indicated has been paid.

0, no; +, yes; mod., modified.

also imposes a greater and more serious injustice on the employer.

For example, E. G. had a visual acuity of 6/60 in each eye. The employer before hiring him insisted on an ophthalmic examination. He obtained normal vision with glasses. However, he sustained an injury to his left eye which left a small corneal scar. His vision after the accident was 6/60 in the right eye and 3/60 in the left eye. Now the American Medical Association standards were devised to show defects on the basis of the best vision obtainable with glasses. Since the industrial commission disregards glasses, this

and the possibility that concerted action by physicians and employers might abolish this perversion of justice.

In this connection, Snell⁹ stated "There is no logical ground for any compensation law to specify that the loss of vision should be determined without the aid of glasses, and it is unwise to make any compromise about their use in estimating the visual loss after an eye injury. The statutes of all states should specify, as the majority do, that visual efficiency shall always be determined, with the use of corrective lenses."

9. Snell, A. C.: Treatise on Medicolegal Ophthalmology. St. Louis, C. V. Mosby Company, 1940, pp. 267-276.

Yet fourteen states, Colorado, Georgia, Idaho, Illinois, Kansas, Kentucky, Maryland, Minnesota, Missouri, Nevada, North Carolina, Ohio, Utah and Virginia, require that the tests for visual disability be made without glasses, and four, North Dakota, Oregon, Vermont and Wisconsin, have a compromise provision, which strikes an average between corrected and uncorrected vision (table 5).

INDUSTRIAL COMPENSATION LAWS

Snell⁹ summarized the present legal status of industrial ocular disabilities effectively in "Medicolegal Ophthalmology." I quote excerpts from his text:

The general objective of compensation laws has been to provide money awards for workmen who sustain injury, either in the course of their employment or arising out of it, without regard to fault. . . . The present laws, in a very large measure, have accomplished these worthy objectives. . . . Nevertheless these laws may be criticized on the ground that they contain unfair, partial, inconsistent, and illogical rules and decisions. . . . There is injustice when identical provisions in the statutes of two or more states are interpreted as having different meanings so that identical degrees of visual disability are held to be much more serious in one state than in another, with the difference at times amounting to as much as 400 per cent. . . . That these statutes were loosely drawn and faulty is evident from the fact that there have been controversy and litigation over nearly every provision, and generally it has been necessary to have recourse to the highest court of each state for interpretation. Furthermore, all of the original state statutes have had many amendments demonstrating the need for revision to correct earlier imperfections. Much of this litigation and the necessity for amendments of most compensation laws have been due to a lack of explicit phraseology, which careful drafting could correct.

The faults in the compensation laws, as far as visual disabilities are concerned, and the faults of their administration lie for the most part in the following circumstances: (1) a failure to comprehend the meaning of the test for visual acuity; (2) the failure to define the use of such ambiguous terms as "loss of an eye," or "loss of use of one eye"; (3) failure in the determination of a percentage loss of use when statutes provide that awards shall be made on the basis of a proportionate loss; (4) failure to comprehend the importance of and the necessity for the use of correcting lenses to correct refractive errors; (5) the failure to recognize and to give due consideration to visual defects existing prior to industrial injury.

It is urged that an official committee be appointed by the chairman of the Section on Ophthalmology to draft a schedule of standard visual requirements to be used as a yardstick by industrial physicians, and it is suggested that this committee might continue the splendid work carried on by the committee on compensation for injuries of the eye, offering technical advice with the purpose of improving the equity of industrial compensation laws.

SEQUELAE OF INJURIES TO THE CORNEA

Foreign bodies embedded in the cornea are among the most common industrial injuries. Infection of these wounds may lead to serious loss of vision. Fortunately with prompt and proper treatment this is rare. However, if Bowman's membrane is broken, some permanent scarring of the cornea results. This scarring may affect vision through (a) actual interference with vision, (b) distortion of the cornea, producing a change in refraction and (c) dazzling sensations due to dispersion of light by the scar. Furthermore, a latent refractive error may become more manifest after an injury and produce asthenopia not present previously.

(a) Actual interference with vision by corneal scars depends somewhat on refractive error, the alpha angle,

the size of the pupil, the depth of the anterior chamber and the state of accommodation. Calculations based on Gullstrand's schematic eye are substantially confirmed by clinical experience. A bundle of parallel rays of light approximately 12 per cent larger than the pupil and striking the optic zone of the cornea will be focused on the macula. This bundle is about 3.4 mm. in diameter for a 3 mm. pupil. Therefore the patient will be conscious of any scar in this zone. Actually, if the scar is sharply demarcated and superficial enough so that it does not produce an astigmatism which cannot be corrected with glasses it is often possible to obtain normal visual acuity even with the loss of the refractive power of a portion of this zone.

Scars in the cornea outside the optic zone may be in the field of vision. Because of the lower acuity of the peripheral retina, they do not usually obtrude themselves on consciousness. However, tests with 0.5 mm. paper disks placed on the cornea show that with a pupil as large as 4 mm. in diameter the perimetric zone of the cornea extends to the limbus temporally and below, and within 2 mm. of the limbus mesially and 3 mm. above. Dense scars in the perimetric zone affect the visual field (fig. 2).

(b) Distortion of the cornea by scars may result in an astigmatism in the optic zone. The induced astigmatism is usually in the opposite axis from the scar which produces it. Corneal scars smooth down a great deal in a few months, and astigmatism induced by them decreases gradually in time. Scars that invade the stroma no more than a third of the thickness rarely produce permanent astigmatism.

(c) Dazzling sensations and photophobia may be produced by the dispersion of light from a scar in any part of the cornea. A scar near the center of the cornea is more likely to produce these troublesome symptoms. As the scar fades with time, these symptoms usually disappear. A mild miotic to keep the pupil contracted during this interval is the best treatment. Dark glasses are ineffective, as they allow some dilatation of the pupil and increased dispersion of light into the fundus.

One of the most common problems that the industrial physician must face is presented by those persons who evince symptoms of eyestrain after a trivial injury of the eye. It must be borne in mind that comfortable vision depends on a delicate synchronization of optic, physiologic and psychologic factors. Even a minor injury may upset this balance. Of course if the patient has only a slight refractive error his asthenopia is only temporary and he will be able to build up his balance again in a few weeks. Those persons who need to wear glasses after an injury to the cornea have had a latent refractive error which would have become manifest in time without the accident. In these cases the injury is only a precipitating factor. This is a much more common train of events than actual astigmatism induced by the scar. An analogy is often useful in explaining this to workmen who believe that the injury is the sole cause of their symptoms. A person may be able to lift a hundred pounds before an attack of pneumonia. His inability to do this when he returns to work after his convalescence does not mean that his muscles are scarred or paralyzed but that they are weak from disuse. After an injury the muscles of the eye may be unable or unwilling to accommodate for a refractive error which they handled without complaint previously.

OTHER FACTORS AFFECTING INDUSTRIAL
VISUAL EFFICIENCY

1. *Illumination*.—Obviously a man cannot do good work unless he sees it easily. It is practically impossible to have too great illumination from an artificial source. The magnitude of the adaptation that the eye is forced to make under artificial illumination is better appreciated when it is realized that the intensity of light outdoors on an ordinary sunny day is about five hundred times as great as the highest practicable intensities of artificial illumination. Three factors must be considered in lighting an establishment: (1) the amount of light, (2) the distribution of light and (3) the diffusion of light. These factors have been worked out scientifically by illumination engineers. Since most establishments have illumination far below the most efficient levels, many public utility companies are glad to correct problems of illumination. I wish only to emphasize that glare is one of the most annoying and insidious causes of eyestrain and loss of efficiency in any kind of work in artificial illumination.

2. *Goggles*.—The prevention of injury to the eyes is the best protection against loss of time and money. Flying particles from abrasive wheels and metal-working machines constitute the principal hazard to the eyes in industry, as it is illustrated by the analysis made by the National Bureau of Casualty and Surety Underwriters¹⁰ (table 6). Industrial physicians are familiar with the importance of providing goggles for protection against flying particles, dust and injurious radiations and have made a study of the varieties best adapted to their special problems. But making goggles available is not enough. Goggles are bothersome, and a workman does not feel the chip of steel that strikes his neighbor's eye. It is necessary to have a definite program for seeing that the men use the safety factors placed at their disposal.

This should include an educational program with posters and placards posted at every hazardous device. The danger to the observer of watching a welder or cutter at work should be stressed. When a serious ocular injury has been prevented by goggles or a mask, this should receive publicity. A photograph of the workman can be posted on the bulletin board with this notice: "If you know this man, ask him how it happened." Safety slogans should be used such as:

1. We once knew a man who couldn't see the need for wearing goggles—now he can't see the goggles.
2. Eyelids are nature's eye protectors, but they are not built to stand iron or concrete chips.
3. Ask the blind man—he knows.
4. The light of the whole world died in a shower of sparks.
5. What would you take for your eyes? Think it over.
6. Goggles are to protect your eyes, not your cap.
7. Let your goggles take the punishment, not your eyes.
8. You can see through glass goggles. You can't see through glass eyes.
9. Two good eyes are all you'll ever get—save them.
10. If you are wise you will protect your eyes.

The foremen on hazardous jobs, such as those in which abrasive wheels are used, know the psychology of their workmen and which ones can be sold on goggles by logic and which ones need threats of being discharged.

A good plan is to convince the most popular or most talkative of the group of the importance of goggles

and give him the responsibility of convincing the other men. The best single inducement for wearing goggles, after an educational program, is an iron-clad rule of suspension for ten days for failure to use them.

Complaints about goggles should be handled patiently and intelligently. Headaches from goggles are usually due to pressure on the nose or face and are relieved by adjustment of the front or the head band.

Perspiration fogging the glasses can be relieved to some extent by sweat bands, glycerin pencils or specially prepared soaps.

If the men complain of their being too hot or too cold, goggles of heat-insulating material can be provided.

The fear that the goggles will break can be met by the explanation that they are made to withstand heavy blows and possibly by a demonstration of their capacity to take it.

Goggles are likely to be uncomfortable. There should be some one in the plant competent and patient enough to adjust them so that the men can wear them without being continuously conscious of them.

TABLE 6.—Causes of Industrial Eye Accidents*

	Number	Percentage
Abrasive wheels.....	10,210	31.1
Metal working machines.....	4,070	12.4
Portable power tools.....	1,527	4.7
Woodworking machines.....	343	1.0
Polishers.....	161	0.5
Welding machines.....	140	0.4
Other flying particles.....	9,703	29.6
Chips from tools.....	3,579	10.9
Burns.....	1,628	5.0
All others.....	1,455	4.4
Total.....	32,825	100.0

* Condensed from data compiled by the National Bureau of Casualty and Surety Underwriters.¹⁰

SUMMARY

1. A record of visual acuity, with and without glasses, of all industrial employees is important.

2. The establishment of minimum standards of visual efficiency for various occupations is necessary. It is urged that the American Medical Association appoint a committee for the study of this problem and the proposal of a schedule of minimum requirements for industrial physicians to use as a yardstick.

3. Injustices in state compensation laws are flagrant. It is also urged that the committee just mentioned provide technical advice and propaganda in an attempt to correct faulty legislation.

4. The common sequelae of injuries to the cornea are (a) actual interference with vision, (b) distortion of the cornea producing a change in refraction and (c) dazzling sensations due to dispersion of light by scar tissue. A latent refractive error may become more manifest after an injury and produce asthenopia not present previously.

5. The conservation of eyesight in industry depends on (1) testing the vision of applicants, (2) examination of the eyes of those having defective vision, (3) proper placement of workers with defective vision, (4) proper illumination without glare, (5) education of employees in regard to hazards to the eye, (6) protection of eyes in hazardous jobs and (7) prompt treatment for ocular injuries.

209 South Main Street.

10. National Bureau of Casualty and Surety Underwriters: Causes and Costs of Industrial Eye Injuries in the United States, Monthly Labor Rev., March 1923, p. 110.

INDUSTRIAL INJURIES TO THE EYE

ESSENTIALS OF FIRST AID AND LATER
MANAGEMENT

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CHICAGO

The physician who attends an industrial patient with an injured eye assumes a quadruple responsibility—to the patient, to the patient's employer, to the insurance carrier and to himself. Fortunately these interests are not antagonistic and can all be considered at once. Whatever affords the patient the quickest recovery with the least specific visual loss will also return him to work in the shortest time and reduce the insurance carrier's expense. By the same token, errors in judgment are expensive to the patient, the employer, the insurance carrier and, in the long run, the physician.

Although protection of the workman's eyes is to be discussed in another paper in this symposium, certain principles cannot be reiterated too frequently. Whenever it is possible to do so, rotating machinery should be shielded. An alert safety man can often erect shatterproof glass shields even on such machines as lathes and milling machines without slowing the production of either machine or workman. Emery wheels, scratch brushes and buffers should always be shielded, and the workmen should be taught never to stand in the plane of rotation while the wheel is in motion. Chisels, drifts or other tools which must be struck with a hammer must be kept properly ground, as the chips from a mushroomed tool are among the most common causes of industrial blindness. Above all, each man in the plant should be provided with goggles adapted to the hazards he faces and to his particular refractive requirements. The common practice of providing one pair of goggles to be passed about by the various men using grinding wheels must be vigorously condemned.

No physician caring for injuries to the eye should attempt to make an examination of the external eye without a corneal loupe, a lens for focal illumination and, if possible, a spring lid retractor. It is essential that in all cases of injury to the eye, no matter how trivial they may appear, tests of visual acuity should be made before one proceeds with any examination, and that of the injured eye should be determined first. If the eye is painful and there is a blepharospasm a drop of a local anesthetic may be used and the acuity checked after the spasm has been relieved. The test should be made both with and without the patient's glasses, if these are worn.

In many cases focal infections influence the course and outcome of injuries to the eye; in fact, trivial corneal lacerations will occasionally end disastrously on this account. For this reason it is always wise to make a rapid survey of the teeth and tonsils and to note their condition at the time of the initial examination.

In our series of more than 100,000 cases of industrial injuries of the eye, foreign bodies have been the causative agent in 48 per cent. These range in seriousness from the dust particle which has blown into the eye, through emery burns and chips of concrete to nails, cotter pins and other fragments of steel penetrating the eye and, largest of all, a full quarter of a 4 by 1/2

inch (105 by 12 mm.) emery wheel which weighed 3 1/4 ounces (50 Gm.) and which had passed through the patient's eye to lodge in the region of the sphenoid sinus, perforating into the cranial cavity. Some figures from our 1939 file are given in the accompanying table.

Almost any local anesthetic may be used for the removal of foreign material in the cornea or conjunctiva, but the effect should be maximal, as examination and subsequent procedures are more easily carried out if the patient is comfortable. Large foreign bodies are readily seen, but small ones are often overlooked, especially when the irises are brown. Under such

Fifteen Hundred Consecutive Cases of Ocular Injuries
from the 1939 File

	Num-ber	Per Cent	Total	
			Num-ber	Per Cent
Lesions due to mechanical agents	333	22.800		
Foreign body.....	181	12.067		
Burn from foreign body.....	161	10.733		
Lacerations of cornea.....	18	1.200		
Lacerations of conjunctiva.....	88			
Secondary ulcers.....	2	0.133		
Secondary ulcers with hypopyon.....	91	6.050		
Perforating wounds				
Cornea.....	15			
Prolapse of iris.....	6			
Traumatic cataract.....	17			
Intraocular steel.....	13			
Siderosis.....	3	3.666		
Old scars of cornea.....	42	2.800		
	11	0.733		
	34	2.270		
	33	2.200		
	13			
	7			
Hypheemia.....	2	1.600	983	65.533
Phthisis.....	24	0.333		
Ectopia lentis.....	5			
Eyes which required enucleation.....				
Lesions due to chemical or physical agents	15	1.000		
Chemical conjunctivitis.....	57	3.800		
Chemical burns.....	26	1.733	93	6.533
Thermal burns.....				
Lesions of questionable origin (doubtful compensability)	163	10.866		
	82	5.466		
	69	4.600		
	38	2.533		
	19	1.266		
	12	0.800	383	25.200
Iritis.....				
Muscular imbalance.....				
Lesions of systemic or bacterial origin (not compensable)	25	1.666		
Chalazion.....	19	1.266		
Trophic and dendritic ulcers.....	18	1.200		
Hordeolum.....	17	1.133		
Pterygium.....	16	1.066		
Cataract (all except 17 traumatic).....	11	0.733		
Pinguecula.....				
Retinal disorder	8			
Optic atrophy.....	8			
Macular atrophy.....	4			
	4			
	3	27	1.800	
	6	0.400		
	4			
	3			
	1			
	1			
Keratoconus.....	1			
Glaucoma.....	1			
Trachoma.....	1			
Herpes.....	1			
Cellulitis.....	1			
Total number of pathologic conditions in the 1,500 cases.....			151	10.066

circumstances a 1 per cent solution of fluorescein instilled into the eye and thoroughly rinsed out is of great value, as it stains the smallest laceration and often discloses an otherwise invisible foreign body. It is also essential to ask the patient to look in the four cardinal directions so that the cornea may be examined at a tangent. This frequently reveals foreign bodies or lacerations which would not be seen directly.

In our series 54 per cent of the foreign bodies striking the cornea have been hot, leaving a burn when the foreign body has been removed. This burned tissue should be drilled out with an ordinary round dental burr from 0.75 to 1 mm. in diameter mounted in a

simple handle, since if it is not completely removed ulceration is likely to result.

Spots of pigment in the iris are often mistaken for corneal foreign bodies or burns by general practitioners, and bad lacerations follow attempts to remove them. Deeply embedded foreign bodies should not be touched before the patient is referred to the local oculist, because of the danger of converting a simple wound into one which penetrates into the eyeball. If the foreign material cannot be secured in three or four attempts the patient should be referred before further damage is done.

If the cornea has been involved more deeply than the epithelial layer, a 1 per cent solution of either homatropine or atropine sulfate should be instilled to put the eye at rest. In our experience there has been no instance in which the use of atropine has resulted in an attack of acute primary glaucoma. We feel that even if this were to happen the fact that the eye is kept under observation should offset the danger. A drop of mercurochrome (in 1 per cent solution) will provide adequate antisepsis in most cases. Under no circumstances should the eye be bandaged or a patch be applied. We have found that a cover of any sort tends to dam up secretions, so that ulcers and other infections develop more readily.

If the tears are allowed to drain freely they will wash out any infectious material and diminish the danger of complications. The patient should be instructed to apply a towel moistened with plain warm water at home for from five to fifteen minutes, at least night and morning, both for the relief afforded during the period of acute irritation and for acceleration of the healing processes. Dark glasses from the dime store will control photophobia adequately if it is not possible to lend the patient optically ground shaded lenses.

The intraocular presence of particles of steel is often difficult for the experienced oculist to detect. Particles driven with sufficient force can, under certain conditions, enter the eyeball without leaving any external evidence. Therefore it is wise to remember that any patient who gives even a vague history of injury while pounding or using a lathe, boring mill or similar device may have a dangerous condition, and although there may be no apparent injury he should be referred to the oculist at once.

Burns of the eyeball from chemicals or heat are best treated by immediate, copious flushing with water or boric acid solution, followed by the administration of any bland oil or ophthalmic ointment. Carron oil is dangerous and should never be used near an eye. If the burn is at all severe, atropine ointment should be instilled and continuous warm, moist applications used until the pain has subsided. It is especially important never to bandage burned eyes, both because of the danger of symblepharon and because of the prolonged traumatic effect of chemicals or toxic products of damaged tissues when these are bound in intimate contact with the injured structures.

Deep lacerations or penetrating wounds of the eyeball should be seen by the oculist at once. The potentialities of such injuries are so grave that the plant physician has nothing whatever to gain and much to lose by attempting to treat them himself. A repair of a laceration in this region, which would be entirely satisfactory in other parts of the body, may well leave the patient conspicuously disfigured, while scars of the eyeball often distort it enough to cause serious impairment of vision.

There are many diseases of the eye which simulate conditions allegedly due to injury. In many instances diseases of the eye are claimed to have been aggravated by a trivial injury, and in some cases this may be true. Since litigation often follows these occurrences, it is better for every one concerned if, in all cases in which there is any question whatever, the patient is sent to the oculist. It is obvious that the earlier he sees the patient the better he is able to judge the situation fairly.

SUMMARY

1. It is important to determine the visual acuity at the time of the first visit, and in the injured eye first.

2. Injuries of the eye which appear trivial are often potentially dangerous, especially in the presence of focal infection.

3. The use of a mydriatic after removal from the cornea of foreign bodies or any injury to the cornea affords the patient comfort and expedites healing.

4. Bandages and patches tend to produce infection by damming up secretions and should not be used.

5. It is unwise for the general physician or surgeon to take chances. He should pass the responsibility on to the local oculist if there is doubt about any factor in a case.

6 North Michigan Avenue.

THE ECONOMIC IMPORTANCE OF VISUAL DISABILITY IN INDUSTRY

LEONARD GREENBURG, M.D.

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NEW YORK

Physicians are fortunate that they have in the American Medical Association a forum before which they can discuss some of the diverse and interesting problems in the field of the protection of life and the preservation of health in industry. The Council on Industrial Health has served, and no doubt will continue to serve, in directing the attention and efforts of an ever increasing number of physicians to the important problems of preventive medicine in industry. There begins to be a fuller realization of the importance of these problems to the medical profession, industry and the nation as a whole.

Under the chairmanship of Dr. Bartle, four phases of the problem of industrial ophthalmology are presented for consideration. The task set for me is an appraisal of the economic importance of visual disability in industry. Physicians are fortunate in having an opportunity to appraise this problem from several points of view and in this manner lay the groundwork for the next logical lines for the direction of their efforts.

It is with this point of view that an attempt is made to evaluate the problem of the economics of visual disability in industry. Is this one of magnitude and importance? What is the extent of the problem and what might be suggested as the logical approach to its solution? The answers to questions such as these should help dictate the next steps in the broad preventive program in which all are so deeply interested.

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VISUAL DISABILITY IN INDUSTRY—GREENBURG

1358

Visual disability among workers may be considered to be composed essentially of two kinds: (1) that disability brought to industry by the worker at the time of his entrance into industry and (2) that disability produced in industry.

VISUAL DISABILITY BROUGHT TO INDUSTRY BY THE WORKER

It is hardly necessary to point out that a large proportion of the population do not have eyes normal in every respect. A large proportion of the population find it necessary to avail themselves of eye glasses in order to correct errors of refraction, and it is, of course, common knowledge among ophthalmologists that many persons suffer from defects of depth perception, color sense and muscular balance.

The recent studies of Dr. Hedwig S. Kuhn have added a great deal of valuable information to the knowledge in this field, with particular reference to industrial workers. As a result of some sixteen thousand examinations among workers in various industries in the central states, she found 22 per cent with muscular imbalance, 5 per cent with color blindness, 16 per cent with failure of depth perception and 2 per cent with uncorrectable refractive errors. Among five hundred and nine applicants for positions, she found approximately the same percentages of ocular defects as among the previously cited group of industrial workers.

Without entering into further detail concerning individual types of employees in specialized occupations, such as clerks as compared with factory workers—an analysis which is beyond the scope of this discussion—it is pertinent to cite one of Dr. Kuhn's major conclusions, namely that 15 per cent of the workers in industry have serious visual defects and require urgent attention to their eyes.

Recently Dr. Morris Davidson, of the New York State Department of Labor, presented an analysis of five years' records of ocular examinations among claimants for compensation in the state of New York. He concluded as a result of his study: "For the country as a whole, the potential industrial worker may bring with him into industry an eye capital about 30 per cent defective. One half of this burden is remediable by glasses. The other half is irremediable and constitutes true defective eyesight."

The results of the studies of Kuhn and Davidson are, for all practical purposes, in agreement and leave one with the fundamental conclusion that among the average run of workers entering industry one may expect approximately 15 per cent of serious visual defects which, without doubt, constitute a handicap to the industrial worker under certain conditions and are of economic importance in the conduct of certain types of industrial occupations.

It is exceedingly difficult to evaluate the financial aspects of this portion of the problem, and I believe for a long time to come it may remain so. But I think there can be no doubt in the minds of every one that in those industrial occupations requiring a high degree of visual acuity, a complete sense of depth perception, complete muscular balance or excellent color perception it is essential that proper examinations of the eyes be conducted and that efficient industrial placement be considered a part of the employment program of the plant.

VISUAL DISABILITY PRODUCED IN INDUSTRY
Visual disability associated with industry arises from two different sources—that produced by trauma and that associated with special types of visual application, for example close application to a field requiring fine discrimination.

The latter type of disability is exemplified in the data of Dr. Kuhn, who in a study of crane operators, clerks and hosiery loopers found that muscular imbalance, depth perception and uncorrectable poor acuity were highest in the last-mentioned group (looping requires the closest application), lowest among crane operators and between the two among clerks, who occupy an intermediate position. It is well recognized that in industry there is a certain amount of occupational selection, and this, without doubt, holds for the eye as well as for purely muscular effort. The "six foot two" man most often becomes a heavy worker while the "two foot six" man becomes a tailor. But neither this selection nor age distribution accounts for the visual defects observed to be associated with certain occupations.

It is difficult to estimate the economic importance of this fraction of the visual disability associated with industry. It has been included here at this time merely for the sake of completeness, although I have no doubt but that some one deeply interested in this aspect of the problem will in time see fit to provide an interesting quantitative analysis of this problem.

By all odds, the largest and most significant portion of the problem is that visual disability brought about by direct trauma to the eye, whether by flying solids or liquids, by corrosive chemicals or hot metals, by occupational disease or by radiant energy.

One might suppose that it should be a simple matter to refer to the records of the various state compensation commissions or bureaus and in a simple fashion compile a list of the costs of compensation incurred as a result of accidents involving the eye. The bald fact is that it is impossible to do this. Some states do not compile the statistical results of their experience with compensation, and the reporting practice in the other states varies greatly. In some states accidents causing a loss of one day's time are reported and tabulated, while in others only those causing a similar loss of at least three to seven days are so reported, and in some only those accidents in which the injured workers are granted compensation by the adjudicating tribunal are entered in the statistical tables of the commission.

When one attempts to determine the economic importance of this problem, what should be considered as constituting an injury to the eye? It seems clear that any ocular injury which causes economic loss should be included. Certainly, an accident which results in the loss of one day's work has caused some economic loss to industry and the worker. Ideally, then, all accidents involving the eye and causing disability of one day or more should be chosen as a basis for one computation.

To the best of my knowledge, the state of Ohio, with its exclusive state insurance fund, is the only state with complete reporting in which all accidents causing a loss of time of one day or more are reported. In Ohio, for the year 1938, accidents involving the eye constituted 17.7 per cent, and for the year 1939 they constituted 17.6 per cent of all accidents causing the loss of one day's time or more.

There is an estimate by Schwartz, based on figures such as these, that there are approximately 300,000 industrial accidents of the eye in the United States each year resulting in the loss of time of one day or more. This estimate has been recomputed by Mr. Louis Resnick, of the National Society for the Prevention of Blindness, who arrived at a figure of three hundred and fifteen thousand for the number of such accidents. I believe these to be close estimates of the annual number of industrial accidents involving the eye occurring in the United States.

As a result of a consideration of large numbers of cases of compensation the ratio of compensable accidents to total accidents has been established definitely at 20 per cent. On this basis there are in the United States approximately 60,000 cases of compensable injury to the eye each year.

The average cost of compensation per case for accidents involving injury to the eye in all states is greater than the cost for other accidental injuries. In the state of New York, for example, the cost of compensation per case over a five year period was found to be almost twice that for other accidental injuries per individual case. In the year 1939 the average cost per case of ocular injury in New York State was \$644, whereas the average cost per case for other types of accidental injury was \$362.

If each of the 60,000 cases of compensable injury to the eye were to cost \$644, as they did in New York State in 1939, the total cost would be \$38,600,000, but if the total were computed on a basis of the average cost in New York State for the period 1925-1930, namely \$593 per case, then this total cost would be \$35,500,000.

The cost of accidents involving injury to the eye may be computed in a somewhat different fashion.

Through the kindness of Mr. Kjaer, of the U. S. Department of Labor, Bureau of Labor Statistics, I have been provided with recent statistical data with reference to accidents to the eye in various states of the union. In general, these data present for the most part cases in which compensation was paid, and because of the variation in compensation grants and types of industry, the figures, naturally, must be regarded as based on a somewhat nonuniform standard. They indicate that ocular injuries make up from 2 to 16 per cent of all compensated injuries. In New York State, for the period 1925 to 1930, the percentage was 3. For the year 1939 the percentage was between 3 and 4 for Wisconsin, Illinois, Indiana, Maryland and Massachusetts.

If one employs this figure, which is on the conservative side, and applies it to the 2,107,000 compensable accidental injuries of all kinds which take place each year, one arrives at a figure of 61,000 as the total number of compensable accidental injuries of the eye occurring each year. This figure agrees closely with the 60,000 arrived at previously. If, again, one assumes each case to cost \$593, the total annual cost would be \$36,200,000.

Sutherland cited an analysis of 234,000 cases of compensation which disclosed actual payments for injuries to the eye of 5.31 per cent of the total cost of compensation. Employing the National Safety Council estimate of \$700,000,000 as the cost of all compensation in the United States, he arrived at a figure of \$37,170,000 as the annual cost in the United States of compensation for accidents involving injury to the eye.

These three estimates, lying between 35.5 and 37.2 million dollars annually of the direct cost of compensation for accidental injuries to the eye in the United States must be regarded as being a reasonably correct statement of the magnitude of the direct cost of compensation to American industry.

COSTS OF NONCOMPENSABLE ACCIDENTAL INJURIES

In addition to the 60,000 compensable accidental injuries of the eye occurring in the United States annually, there are, as the figures cited clearly indicate, approximately 240,000 noncompensable such accidental injuries. Many of these are noncompensable because of origin, fortuitous factors, brief duration of disability and a multitude of other reasons which it is unnecessary to detail at this time. Nevertheless, this large number of accidents must constitute some financial burden to the worker and to industry. Certainly they must interrupt work on the part of the injured worker and, in all likelihood, to a certain extent among the other workers in his vicinity in the workshop.

The National Council on Compensation Insurance estimated the average medical cost of a noncompensable accidental injury to be somewhat over \$9. Computed on this basis, the 240,000 noncompensable ocular injuries would increase the total cost by approximately \$2,160,000.

INDIRECT COSTS OF ACCIDENTAL INJURIES

Accidents cause lost time on the part of the worker and certain employees in the shop who may stop work because of such an occurrence and on the part of foremen, supervisors and possibly other executives. The cost of this lost time, and of first aid plus the indirect cost due to interference with production and the lack of the use of machines and equipment have been estimated to increase the direct cost of accidents by approximately 400 per cent. Heinrich, of the Travelers Insurance Company, made careful analyses of the indirect cost portion of the accident problem and appeared to be convinced that this figure is reasonable. For example, in a detailed analysis of an accident in a drop forge plant, the figure was 500 per cent.

I am convinced that there is a large financial loss due to these indirect costs, but I am not certain as to the exact percentage involved. Suffice it to say that the indirect costs of all accidents—accidents involving the eye included—is a sizable item in the cost of accidental injuries in industry. If the total direct cost of accidental injuries to the eye is assumed to be approximately \$30,000,000 annually and the indirect costs to be an equal amount—surely a conservative figure—then the total cost is approximately \$60,000,000 annually, and I believe this to be a conservative estimate of the costs to American industry of accidents involving the eye.

As a matter of pertinent interest at this time, it may be well to analyze the type of industries most frequently associated with accidents involving the eye. Analyses of this kind have been made by many investigators, and in general it has been found that more than 60 per cent of all such accidents occur in metal and metal product manufacturing industries.

In the machine shop industry, these accidents represent a high percentage of the total of all accidents, and this high percentage is consistently found in industries engaged in the manufacture of machine tools, foundries, machine shops, boiler works and the metal goods industries in general.

At this particular time, when the machine shop and the machine tool industry are playing such an important

role in the nation's life, it is obvious that a study of the problem discussed is a direct approach to the further problem of guarding manpower in national defense.

CONCLUSIONS

In spite of what may appear to be a maze of statistics, I have attempted to refrain from the use of figures so far as possible in this presentation. It may be well, therefore, to summarize briefly several important conclusions to be drawn from it.

1. There occur approximately 300,000 accidental injuries to the eye in American industry each year.
2. There are approximately 60,000 such injuries each year for which compensation is made.
3. The direct cost of these injuries is approximately 30 to 37 million dollars each year.
4. The direct cost of some 240,000 noncompensable injuries of the eye resulting from accidents is approximately \$2,140,000 yearly.
5. The minimum indirect cost of these injuries is certainly equal to the direct cost, and the two together must, therefore, be a minimum of \$60,000,000 annually.
6. The largest percentage of accidental injuries to the eye takes place in the machine tool, foundry and metal products industries, and at this time, when manpower is so important in these industries, the challenge to prevent such accidents must be apparent to every one.

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DISEASES OF THE RESPIRATORY TRACT AND AIR CONDITIONING

CAREY P. McCORD, M.D.

DETROIT

One of the reasons for the inclusion of this topic in this symposium was created some hundreds of thousands of years ago when man's ancestor first began to scorn his hairy coat and to substitute therefor a layer of subcutaneous fat. It may be doubted that this design to pass down through the ages in shocking and obscene nakedness was directly planned to plague air conditioning engineers or physiologists at some later period, but the ultimate result is an animal organism highly individualistic in his ridiculous adaptations to his atmospheric environments. Such statements do not make claim that, had man retained in modest respectability his hairy coat, neither would he be beset by respiratory diseases, for his hirsute kinsmen the apes are not thus blessed, nor then would not be comforted by the boon of air conditioning. No less, man's nakedness and its scores of resulting delicate compensating mechanisms openly flout some of modern man's efforts hastily to divert the biologic course of a million years.

Wherever, for all time, disease experience for assembled groups of persons such as at work or in schools has been recorded, always the respiratory diseases overwhelmingly have dominated incidence rates. This has been well considered in the preceding portion of this symposium; but iteration is desirable in order to lead up to the statement that in the days when air conditioning for assembled groups was only a theory or at best only a clumsy application it was taken for granted,

and almost universally so, that air conditioning would go far in the lessening of common respiratory diseases among such populations as commercial or industrial workers. Now, air conditioning of a quality in keeping with the best knowledge of the art and science has been applied in many places and under many circumstances and for a long enough time to warrant some reckoning as to this much desired respiratory disease ameliorating effect. Before entering on the venturesomeness of even a limited appraisal, it is desirable that I introduce a few definitions. If these are unacceptable for one's usage, they still should be applied to this present discussion.

DEFINITIONS

According to Drinker,¹ "ventilation consists in supplying or removing air to or from confined spaces. It is a dilution process and requires no pretreatment or purification of the added air. Air conditioning, on the other hand, controls the quality of the air and may necessitate heating, cooling, drying, moistening or purifying." Thus a mine may be ventilated in effective manner without any air conditioning. To a useful end, filters may be introduced into windows or ducts in a hospital through which air for pollen-sensitized patients may be drawn, but this is not air conditioning, merely partial air purification—a special aspect of air conditioning. In a factory an exhaust system may entrain air with an effete content of gas, vapor or dust. This commendable practice does not constitute air conditioning but again air protection through one single aspect of air conditioning, viz., air purification. A further example may be found in the introduction of ultraviolet lamps in some area for the purpose of diminishing the content of atmospheric bacteria. Granting this possibility, this procedure does not achieve air conditioning but contributes to a single desideratum—air purification.

The objective in any air conditioning of any space occupied by human beings is the comfort and health of those occupants, but it is to be recalled that much air conditioning is not for the sake of persons but of things—wares, products, materials—and that such air conditioning may operate to the detriment of persons there present. Again, complete air conditioning, embodying heating, cooling, drying, humidifying, purification and air movement may be optimal for one class of occupants, such as premature infants, but be unsuited for another class, such as nurses.

All considered, there appears to be justification for these terms: (1) ventilation, (2) complete air conditioning, (3) partial air conditioning, (4) air conditioning for human beings, (5) air conditioning for wares or materials, (6) therapeutic air conditioning.

RESPIRATORY DISEASES AS INFLUENCED BY ISOLATED AIR CONDITIONING FEATURES

(a) *Industrial Exhaust Systems.*—The usual installation of exhaust systems in industry is for the purpose of air protection through the segregation of unwanted materials, conveyance to a point of safety in order that the workroom atmosphere may not be contaminated and that there may arise no necessity for general air purification. The isolated portions of the atmosphere thus involved may contain dust, irritant gases or vapors or odoriferous substances, or may be highly heated or exceedingly moistened. Some but not necessarily all

From the Industrial Health Conservancy Laboratories.
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1. Drinker, Philip: The Application of Air Conditioning in Normal Life, *J. Indust. Hyg. & Toxicol.* 18:767 (Dec.) 1936.

of these entrained waste products of industry may constitute direct causes of diseases of the respiratory tract, but the greater number of these direct effects may be set apart from those disorders commonly regarded as making up the category of respiratory diseases, that is the common cold, coryza, pharyngitis, bronchitis, pneumonia—all essentially infectious diseases. However, apart from the fulminating injuries from industry's dust, gas and vapors it may be believed that bacterial action almost invariably plays a part in the pathologic conditions entailed. In any congested work area, where multiple industrial operations are involved, the number of factors that may contribute to a high frequency of respiratory diseases may be so numerous as to prohibit the segregation of any one agency as the precise cause of any high incidence of common respiratory diseases. Thus in a congested dusty work area, with high temperatures and excessive air motion, it is almost impossible to put the blame for a high frequency of respiratory diseases on any single, unwanted condition. While there are both affirmations and denials that so-called harmless industrial dusts play any considerable role in the causation of ordinary respiratory diseases, considerable proof is available from military experience with troops living in tents in the presence of dust storms. It has been my personal observation, and extensively so, in connection with troops living in tents and thus without extensive congestion, that immediately after dust storms of two or three days' duration the incidence of ordinary respiratory diseases, including pneumonia, enormously increases without the introduction of any new factor except dust. Of course under such circumstances there may be a marked increase of air velocity, but it has been observed that bodies of troops encamped under conditions of equal wind velocity but in the absence of fine material leading to general air dustiness have not been equally involved. The belief is here expressed that, under industrial conditions, dust, quite apart from any specific diseases such as silicosis that might arise after prolonged exposure, may be a factor in the occurrence of ordinary respiratory diseases, including pneumonia. Conversely, any suitable air protection measure, even though it does not constitute air conditioning within our definition, may be appraised as contributory to the lessening of such happenings. A further example may be taken from almost any of the irritant industrial gases, such as sulfur dioxide. The action of this gas, while primarily chemical, may facilitate the activity of bacteria already there present or concomitantly acquired, and thus an unnecessary frequency of ordinary respiratory diseases may be brought about. In short, in this appraisal it is reckoned that many types of industrial installations for the trapping and removal of specific disturbing waste products may play a praiseworthy part in lowering the incidence of infectious respiratory disorders.

(b) *Purification by Filtration.*—It may be recognized that effective filtration as the sole modification of air to be respired may be of definite value in the prevention and elimination of specific respiratory diseases of allergic nature. It is probably true that complete air conditioning, including filtration, may be even more efficacious in this respect. However, by the definition, mere filtration does not constitute air conditioning. Data in hand from such work as that of Yaglou,²

Fraenkel³ and Wells⁴ provide justification for accepting this aspect of air conditioning as meritorious in the prevention and treatment of this category of respiratory diseases.

(c) *Purification by Diminution of Bacteria—Ultraviolet Lamps.*—At this time there exists widespread interest in the possibilities of lessening respiratory diseases through the killing off of atmospheric bacteria through several agencies, chiefly ultraviolet emanations. It is now well proved that bacteria, including harmful varieties, may remain in the atmosphere for considerable periods of time. Equally so, it may be conceded that ultraviolet emanations of suitable character may be caused to destroy these bacteria or at least to reduce the number present in the atmosphere. However, there is no final proof that any respiratory disease in human beings ever has been produced by bacteria or virus suspended in the atmosphere under such circumstances as to be subject to destruction by ultraviolet rays. With regard to laboratory animals, possibly this statement does not apply, although absolute proof possibly likewise is lacking. Lately much publicity has been given to proposals to install such appliances in army barracks, mess halls and recreation rooms. Although many claims have been made that ultraviolet lamps with bactericidal capacities may be provided without at the same time possessing damaging properties for the skin and eyes of persons directly exposed, and while this may be true for selected types, it is not clearly true for all varieties and all circumstances. By no means do these statements constitute condemnation of a growing practice, but the stand is here taken that more investigative work is required before any unequivocal stand may be taken in support of ultraviolet lamps as the means for lessening the frequency of respiratory diseases. While the work of Wells⁵ is frequently and properly utilized by the sponsors of the practical utilization of ultraviolet lamps in the control of communicable diseases, it may be well to mention Professor Wells's own caution embodied in a personal communication lately received as now quoted:

We are beginning to gather experience on the spread of contagion through aggregations sharing common atmospheres. We are trying to extend our experience as fast as facilities permit because it will take a long time to gather statistically significant evidence. While we entertain convictions, we are not prepared to publish conclusions on the basis of results on hand.

If it may be assumed that bacteria in the air and circulated through air conditioning ducts may be the source of infection, then Dalla Valle⁶ has pointed out that bacteria sprayed in one room, which is a component part of a ventilating system, readily are distributed to various other rooms in the same system, thus conceivably making of air conditioning a distributor of bacteria, particularly when a high degree of recirculation prevails.

(d) *Purification by Dilution.*—In appraising the commoner single aspects of atmospheric modification,

3. Fraenkel, E. M.: Air Purification and Allergic Conditions, *Proc. Roy. Soc. Med.* 30: 1547 (Oct.) 1937.

4. Drinker, Philip, and Wells, W. F.: A Method of Testing Filters Against Pollens, Bacteria and Molds, Heating, Piping & Air Conditioning 6: 408 (Sept.) 1934.

5. Wells, W. F.: Bactericidal Irradiation of Air: I. Physical Factors, *J. Franklin Inst.* 220: 347 (March) 1940; An Apparatus for the Study of Experimental Air Borne Disease, *Science* 91: 2355 (Feb. 16) 1940. Wells, W. F.; Stokes, J. Jr.; Wells, M. W., and Wilder, T. S.: Experiments in the Environmental Control of Epidemic Respiratory Infections, *Tr. & Stud. Coll. Physicians Philadelphia* 7: 342 (Feb.) 1940.

6. Dalla Valle, J. M., and Hollander, A.: A Study of the Role of Ventilating Systems in the Transmission of Bacteria, *Pub. Health Rep.* 55: 1268 (July 12) 1940.

2. Yaglou, C. P.: Advantages and Limitations of Hospital Air Conditioning, *Mod. Hosp.* 53: 50 (July) 1939.

it is desirable to include dilution as of some significance in regard to respiratory diseases. While ventilation, as of a mine, for example, has been excluded from our definition of air conditioning, it may be pointed out that irritant gases, such as following blasting, if inhaled, may be conducive to respiratory diseases and, conversely, dilution through ventilation may constitute an effective measure in dissipating this source of respiratory tract involvement.

RESPIRATORY DISEASES IN COMPLETE AIR CONDITIONING

(a) *Experience in Various Establishments.*—May our interest now be shifted from single aspects of atmospheric modification to what we have agreed to term complete air conditioning for the benefit of human beings. This contemplates the addition or removal of certain atmospheric qualities somewhat depending on season, but always with regard to heating, cooling, humidifying, drying, air movement and air purification as the need may exist. At once it is to be pointed out that the concepts of some persons as to what constitutes proper, complete air conditioning may be such as to provide an atmosphere to be resired that lies beyond any reasonable acceptability as optimal within the present day knowledge of the art and science of physiologic air conditioning. Some atmospheres provided in the name of comfort air conditioning are so far removed from optimal air conditioning as to favor both discomfort and the occurrence of respiratory and probably other diseases. Our concern at this moment is not with this ill conceived type of air conditioning but instead with the best provisions in keeping with our present facts as to best practices. The question then is: Does the best of air conditioning influence for good or evil the frequency or severity of those states usually called respiratory diseases? While many unsupported or little supported statements have appeared claiming enormous benefits as to respiratory disorders there are now becoming available an increasing number of careful studies which permit of the appraisal of the situation on an acceptable statistical basis.

In the city of Detroit, at the offices of the Detroit Edison Company, large groups of office workers and others have carried out their work duties in two large buildings situated side by side and of general equality in size. One building, constructed in 1937, is completely air conditioned, without windows, but with glass tiled walls permitting the entry of sunlight. The adjoining building is older and until recently was without air conditioning facilities, although during the past two years some air conditioning has been introduced until the study no longer may be continued. The officers of this company, and particularly Dr. Schneider, gave me permission casually to report their experience, providing only limited data, since Dr. Schneider expects to make complete reports at an early time.

In each of these two buildings there were employed fortunately approximately equal numbers of workers—eight hundred and seventy-five in each, there being about twice as many males as females. After careful explanation to these workers in appropriate groups, nearly all volunteered to make weekly reports on their daily experience as to any respiratory disease, the extent of lost time, if any, and the severity of the disorder in terms of the necessity for medical care or

hospitalization. A section of the statistical department was set up to appraise incoming data. In addition, provisions were made for the procurement of information as to age, living conditions and recreation. During a period of two years, approximately five hundred employees dropped out of the study for one reason or another, such as severance of work, transfer to other buildings and laxity in reporting. In addition, supervisors made observations and reports in sufficient numbers to test the accuracy of the reports sent in by the volunteers. Further, the medical department made available its own experience involving these volunteers. During this two year period there were fortunately one sizable and several minor citywide respiratory disease epidemics. For primary record purposes, chief concern centered about the incidence of fresh infections and about the severity of the infection in terms of lost time. The results seem clear cut. Day by day graphs for some seven hundred and thirty days for the workers of the two buildings follow one another with convincing fidelity. With the coming of the first cold weather, the incidence mounted, but equally for the two buildings. When epidemics of respiratory diseases came to Detroit, these Edison workers were not spared and an equal frequency occurred in the two buildings. Late in the winter, as might be expected, as general resistance became impaired, curves tended upward, but not more so for one group than for the other. The average incidence per hundred employees with a forty hour week for both buildings was eight new respiratory infections. The weekly severity rate for both buildings was two lost time illnesses per hundred employees. The peak occurred in September, when in each of the two buildings there was an average of twenty-two new respiratory infections with no lost time and correspondingly seven lost time infections.

As far as the results of this investigation may be regarded as warranting conclusions, and always awaiting the elaborate report of the company itself, through its medical and statistical departments, it appears that in good air conditioning, suited to winter and summer conditions, only the scantiest of differences have occurred as to respiratory disease frequency and severity in these two sizable groups of workers.

McConnell,⁷ through several reports, has described the air conditioning facilities of the New Metropolitan Life Insurance Company's building, together with conditions in the company's older non-air conditioned building alongside. In the new building, at the time of the inquiry, some five thousand, three hundred and eighty-five employees were available for this study while five thousand, one hundred and twenty others were located in the older building. The two groups were adjudged to be suitable for comparison purposes with respect to age and sex, economic status, medical and personnel supervision. Five years later, on the basis of accrued information, McConnell notes:

We may fairly conclude, from a comparison of the two groups, one working (for 22.3 per cent of the week) in an air conditioned building and the other for the same period in a nonconditioned building, but under reasonably comfortable conditions, that air conditioning has not shown any measurable effects on the incidence or duration of absences for upper respiratory infections or of nonrespiratory illnesses.

7. McConnell, W. J.; Fellows, H. H., and Stephens, M. G.: Some Observations on the Health Aspects of Air Conditioning, read before the fourteenth annual conference of the Life Office Management Association, Chicago, October 1937. McConnell, W. J.: Investigations of the Health Aspects of Air Conditioning, *Refrigerating Engineering*, 31: 79, 1936.

A similar study was made by Bristol⁸ and reported in 1938. A group of approximately one thousand female employees working in four air conditioned rooms in the same building were investigated with regard to the incidence, character and duration of sickness for a period of three years, using for comparison a similar number of women workers of the same average age and performing the same type of work in the same building, but in the absence of air conditioning. The statistics utilized are limited to illness lasting over seven days and to persons under the care of physicians. Three years' experience led Bristol to the following conclusion:

From this study there is no evidence to indicate any improvement in incidence or duration of sickness among a group of upward of one thousand people working in scientifically controlled air conditioned space as compared with a control group of approximately the same size working in non-air conditioned quarters, ventilated by the usual mechanical and natural methods.

The conclusion apparently warranted by investigations of the type cited may be recorded in the language of Petersen,⁹ through the following excerpts:

There is at present no good evidence to support any broad beliefs that air conditioning as applied to workers in buildings will lead to any reduction in colds and respiratory infections in general. While the theoretical possibility exists that continued and absolute uniformity of optimal environmental conditions should render the individual more resistant, such a situation never exists in real life. . . . A reduction in morbidity need not be anticipated merely because we air condition the office or factory for one half of the individual's ordinary, daily period of action. Our enthusiasm should be moderated by the realization that we seldom deal with simple situations but very complex relations indeed.

(b) *Continuous Complete Air Conditioning.*—Scanty are acceptable reports dealing with respiratory diseases as influenced by continuous air conditioning. With few exceptions, such conditions are provided only in hospitals, and the greater number of persons involved do not represent healthy individuals. The results obtained by Blackfan, Yaglou, Wyman and McKenzie¹⁰ are impressive. In old, unconditioned nurseries, the mortality percentage among premature infants from acute and chronic infections was 26.5. In air conditioned nurseries, with a relative humidity from 50 to 75 per cent, no fatalities occurred, but with a lower humidity, 25 to 49 per cent, the mortality was 9.7. Deaths from all causes in the unconditioned nurseries for the same period (1923-1925) were 28.9 per cent, while in the conditioned nurseries for the same later period (1926-1929) with high relative humidity (50 to 75 per cent) they were 0.7 per cent.

Kerr and Lagan,¹¹ in their studies of the common cold, inoculated twenty-eight normal subjects with material from the noses of patients suffering from colds. None of these experimental subjects developed colds while remaining in a room conditioned at a dry bulb temperature of 70 F. and a relative humidity of 50 per cent. These findings, though not conclusive, as the series is relatively small, are suggestive as to the value of conditioned air in raising the resistance to acute catarrhal infection. It will be agreed that, under usual circumstances, opportunities for the spread of

infection are much greater in such places as street cars, busses and theaters than at work, although this is not invariably true.

In hospitals with air conditioned rooms, experience as to postoperative pulmonary complications at least suggests benefit from air conditioning. Young¹² encountered in one year's experience in an air conditioned hospital where seven hundred and forty-three divers operations had been performed but one case of postoperative pulmonary complications. While this observation was not subjected to parallel observations as to postoperative experience under non-air conditioned experience, the implication is that air conditioning was a factor in this excellent record.

The real test of the values of air conditioning in the prevention of respiratory diseases will come only from a prolonged, adequately controlled investigation made with a sizable group of persons continuously living under complete and proper air conditioning. Some state or federal penitentiary might afford an excellent environment for such a study. For most of the rest of us, it may remain necessary that we duck in and out of natural and artificial climates all to the amazement of our capillaries, mucous membranes and heat regulating equipment. Only Gargantua of the circus will travel up and down the land continuously provided with complete air conditioning. Even though the type of study contemplated proves that continuous complete air conditioning favorably influences respiratory diseases, the heartening results may be of only academic worth for day by day normal life, since continuous complete air conditioning for the general population is scarcely expectable.

(c) *Air Conditioning Shock.*—The discomfort on emerging during the summer season from a cooled, air conditioned space into natural atmosphere and the reverse has been made the basis of many complaints against air conditioning. There has come into use the term "air conditioning shock," and unfavorable comment has been made that such swift changes promote respiratory diseases.

Mudd, Grant and Goldman¹³ in 1921, in a series of experiments on human beings, demonstrated that chilling of the body surface caused reflex vasoconstriction and ischemia in the mucous membranes of the nasal cavity and postnasal space. They thought that this ischemia might cause a lowering of the local resistance, which would allow infection to occur. During the course of their experiments, ten of the subjects developed acute colds and sore throats, and an interesting change in the bacterial flora was noted.

It has been my personal lot to work in mines in the Southwest, where the mine temperature constantly was at 56 F. and on leaving such a mine to enter a natural atmospheric temperature at times of 96 F. I, as well as other unwary persons, immediately suffered from syncope, dizziness, quick fatigue, profuse sweating, flushing of the skin and other manifestations suggesting a quick lowering of the blood pressure. No such differentials as this may be expected in connection with emergence from an artificially chilled room, designed for human comfort, but the tendency is in the same direction.

8. Bristol, L. D.: *Air Conditioning and Industrial Health*, J. A. M. A. **110**: 2142 (June 25) 1938.

9. Petersen, W. F.: *What Weather Does to Man*, Heating, Piping & Air Conditioning **10**: 595 (Sept.) 1938.

10. Blackfan, K. D.; Yaglou, C. P., and Wyman, Katherine M.: *The Premature Infant*, Am. J. Dis. Child. **46**: 1175 (Nov.) 1933.

11. Kerr, W. J., and Lagan, J. B.: *Studies on the Transmissibility of the Common Cold*, Tr. A. Am. Physicians **49**: 245, 1934.

12. Young, A. G.: *Postoperative Pulmonary Complications Under Controlled Air Conditions*, Hospitals **12**: 61 (Aug.) 1938.

13. Mudd, S.; Grant, S. B., and Goldman, A.: *The Reactions of Nasal Cavities and Post-Nasal Spaces to Chilling of Body Surfaces: I. Vasomotor Reaction*, J. Exper. Med. **34**: 11 (July) 1921.

It is not unusual to provide a differential of 20 degrees F. between an artificial climate and the natural air on a hot summer's day. Offsetting in some measure what has been said is the fact that during the winter season it is not extraordinary to pass from an outside temperature at 0 F. into a warm room of 80 F. Thus a differential of 80 degrees occurs without profound discomfort either then or in the reverse situation. With reference to clothing, it does not always follow that the person who enters a warm building from an outside temperature of 0 F. or thereabouts inevitably makes any changes in his clothing. As to the physiology of these quick shifts, Petersen⁹ states, as to the effect of quick cold,

There occurs a "retreat to the interior of the body, the skin vessels contract, the blood pressure increases, the vascularization of the interior is greater, the blood pressure becomes transiently more alkaline, the body cells become less permeable.

[By contrast, this investigator in describing the tropical effect states that] the peripheral vessels are dilated, the blood pressure lowered, the smooth muscles relaxed, the basal metabolic rate becomes depressed. If prolonged or the temperature unusually high, a relative alkalosis may follow with greater irritability of the autonomic and central nervous systems. In some individuals, the effect on the autonomic nervous system, especially the effect of cold, is followed by much more profound effects in some individuals than the actual change in the environment apparently would warrant.

This statement leads to a further quotation from Petersen as follows:

This particular fact becomes of importance because the only real insult offered the population by the air conditioning engineer is the vast differential that exists at certain times between outside temperature and the designed indoor air temperature; under present practice this may vary by as much as 30 degrees F. Physiologically, this is preposterous. While within the range of adaptation for the perfectly normal individual, it involves a definite metabolic strain and can be harmful for a considerable group of subjects.

The vasomotor crisis associated with the rapid adjustment necessary under such conditions may (a) cause an increased susceptibility to infection, (b) result in gastrointestinal disturbance, (c) precipitate acute dysfunction in organs that are inadequate.

The reversal from a sojourn in an air conditioned (cool environment) of this type to the hot, humid, outside environment will in turn accentuate the peripheral dilatation that will normally follow a period of unusual and unseasonable chilling—with resulting excessively low blood pressure, fainting, nausea, etc.

Nevertheless, the engineer is quite justified in assuming that changing air mass as now designed has no great significance for the normal individual and for this group can fabricate the air conditioning structures either for greater comfort or greater efficiency, or both, but he should keep in mind that even here unusually abrupt environmental changes may be of pathological significance under certain conditions.^{13a}

All of the foregoing leads to the general statement that swift and unseasonable environmental changes in connection with air conditioning are undesirable for many persons and are undesirable in proportion, first, to the lack of quick adaptability of heat regulating mechanisms and, second, to the temperature differentials involved. While a differential of 15 degrees F. between an air conditioned atmosphere and the natural atmosphere has been widely endorsed, there are many persons for whom a maximum differential of 5 degrees

is far more desirable and particularly so when the outside temperature is high.

Contrary to the foregoing trend is the work of Houghten and others¹⁴ with groups of office workers in connection with summer cooling. Observation led to the conclusion that no especially unfavorable reactions were experienced in connection with movement to and from air conditioned rooms.

GENERAL COMMENT

(a) Engineering capacity is far ahead of medical guidance in connection with air conditioning. Engineers may build and will build any number and types of devices to meet the standards set by physicians, hygienists and physiologists, and there is impatient clamoring that such medical standards be set forth. The proper answer seems to be that there exist among human beings so many different requirements for comfort and well being with regard to the atmospheric environment that never will it be possible to place in the hands of engineers any bill of air conditioning particulars uniformly suited to all persons.

(b) Through long custom, we agreeably adjust ourselves to natural weather conditions by variation in clothing. On the other hand, with regard to artificial climates we somewhat resentfully expect that this air conditioning fully will be adjusted to our requirements. For any group of persons in an artificial climate, even though the conditions are suited to the best interests of the majority, there will be some whose individual requirements may require individual adjustment. By and large, too much is expected of air conditioning.

(c) No comment in this discussion has been directed to efficiency, comfort, noise abatement and other indirect effects on health as a result of air conditioning. Let there be any misapprehension that the values of air conditioning are lightly regarded, let it here be recorded that such values are fully recognized. Likewise in connection with special therapies, many forms of modified atmospheric conditions and special features of air conditioning are rightfully highly esteemed.

(d) On today's program, I have been listed as the chairman of the American Medical Association's Committee to Study Air Conditioning. While I speak as an individual and do not necessarily voice the opinions of the committee as a whole, it is my intent and desire to portray the general attitude of the entire committee. It is our belief that air conditioning holds many possibilities in addition to the promotion of comfort, efficiency and material protection. Some are directly linked with health. It is the sincere hope of this committee that, through cooperation between physicians everywhere, public health workers, hygienists, engineers and others, all possible physiologic stumbling blocks that hamper the application of air conditioning in the promotion of health may be removed.

(e) All considered, at the present time, it appears that the control of ordinary respiratory diseases depends to a greater extent on "human conditioning" than on air conditioning.

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13a. Professor Yaglou, to whom a preliminary draft of this manuscript was referred for comment, makes the point that excessive sweating on emerging from a cooled area into one of high temperature is a noteworthy factor in air conditioning shock.

14. Houghten, F. C.; Newton, A. B., and others: General Reactions of Two Hundred and Seventy-Four Office Workers to Summer Cooling and Air Conditioning, Heating, Piping & Air Conditioning 10:552 (Aug.) 1938. Newton, A. B.; Houghten, F. C., and others: Summer Cooling Requirements of Two Hundred and Seventy-Five Workers in an Air Conditioned Office, Heating, Piping & Air Conditioning 9:733 (Dec.) 1937.

PREVENTION AND TREATMENT OF
INFECTIONS OF THE HAND

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Recently I had an opportunity to summarize the results of treatment of all open wounds sustained by the workers in a manufacturing plant located approximately a mile from the hospital with which I am affiliated. The number of injuries was not large—sixty-nine in a period of six years—and the injuries were not often serious, consisting for the most part of clean-cut wounds resulting from the handling of metal sheets and strips. There were included, however, a number of cases in which division and suture of digital nerves were necessary, 1 case in which division of flexor tendons was done and 2 in which division of extensor tendons was done. The rules for the care of injuries were simple and definite—a sterile dressing was to be applied immediately over the open wound and the injured employee taken to the hospital without delay.

The majority of these patients were seen within a half hour of the time of injury. At the hospital the open wounds were carefully cleansed with plain white soap and sterile water applied with soft, sterile cotton and gloved hands and were irrigated with warm salt solution by a resident or a surgeon carefully masked and scrubbed before he began cleansing the wound. The cleansed wounds were immediately repaired and closed. If loss of covering tissue had resulted from tangential wounds a graft of skin was applied immediately. Anesthesia was often secured with a 0.5 per cent solution of procaine hydrochloride and sometimes with nitrous oxide.

The fact that stood out was that of all the patients, 47 in number, who were sent to the hospital immediately after the injury was sustained the injury of only 1 failed to heal by primary union and without infection. In 1 patient with a crushing injury and a subungual hematoma a low grade infection developed underneath the nail. Twenty-three cases in which infection occurred were seen during the same period. In every case except the 1 just mentioned the employee had failed to report until an average period of three days after the injury, and in every case definite signs of localized or spreading infection were present when the patient was first seen.

Of 41 patients reporting immediately after the injury, including the 1 in whom infection developed, the average loss of time from work was two and two-tenths days. Of 6 workers reporting immediately after injury, 3 with fractures of fingers or toes (2 with compound fractures) and 3 with division of nerves and tendons, the average loss of time from work was twenty-nine days. In these cases, furthermore, healing occurred by primary union, but the necessity for prolonged immobilization after fracture of bones, tendons or nerves was responsible for the delay in returning to work.

Of the patients who reported at intervals varying from six hours to eight days after injury and who showed evidence of infection when first seen, the average loss of time was eleven and one-tenth days, ranging from no loss of time from work to periods of twenty-eight and thirty-two days, the two longest intervals.

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Read before the Third Annual Congress on Industrial Health, Chicago, Jan. 13, 1941.

In none of the cases that were seen and cared for immediately after the injury was sustained and in none of the cases of extensive compound injury which Dr. Mason describes in this symposium and in which he has obtained such striking results was sulfanilamide or any of its derivatives or any so-called antiseptic used at any time during the course of treatment.

The moral, I think, is clear. The most certain way to prevent infection of an open wound is not to fill it with tincture of iodine or sulfanilamide crystals but to cover it immediately with a sterile dressing and entrust the patient to some one who will give him cleanly surgical care without adding further contamination to the open wound. With increasing experience physicians are coming to realize that the most important source of contamination of an open wound is not the metal or knife or glass that caused the wound, not the bacteria that may be present on the patient's skin, but the uncovered noses and mouths of excited bystanders, or first-aid workers or of any one who is attempting to examine or treat an open wound without carefully masking his face, covering his scrubbed hands with sterile gloves and making certain that the instruments and materials with which he is working are sterile. Uncovered mouths and noses, hands hastily scrubbed and instruments dipped for only a moment in an antiseptic solution are the real sources of the infection that the thoughtless worker so often considers the inevitable sequela of an open wound. It is my firm conviction that the time will soon come when physicians will be as deeply shocked by the spectacle of a surgeon or a nurse with unmasked face and ungloved hands caring for an open wound, whether the wound is a half-inch laceration or the raw surface resulting from an extensive burn, as they are by the picture of Samuel Gross donning his frock coat stiff with pus and coagulated blood, picking up the contaminated scalpel from the wooden instrument box and unwittingly inoculating with virulent bacteria the fragile, delicate, vulnerable substances that are called muscle and subcutaneous tissue and skin.

I would not decry the value of chemotherapy when it is indicated or deny for a moment that the sulfonamides are of great help in combating and arresting certain types of infection. The point I would stress is that the first line of defense lies in the immediate protection of the open wound so that infection from without is not permitted to enter, and the next line, in simple surgical cleanliness that does not add chemical and mechanical trauma to the fragile, delicate cells of living tissue.

Once infection has developed in an open wound the surgeon must first answer the question "Is the infection diffuse and spreading or is it localized?" Why? Because diagnosis must precede rational and effective treatment, and the treatment of the two types of infection is radically different. The acute, spreading infection requires absolute rest, application of warm, wet, sterile dressings to help nature mobilize the defensive forces of the body and bring about localization of the infection, specific chemotherapy and abstinence from any form of active surgical intervention until localization is secured. If a localized infection is present, in other words if an abscess has formed, the sooner the abscess is drained the sooner will the continuing necrosis that is synonymous with infection be arrested and the inauguration of healing made possible. Both types of infection obviously demand all the means at the disposal of the surgeon for building up the resistance of

the patient and neutralizing the harmful effects of virulent organisms. These are too well known to require restatement at this point.

If an infection is localized, and these principles apply as definitely to every part of the body as they do to the hand, the next question is again one of diagnosis: Where is the infection localized?

Paronychia, felon, collar button abscess, infection of the lumbrical space, subfascial infection, infection of a tendon sheath, infection of thenar, middle palmar or subaponeurotic space—all are definite clinical entities, with clearcut and unequivocal symptoms. For each there is one best method of securing adequate drainage which will lead to healing in the minimum period of time and with minimum injury and loss of function. These facts were set forth clearly more than thirty years ago by Kanavel, first in his surgical papers and later in his monograph on infections of the hand. The constantly increasing recognition of the importance of the subject, both at home and abroad, is attested by the number of monographs on infections and injuries of the hand which has appeared during the past few years.

Space does not permit nor is it necessary for me to repeat here the detailed symptoms or treatment of the various types of infection of the hand. I would like, however, to stress a few general principles which apply to the surgical treatment of every form of localized infection.

The preparation of the field of operation should not cause pain or add injury to tissues already devitalized by infection. I know of no better method than the gentle and patient cleansing with soap and water that I use in the care of an open wound which has just been sustained. Every one has seen the destructive effect of chemical antiseptics, for example, of tincture of iodine, on inflamed and injured tissues.

A general anesthetic is preferable to a local anesthetic because it does not add further injury to the injured tissues and because it permits the surgeon to work with the deliberation and care that are synonymous with "good surgery." The opening of an infected tendon sheath, for example, involves careful exposure and complete visualization of the digital nerve on the side of the finger chosen for incision. If the digital nerve is exposed and retracted dorsal there can be no question of injuring digital blood vessels, for they lie dorsal to the nerve. The tendon sheath, though it may be filled with pus, is a relatively small tubular structure. The diffuse swelling of the finger which always accompanies infection of a tendon sheath results from the cellulitis of the distensible, soft, subcutaneous tissues outside the sheath, although the "abscess" is within the synovial sheath. Not infrequently one sees an infected finger in which the soft tissues only have been incised and the sheath within which the pus is held remains unopened. Such failures and irreparable injuries of essential nerves, blood vessels and tendons themselves can easily occur if the watchword of the surgeon is "Get in and get out."

A bloodless field is an invaluable asset for careful and exact surgical procedures. It is an easily available boon for the surgeon working on the extremities. Before any operation is carried out on the hand a blood pressure cuff is applied to the patient's arm and a bandage wrapped smoothly around it so that a part of the rubber bag cannot escape from underneath the bandage as the cuff is inflated. Just before operation is begun the extremity is raised for a few moments and

the bag inflated with a pressure of 250 mm. of mercury. A bloodless field permits the surgeon to make accurate incisions, to make certain that important structures are left uninjured and that the infected area is adequately and effectively drained. One single observation that attests the importance of accurate visualization of the field of operation is the not infrequent occurrence of infection of a tendon sheath resulting from incision for drainage of a felon. Such a complication should never occur, but if one is attempting to make a quick incision in a distal phalanx obscured with blood and for a patient who is scarcely able to tolerate the pain in the acutely inflamed and incompletely anesthetized finger, it is not difficult to go beyond the anterior closed space and carry infection into the vulnerable tendon sheath as it surrounds the flexor profundus at its insertion on the base of the distal phalanx.

After an adequate incision has been made to drain the affected area the tough and rigid edges of skin must be held apart for twenty-four to forty-eight hours so that they do not promptly become agglutinated and prevent escape of infectious material. A soft wedge of gauze saturated with petrolatum and placed in the angle of the wound where it will be least likely to obstruct drainage is the best method I know. Too often what is called a drain is simply a cork and serves only to dam back exudate rather than to aid its escape.

Incisions on two sides of a finger or hand are almost never indicated. Unnecessary multiple incisions simply require a longer period for healing and tempt the surgeon to insert drains through the finger or palm—the most certain and effective way of causing necrosis of vulnerable tendon sheaths and tendons.

Drains can invariably be removed in twenty-four to forty-eight hours and should not be replaced. There is no more certain method of adding infection to an open wound and of delaying the healing process than by repeated reinsertion of "drains." If the incision for drainage is adequate and correctly placed spontaneous drainage will continue until healing takes place; if it is not, continued reinsertion of a drain will not compensate for the error.

Immediately after an abscess has been drained the continuous application of external heat over a moist sterile dressing for two, three or four days favors drainage, stimulates the circulation and relieves pain. If the extremity is elevated the return circulation is aided and the onset of congestion delayed. Continuous application of warm wet dressings should not be continued indefinitely. The onset of congestion with its resultant maceration of covering tissues and edema of deeper tissues should be anticipated by substituting for the continuous moist dressings, three or four days after operation, intermittent soakings in warm sterile solutions followed by drying of the extremity under a heat lamp.

Throughout the postoperative course every effort should be made to dress the injured hand with cleanly surgical care and avoid adding further infection to that which has already occurred. The most serious infections I see in the Hand Clinic at the Cook County Hospital are those which follow human bites and those resulting from the surgeon's advice to "soak the hand, dressing and all, at regular intervals" in warm solution of boric acid or warm magnesium sulfate solution. When one finds it difficult to teach the principles of good technique and of cleanly surgical care to medical students and house officers, how can one expect that a person without medical training can avoid contaminating a recent

wound the first time he changes the dressing or the first time he soaks the hand, dressing and all, in a home-made "sterile" solution?

Finally, the important principle of providing rest for injured tissues should be constantly kept in mind. Light aluminum splints which can be easily fashioned into desired shapes and which can be sterilized and incorporated into the dressing from the outset of treatment help greatly to provide the rest that aids healing and brings relief from pain.

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ANATOMIC DIAGNOSIS OF INJURIES OF THE HAND

JAMES M. WINFIELD, M.D.

DETROIT

As has been so aptly stated by Kanavel, "The hand of the working man is his most valuable asset. Without it life becomes a burden."¹ Appreciating this, the surgeon when caring for an injured hand must exert the utmost diligence in making a correct diagnosis, in performing careful and expert treatment and in carrying out meticulous after-care. Although the hazards of industry have been materially reduced, physicians are still faced with the problem of treating great numbers of injuries to the hand. Before any active treatment of such wounds is undertaken it is paramount that an exact diagnosis be made and a careful analysis made as to the cause, location and extent of the lesion. It may seem almost unnecessary to emphasize the importance of this initial procedure, but so often if it is neglected or carelessly performed a finger or hand may be rendered useless or a life may be lost. When dealing with any ailment affecting a human being, the physician must not permit the importance of any one lesion to overshadow the general picture of the patient as a whole.² Granted that an injured hand demands prompt and efficient attention, associated lesions such as shock and abdominal, thoracic and intracranial injuries must be searched for and diagnosed. If such a lesion is discovered the proper treatment should be instituted, and then only after considered judgment should the care of the hand be carried out.

In few regions of the body are the essentials of diagnosis so dependent on anatomy as in the hand. Unquestionably, the detailed anatomy of the hand is extremely complex and difficult to comprehend. This is particularly true if one merely commits structures to memory without attempting to understand the great importance of function. This paper will be limited to a description of certain diagnostic tests based on functional anatomy. Obviously, it will be not only impossible but impracticable to discuss in detail here the anatomy of the hand. The excellent studies by previous authors have been freely drawn on³ and this discussion will present nothing new.

Injuries may be divided into four main groups—depending on whether tendons, nerves, bones or blood

vessels are involved. It is important to obtain, if possible, an exact account of how the injury was sustained, as this may give valuable information regarding damage to underlying structures. If, for example, a man is struck on the tip of a flexed finger by a swiftly moving object, one might expect an injury to the extensor tendon at its insertion into the distal phalanx. Again, a crushing type of injury would center one's attention on the bony structures. Any wound which may have been contaminated at its inception by germs from the human mouth or by other virulent organisms should be given particular and specific treatment.

The specific location of wounds may be of considerable diagnostic aid as, for example, those occurring over the knuckles with danger of involvement of the joints and those occurring over relatively superficial tendons, arteries or nerves. Experience in some clinics may lead one to expect certain types of injuries in one location as compared to others. A consideration of the location of flexor and extensor injuries of tendons seen at the Detroit Receiving Hospital over a three year period is of interest (fig. 1).

First, there was a rather striking and interesting grouping of injuries on the palmar surface as compared with the dorsal surface, lesions of the flexor tendon occurring most commonly on the fingers and wrist while lesions of the extensor tendon occurred usually over the dorsum of the hand. No doubt the reason for this distribution is that the flexors are most apt to be injured at these locations in the act of grasping and also because the tough palmar fascia protects the tendons in the palm of the hands. On the extensor surface the fingers, being more limber, will yield to a possible injuring object, while the dorsum of the hand presents a more solid and unyielding structure. It would seem that the experience described should be duplicated in any large general hospital although, undoubtedly, certain definite occupations produce a preponderance of different types of injuries in varying locations.

INJURIES OF FLEXOR TENDONS

If a patient has a laceration of the flexor surface of the wrist, palm or fingers an orderly examination should be made. Obviously, any severe bleeding must be controlled. Fortunately in the hand and wrist pressure will usually suffice. Of a certainty, clamping bleeding vessels hurriedly, with insufficient vision and poor aseptic conditions, is a most harmful procedure. The integrity of the flexor tendons should be established. This may be accomplished by testing the function of flexion of the fingers with respect to the individual tendons. Under no circumstances, and this applies definitely to all open lesions of the hand, should probing or exploring without adequate aseptic precautions be indulged in.

Consider an injury to the flexor digitorum profundus tendons. These flex the fingers at the distal interphalangeal joints (fig. 2). If the proximal and middle phalanges are fixed, active flexion can be produced at the distal interphalangeal joint only by an intact deep flexor tendon. Active flexion may be produced at the proximal interphalangeal joint when the deep tendons are injured, but the distal joint will remain extended.

The flexor pollicis longus flexes the thumb at the interphalangeal joint. If the proximal phalanx is fixed, active flexion at the interphalangeal joint can be produced only by an intact tendon, while with an injured

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1. Kanavel, A. B.: *The After-Treatment of Infections of the Hand*, S. Clinics, Chicago 4: 1164-1182 (Dec.) 1920.

2. Koch, S. L.: *The Treatment of Compound Injuries and the Infections Resulting from Them*, Bull. Am. Coll. Surgeons 16: 3-10 (March) 1932.

3. These studies include: Couch, J. H.: *Surgery of the Hand*, Toronto, University of Toronto Press, 1939, as well as the other references given in the paper.

or a severed tendon the flexion is limited or the joint remains in extension. When the superficial tendons alone are injured, specific identification is more difficult, as the deep flexors can produce flexion at the interphalangeal joints. However, this diagnosis can usually

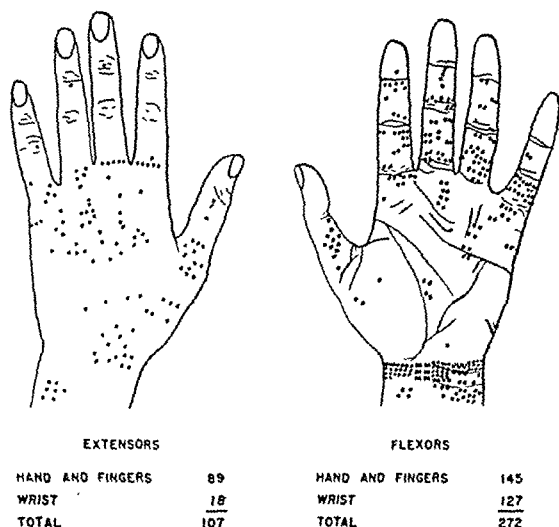


Fig. 1.—Summary of 200 tendon injuries, Jan. 1, 1937-March 1, 1940.

be determined by inspection under conditions in the operating room. In addition, even without intact flexor digitorum sublimis tendons, adequate function of the hand may be obtained, as the profundus tendons will amply suffice.

Division of the flexor carpi radialis tendon weakens the power of flexion of the wrist and increases the ulnar deviation of the hand. Injury to the flexor carpi ulnaris likewise weakens the power of flexion of the wrist and the ulnar deviation of the hand is lost.

INJURIES OF EXTENSOR TENDONS

When an extensor tendon is divided there is limitation of extension of the fingers. However, if the fingers are fixed in flexion at the metacarpophalangeal joints, extension of the interphalangeal joints may be produced by the lumbrical muscles. The true test of an extensor tendon is the performance of extension of the phalanges without support of the hand below the metacarpus, as the act of extension of the metacarpophalangeal joint is dependent on the common extensors (fig. 3). An avulsion of the extensor tendon from its insertion into

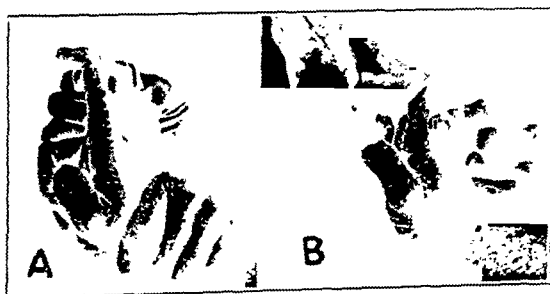


Fig. 2.—A, test of flexor profundus tendon, distal phalanx flexed, interphalangeal joint fixed; B, after division of flexor profundus tendon, finger can be flexed by flexor sublimis but extension remains at distal interphalangeal joint.

the distal phalanx or a division of the tendon in this region produces a characteristic deformity of flexion. The ability fully to extend the distal phalanx is lost. Another injury less common in incidence than the one just mentioned is a rupture of the extensor pollicis

longus.⁴ This lesion may be produced by repeated vibratory motions of the tendon, with the hand held in a fixed position, such as typically occurs in drummers. Certain specialized occupations demand the performance of such movements of the hand and thumb. The thumb loses the power of extension of the distal phalanx unless it is adducted and flexed, when the abductor brevis and flexor pollicis brevis may produce some extension. In addition, the medial border of the anatomic snuffbox is lost. Abduction and adduction of the thumb are weakened, and the thumb cannot be brought to the radial side of the index finger.⁴ A rupture or division of the dorsal aponeurosis over the proximal interphalangeal joint may be due to direct violence or a lacerating injury and produces a rather typical deformity.⁴ The two lateral slips are loosened and anteposed toward the volar surface, causing the joint to protrude posteriorly. The deformity is further increased by the pull of the lumbrical and interosseus muscles. There occur extension of the distal phalanx, flexion of the middle phalanx and extension of the proximal phalanx. Any motion increasing tension of the extensor tendons accentuates this deformity.

INJURIES OF NERVES

The two nerves supplying muscles in the hand are the median and the ulnar. The diagnosis of a divided motor nerve may be confusing, as deceptive movements

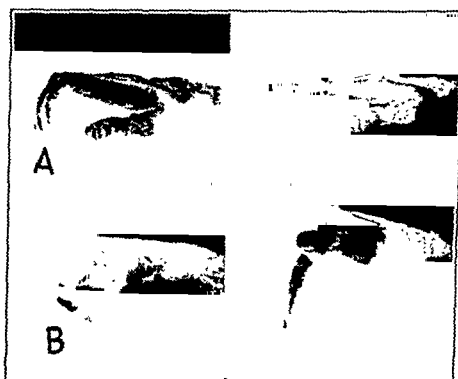


Fig. 3.—A, true test of extensor tendon function (metacarpophalangeal joint extended); B, false test of extensor tendon function faked by lumbricals (metacarpophalangeal joint flexed).

may be produced by certain muscles whereby the function of the ulnar nerve may imitate the function of the median nerve.

When one is caring for a laceration of the flexor surface of the wrist or palm, injury to the median or ulnar nerve should be suspected and tested for. If tendons have been lacerated in the wrist, there is great probability that the median or ulnar nerves, singly or together, have been damaged. Identification of structures at operation is difficult, to say the least, and it is immeasurably better to know before operation which nerves have been impaired.

In testing for integrity of the median nerve, it is well to remember that there are five muscles in the hand supplied by this nerve. These muscles are abductor pollicis brevis, flexor pollicis brevis, opponens pollicis and the first and second lumbricals (radial lumbricals). Three of these affect chiefly the function of the thumb. A branch of the median nerve called the motor or recurrent branch comes off $1\frac{1}{4}$ inches (3 cm.) directly distal to a point at which the upper border of the

4. Mason, M. L.: Rupture of Tendons of the Hand, *Surg., Gynec. & Obst.* 50: 611-624 (March) 1930.

anterior annular ligament crosses the tubercle of the os scaphoides.⁵ This branch supplies the three thenar muscles of the thumb. It is superficial and is not well protected; consequently a small laceration in this region may easily damage this nerve. The power of abduction of the thumb, medial rotation of the metacarpal and some flexion at the metacarpophalangeal joint will thus be lost (fig. 4).

The best test for the integrity of the median nerve is as follows: With the palm facing upward, the patient should lift the thumb directly toward the ceiling. This demonstrates the action of the abductor pollicis brevis. It seems to be a more definite test than having the thumb moved across the palm, as the action of the opponens pollicis may be confused with that of the adductor, the latter being supplied by the ulnar nerve. In general, it may be stated that if a patient is able to abduct and rotate the thumb to oppose the fingers the median nerve is intact. Laceration of the median nerve will also produce anesthesia in the area of its distribution (roughly, in three and one-half fingers and the adjacent palm and, dorsally, in the thumb and in the distal third of two and one-half fingers; fig. 6).

The ulnar nerve supplies all the short muscles of the hand except those mentioned previously, which are

that of "wrist drop" produced by a paralysis of the extensor group of muscles. The sensory branch of the radial nerve can be injured at the wrist, and anesthesia will be produced over a portion of the dorsum of the hand and approximately three quarters of the dorsal area of three and one-half fingers (fig. 6).

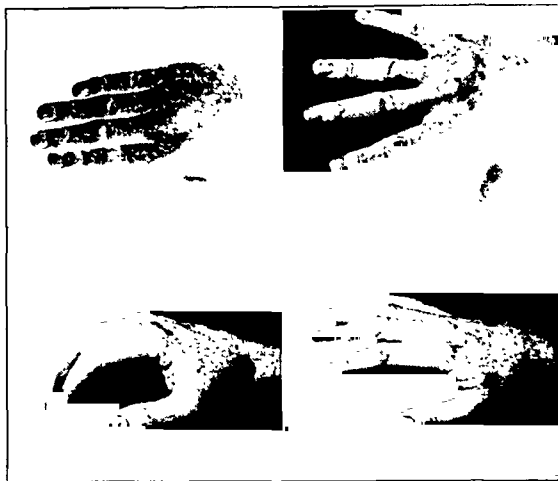


Fig. 5.—A, true test of ulnar nerve (interossei): fingers spread in full abduction; B, false test of ulnar nerve: fingers dropped; spreading faked by extensors.

In lacerations of the fingers the areas of sensory distribution of the digital nerves should be outlined (fig. 6), for if the surgeon is forewarned that one of these nerves has been severed this knowledge will aid considerably in the operative procedure.

The signs and symptoms of injury to bones and joints in the structures of the hand are fairly characteristic and diagnostic. Brief mention should be made, however, of a few of these injuries. Dropping of the "knuckles" occurs with fracture of the metacarpals due to a posterior angulation at the site of fracture with or without shortening. Point tenderness is present in the anatomic snuffbox as well as pain on motion of the wrist when the scaphoid (navicular) is fractured. Roentgen examination should definitely be employed in any suspected fracture of the hand or wrist, and at least two views should be taken.

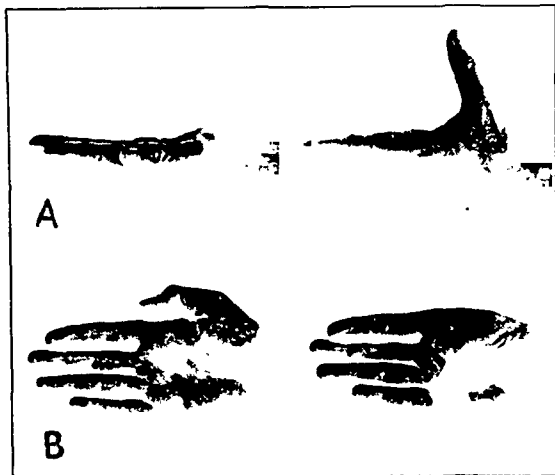


Fig. 4.—A, true test of median nerve—short abductor; B, test of median nerve (opponens), faked by flexor.

supplied by the median. The action of the interossei muscles is to abduct and adduct the fingers away from and toward the midline of the hand. Division of the ulnar nerve will produce an inability to perform these movements. The best demonstration, then, of function of the ulnar nerve is to test the action of the interossei muscles.

If the fingers are partly flexed, this action may be simulated by the long extensors, which are supplied by the radial nerve (fig. 5). Anesthesia should also be tested for in the area of the sensory distribution of the ulnar nerve, namely in the fifth finger and in one half of the ulnar side of the fourth finger and the adjacent palm and dorsum of the hand (fig. 6).

The radial nerve supplies no muscles in the hand, nor can the motor portion of this nerve be injured below the lower portion of the forearm. However, injury to the motor fibers of the radial nerve higher in the arm will produce profound and characteristic disturbances of manual function. The typical picture is

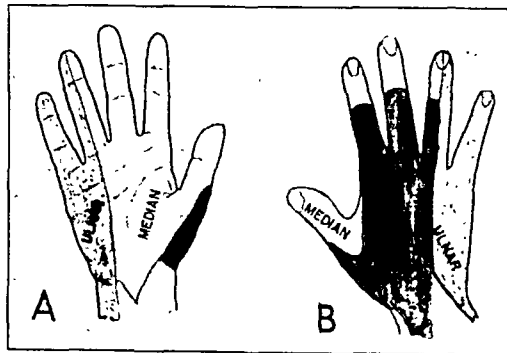


Fig. 6.—Sensory areas supplied by median, ulnar and radial nerves: A, palmar aspect; B, dorsal aspect.

In addition to the anatomic diagnostic procedures already discussed, it should be stated that exact knowledge of the anatomy of the structures of the hand is an absolute necessity for the adequate repair of an injury to the hand. The identification of various nerves, tendons and blood vessels as well as the tentative

5. Grant, J. C. B.: A Method of Anatomy, Baltimore, Williams & Wilkins Company, 1940.

localization of the point at which their retracted ends may be found demands sound anatomic knowledge and much surgical experience.

SUMMARY

Several important points should be reemphasized concerning the diagnosis of injuries to the hand:

1. Immediate and correct diagnosis is essential.
2. Early, hurried, unsterile or rough exploration of the wound in order to make a diagnosis is not only unnecessary but may be extremely harmful.
3. The most important of the specific tests should always be carried out as described.
4. The majority of lesions of tendons and nerves may be diagnosed by certain functional tests of the fingers and hands based on a knowledge of the anatomy of the hand.

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TREATMENT OF SUPERFICIAL INJURIES AND BURNS OF THE HAND

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Superficial injuries of the hand may be divided for purposes of discussion of treatment into those which are sharply lacerated and those which are the result of a crushing or avulsing injury. This discussion applies to the injury to soft tissue involving only the skin and the subcutaneous tissues of the hand.

The purpose of treatment of any wound is to convert it from an open wound to a closed one as early as possible so as to prevent the occurrence of infection or any delay in healing. Wounds seen within six or eight hours from the time of injury may be safely converted into a closed wound provided they have not been tampered with, as by injudicious attempts to control hemorrhage. After eight hours one feels that the wound has progressed beyond the state of simple contamination to one of actual infection and that it is unwise to close such a wound or seal up the infection. There are two types of wounds, however, which should never be closed immediately: those obtained from human sources as at the autopsy table or in the operating room, and those incurred from a mouth bite; such wounds are contaminated with virulent, active bacteria which may early spread through the tissues.

The emergency care for any type of wound, whether a laceration or a burn, need not mean applying medication but rather should consist of the immediate application of a simple sterile dressing to the entire area involved. If the wound is bleeding, and it usually is if seen immediately, application of light sustained pressure over the sterile dressing will control it adequately. Too often in the excitement caused by the injury and the hemorrhage some one will hastily and regrettably grasp the bleeding vessel with an unsterile forceps and thus introduce an unwarranted source of infection. Should it be necessary to transport the patient to an emergency station, a splint may be added to the outside of the original sterile dressing, and by this method unnecessary motion and pain may be prevented. The question of shock and its recognition and treatment will not be discussed.

The patient should be treated in an emergency operating room which has adequate equipment and personnel to insure correct surgical care. In such an operating room every precaution should be taken to insure asepsis, and this means not only the use of sterile instruments, gowns and gloves but the adequate masking of both nose and mouth by every person entering the room, including the patient, when an open wound is exposed. By this procedure alone many serious infections arising from contamination by droplets from the nose and mouth may be prevented, and I feel strongly that this source of contamination is too often disregarded. It is from the open noses and mouths of those inspecting or treating the wound that the more common and serious infections arise.

After the patient is comfortable and a sterile setup is ready, it is wise to apply a blood pressure cuff to the upper arm, which may be inflated to control bleeding, if necessary. Now the extent of the wound may be determined, but it is seldom necessary to remove the dressing to determine whether the nerves and tendons are divided, nor is it necessary to probe the wound to determine its extent. The wound should be inspected and an approximate idea of its extent obtained. If the wound is a simple superficial injury and it is decided to repair it in the emergency operating room, then the operator prepares himself by scrubbing his hands and applying sterile gloves as for any surgical procedure. The original dressing is removed and the wound itself covered with a sterile dressing. Attention is first directed to preparing the adjacent skin, and not until this is cleansed should the wound itself be treated. Grease and oil may be removed with benzine and the skin shaved if necessary. The skin surrounding the laceration is gently cleansed with soap and copious amounts of water for ten minutes. For this purpose I use simple white cake soap and large sterile cotton pads, which produce less irritation to the skin than gauze sponges or brushes. Simple white cake soap is used only as an agent to obtain mechanical cleansing of the skin and wound. This soap is not irritating to the skin or wound as is tincture of green soap, other medicated soaps or any effective antiseptic. When this cleansing is completed the operator changes his gloves, and with a fresh supply of soap and water the wound itself is washed. Cleansing the wound should mean gentle washing with soap and almost continuous irrigation with sterile saline solution. It is often of value to insert sterile retractors to hold up the edges or layers of the wound to insure mechanical cleansing of all areas. Occasionally it is necessary to administer the anesthetic, either local or general, before the wound itself is cleansed. After the wound has been thoroughly cleansed sterile linen is draped about it and fresh gloves and gowns are used by the operator and assistants. At this time the patient's arm is elevated and the blood pressure cuff is inflated to 260 mm. of mercury.

After anesthesia is obtained, the wound should be carefully cleared of all jagged tags of skin, fascia or muscle, and all bleeding vessels should be clamped and ligated with fine silk. The material excised is only the devitalized tissue which would later become necrotic, and this procedure does not mean sacrificing viable though exposed tissue. The wound is at all times irrigated with warm saline solution. The exact extent and depth of the wound must now be determined. The surgeon must be certain that no deeper, unrecognized nerves and tendons are divided. Assuming that there are no deep structures divided, after the wound is so

prepared it is wise to pack it gently and, while exerting light pressure, release the tension of the blood pressure cuff. After the hyperemia has subsided the wound should be inspected for any unrecognized bleeding vessels, which when found are clamped and ligated. Usually the arm is again elevated and the blood pressure cuff reinflated, and closure is begun. It has been brought out numberless times, but I wish again to stress the importance of gentle handling of the tissues during the repair of these injuries. Injudicious grasping with heavy forceps or ligating large masses of tissue adds only further trauma to these already damaged cells. To obtain good healing and a minimum of scarring, it is necessary to obtain healing by first intention, but this is not possible if the tissues are so damaged by rough handling that they cannot survive this additional trauma, let alone be effective in healing. The closure of most lacerations should consist of anatomic restoration of fascia and skin, by the use of fine silk sutures to the subcutaneous tissues and accurate approximation of the skin with horsehair sutures. Closure should never be done under tension. Tension produces edema and too often loss of vitality of the tissue so held. If tension is necessary, it is best to close the wound by some other method, such as a graft of skin or extension of incisions. The closed wound is covered with a large soft yet firm dressing which exerts continuous pressure, and a splint is incorporated to insure rest to the injured part until healing has occurred. The blood pressure cuff is released after the dressing is intact, and this prevents, or at least diminishes, the possible formation of a hematoma. All injured patients with open wounds are then given a prophylactic injection of tetanus antitoxin after sensitivity has been determined by the intradermal test.

The other commonly encountered wound of the superficial tissues of the hand is that produced by a crushing or avulsing injury. The hand is often caught between rollers and is suddenly withdrawn, emerging with either a complete loss of skin and subcutaneous tissue or a flap of skin with a pedicle attached distally. A common example is also the crushed finger tip with either amputation of soft tissue or a poorly attached pedicle of skin and fat. All these wounds produce trauma to the deeper-lying soft tissues, and these are infiltrated with blood which, if unrecognized, may accumulate and leave a large hematoma and eventually a deep fibrosis which delays restoration of function. Seldom does one stop to realize the damage which has been done to the deeper structures by these injuries.

The emergency care and preparation of the wound caused by crushing is the same as for the previously described simple laceration. For the repair of the more extensive injury, it is best to use general anesthesia because the use of a local anesthetic may add to trauma of soft tissue and diminish the blood supply, even temporarily. The blood pressure cuff is applied but is not used in all cases because bleeding is not profuse and the temporary interruption of the flow of blood may be sufficient to jeopardize further the vitality of the crushed tissue. The crushed tissue must overcome both the local trauma and the local impairment of its blood supply. I feel that the flow of blood to the part must be encouraged, not interfered with by an unnecessary local anesthetic or a long interruption of the flow by the use of the blood pressure cuff, as is advocated in cases of sharply lacerated wounds. The débridement is more extensive because the tissues have been torn, and there are jagged white tags of fat and skin

on all sides of the wound; these must be excised to normal bleeding tissue. In debriding this type of wound, surgical judgment must be used to determine whether the crushed skin and subcutaneous tissue are viable and whether their blood supply is adequate to obtain healing. It is usual to see too little tissue removed. To test for this one must obtain normal bleeding or tissue of good color which one is certain will live. Too often the surgeon does not excise extensively enough for fear of being unable to close the wound and either having to use a graft of skin or having to suture under tension. When the surgeon is prepared in such cases to do a skin graft his débridement is more extensive and satisfactory.

The closure may be simple but if the skin and soft tissue are so seriously impaired that the wound cannot be approximated without undue tension, a graft of skin must be used. The wound must be closed, and only at this time, early after the injury, has one the opportunity to convert it into a closed wound; do not delay applying a graft immediately if it is at all necessary. If there is sufficient soft tissue to cover the tendons or bones a graft of intermediate thickness taken from an already prepared thigh or forearm may be applied to the defect and sutured into place. For a finger tip, the forearm is an excellent donor site for a small graft to cover the raw area. If there is exposed bone or tendon or if it is impossible to bring some adjacent subcutaneous tissue to cover the exposed deeper structures, a pedicle or pocket flap on the abdomen or thigh may be prepared and the hand placed under this. Regardless of whether a graft is or is not used, the dressing is highly important in such cases, and a large, firm dressing over all areas involved must be applied and the entire hand and forearm kept at rest with the use of a splint. Pressure can be obtained by the use of sterile sea sponges or mechanics' waste, which will exert at all times a steady pressure to the crushed areas. This will diminish the amount of secondary edema, prevent venous stagnation in the crushed flaps of skin which have been sutured into place and keep the graft in apposition to the soft tissue at all times. These dressings are not disturbed for five to eight days, and the pressure and splint are continued until healing occurs, which is often slower in the case of a crushing wound as compared to that of a sharply lacerated wound. If a free graft has been used, it is wise to continue pressure for at least three weeks before motion or use of the part is started. Many times a secondary plastic procedure may be necessary in these crushing injuries, but this should not be considered during the emergency care—at this time the whole procedure should be directed toward obtaining a closed wound which will not become infected and delay healing.

I have mentioned pedicle or pocket flaps as an alternative in closing wounds. Although this type of graft has its definite use in supplying skin and subcutaneous tissue to a defect, such a graft should be used only when there has been time to raise and undermine the flap in stages so as to insure its blood supply. My associates and I do not believe in its routine use in emergency cases because of the uncertainty of the viability of its skin and since, in such cases, one is applying the flap to an already contaminated wound. So for most such open defects arising from crushing or avulsing wounds we have used a free graft, usually of intermediate thickness, often of the full thickness of skin but seldom of the pedicle or pocket flap type.

The commonly crushed finger tip may become, unnecessarily, a slow-healing wound. Often nothing is done to close the wound, or else further amputation is done and the wound sutured under tension. It has become more and more apparent that the more one thinks of grafting skin to close these wounds the less one must do as regards further amputation. Except in rare cases in which only the exposed tip of bone remains we have not resorted to amputation. However, should the thumb or index finger be so involved we would simply place the involved finger under a pedicle flap on the opposite wall of the chest rather than amputate. In the ordinary case it is possible to cover the exposed bone from adjacent soft tissue and close the wound by using a graft of intermediate thickness taken from the forearm. One must not forget, in cases of crushed finger tips, to have a roentgenogram made, because a fracture of the distal phalanx is often present and such a fracture will take a long time to heal.

Concerning less serious crushing wounds which do not produce a laceration of the skin, a word of warning may be appropriate. After incurring such wounds, as an injury from a wringer, the patient usually seeks immediate medical aid, but there is early only slight swelling of the hand, and often nothing is done for the patient except to have a roentgenogram made. To do nothing is a mistake, because the swelling is a progressive hematoma which will soon separate the crushed skin from its vascular supply, and within twenty-four to forty-eight hours necrosis of the skin will begin. This necrosis is extensive and may involve half the skin of the dorsum of the hand, leaving extensor tendons exposed, and such a condition will necessitate prolonged care and eventually a graft of skin. For this reason such crushing injuries, although not associated with laceration, should be cleansed, splinted and have a large pressure dressing applied immediately to prevent the hematoma from progressing under the already crushed skin and prevent this skin from being separated from its blood supply. Many times a simple roentgenogram is taken of the hand and the patient discharged; the roentgenogram only rarely shows a fracture in such an injury—encountered only once in more than 100 cases of injuries from wringers seen at the hand clinic at the Cook County Hospital.

It is our opinion that burns of the hand or other parts of the body should be considered in a discussion of wounds. Burns are large, open, surgical wounds and should be given the same cleanly care and converted early into closed wounds as should any other surgical lesion. The best emergency care that can be given a burn is the same as for any other wound, namely applying a simple sterile dressing and not covering the burned area and skin with some handy ointment, whether an antiseptic or not; all grease will have to be removed later to cleanse the wound satisfactorily. In cases of burns, after shock has been combated the patient is given morphine if necessary, and with the same aseptic technic described previously, including masks and gloves, the entire burned area and the surrounding skin are gently cleansed with soap and water. In cases of extensive burns we have found that the old treatment of placing the patient in a tub of continuously circulating warm water will control all pain and allow for cleansing. After the cleansing, all blebs and loose tissue are cut away and the burned area is washed again and flushed with large amounts of sterile saline solution. It is important for the patient's

comfort that warm solutions be used throughout and that the room be kept warm to prevent drafts of cool air from striking the exposed tender wound.

After the cleansing is completed, the entire surface of the burn is covered with a nonadherent type of sterile dressing such as petrolatum gauze, and this is then covered with a voluminous soft dressing which is bandaged to exert pressure to all the areas involved, and here again a splint is applied. If the hand and digits are involved, the fingers are always separated by dressings and the hand kept in the "position of function" on the splint. The patient is then put to bed. The more extensively burned patient is given plasma intravenously, and his status is determined every few hours by hematocrit determinations. If the hematocrit readings show a continued or progressively higher percentage, administration of plasma is continued. This condition of "burn shock" may progress for twenty-four to thirty-six hours, and the patient must be correctly treated with plasma, fluids and oxygen during this time. In treatment of seriously burned patients it has seemed unwise to wait until the complete picture of "burn shock" has developed. It is better to anticipate the need of rest, plasma and oxygen immediately just as one anticipates the need of rest, fluid and intestinal decompression of a patient with a ruptured appendix.

The burn is not disturbed, but the dressings are carefully observed to insure continuous pressure. As in the treatment of any other surgical wound it is an advantage to both the wound and the patient to leave the dressings undisturbed unless there is a sign of infection or unusual pain. Daily dressing of a healing wound is not necessary; it adds only further trauma plus the possibility of introducing an infection. At the end of fourteen days or later, the original dressing is painlessly removed and the less seriously burned areas are usually healed. In areas in which deeper involvement or third degree burns have occurred there will be a dark, brownish, adherent crusted exudate. The dressings are now altered to simple pressure dressings moistened with a dilute solution of sodium hypochlorite or with saline solution and are changed daily. At each dressing the adherent crust partially separates and granulation tissue appears; then one should use fine meshed gauze and a pressure dressing to keep the granulation firm, flat and ready to receive a graft of skin. As soon as all the crust has separated and the granulations appear healthy and clean, a graft should be planted on this area. This procedure is too often delayed, and deep scarring results.

SUMMARY

The management of an open wound, whether superficial or deep, consists in the application of a simple sterile dressing immediately after injury to prevent further contamination and to control hemorrhage. From that time on all efforts should be directed toward maintaining strict asepsis and preventing secondary contamination from human sources. When seen immediately after the injury a wound can be cleansed mechanically with soap and water and converted into a clean wound. The tissues devitalized by the injury should be excised so as to leave only viable tissue. Careful hemostasis should be obtained during the operation by a blood pressure cuff and ligation with fine silk and after operation by means of a carefully applied pressure dressing.

An injury seen within six or eight hours can be closed by suture or skin grafting. All wounds may be safely left undisturbed postoperatively until healing has progressed.

Rest of the part is insured by splinting and non-interference with the dressing when there is no indication to interfere.

PURPOSEFUL SPLINTING FOLLOWING INJURIES TO THE HAND

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A couple of years ago I visited a small suburban hospital to care for a simple fracture of the leg and was taken to the splint room by the superintendent, who showed me with great pride an appalling array of splints of all kinds. I was told that the splints were bought so that if a specialist from the city should come this modest hospital could meet his requirements.

Often these complicated splints are accompanied by elaborate charts and instructions, but rarely is there any description of the principles underlying the splinting. I feel that it is not so much a question of what splint to use as it is of the principle behind the splinting.

I recall in my house officer days, thirty years ago, working under that wise surgeon Dr. C. A. Porter, who taught most of the physicians in the community the principles of surgery of the hand. After doing an elaborate and complicated operation on the tendons and nerves of the flexor surface of the wrist he said "Put on a splint." In those days putting on a splint meant cutting a board splint about 2 feet long and padding it with a fold of sheet wadding or maybe a folded pillow case. This was applied to the arm with the hand, wrist and forearm straight. The end result was a perfectly healed wound, a stiff wrist and fingers frozen in full extension—a hand with practically no useful function. Thirty years has brought about a wondrous change. The mechanics of the hand and the positions of greatest function are now known.

MINOR INJURIES

In superficial injuries such as abrasions, burns and infections, rest is the greatest therapeutic agent known. Movement of the tissues, joints and tendons has a distinct tendency to continue disease and delay healing, and so immobilization of the part, plus elevation, promotes healing. The position giving the maximum of rest has been variously called the position of neutral muscular pull and the position of physiologic rest.

In the case of infection, a large poultice applied to the hand, making a dressing several inches in diameter, gives the hand warmth and firm immobilization. Such a dressing, of course, must be changed at frequent intervals so that the condition of the tissues may be inspected and the progress of the infection studied. It may sometimes be reinforced with a metal or plaster slab to give further support and to prevent any motion at the joints.

I have often wondered whether or not the same degree of careful splinting, plus elevation and rest in bed, might not produce a comparable degree of benefit even without the poultice. Now that the value of

chemotherapy is known, acute spreading infections of the hand and wrist may well fall into another group which may or may not do away with poulticing.

FRACTURES

In the classrooms of the fracture clinic for many years physicians have heard this admonition in first aid: "Do not transport the patient until after he has been carefully splinted. Then reduce the fracture and apply a proper splint to hold the fracture in the reduced position. Keep the fracture splinted until healing has been established. Then instigate active motion."

I shall discuss briefly the splinting of some of the commonest fractures in the hand.

The Wrist.—The common fracture of the wrist is the Colles fracture. Reduction is accomplished by bringing the distal fragment into flexion-pronation, the styloid process of the ulna being used as a fulcrum. Experience has shown that after reduction has been accomplished it is best to splint for from ten days to two weeks with the hand in this position. Experience has further shown that after two weeks it is possible to restore the hand to the neutral position and a week after that to the position of dorsiflexion without danger of losing the position of the bone. In general the splints used to maintain this position in my clinic have been of plaster of paris, one part spread on the back of the wrist extending from the upper forearm to the metacarpophalangeal joints and a similar splint on the front extending from the upper forearm to the proximal palmar crease. This splint is held in position by a circular bandage. In certain rare instances it is possible to maintain reduction of a Colles fracture in the neutral position.

Fractures of the carpus after reduction have been held in position in a plaster of paris splint extending from the forearm to the metacarpophalangeal joint with the wrist in extension and the metacarpal bones of the thumb fixed in extension and with the phalanges permitted to fall into the position of flexion. This position simulates the position of grasp.

Fractures of the metacarpal bones of all the fingers may be treated in the extended position.

Fractures of the proximal and distal phalanges, however, because of the peculiar anatomic structure of the tendon and the interossei and lumbrical muscles, are best treated in flexion. This is particularly true of fractures of the proximal phalanx of the thumb, which, in addition, should be brought into adduction. Sometimes, because of overriding of the fragment, it is necessary to apply traction, either in the form of a banjo splint made with adhesive plaster applied to the distal phalanx or by drilling a needle through the bony portion of the distal phalanx and then applying a banjo splint in which countertraction is obtained from a plaster of paris cylinder about the wrist and forearm.

In all these fractures, if traction is necessary, the hand must be held in the position of grasp and the traction applied in the line of neutral muscular pull to the end that the bones may, with the aid of the fascial tube and the muscles and tendons with which they are associated, be held in position for ultimate function.

INJURIES TO TENDONS

Injuries to the tendons on both the volar and the dorsal portions of the wrist and hand are extremely common. The tendon heals quickly and willingly if the ends are approximated either by operation or by adequate splinting, but the splinting must be applied so

that it relieves all tension and holds the hand in the proper position until healing is complete.

If the long extensors of the hand or the long extensors of the thumb are severed by laceration on the dorsum of the wrist, the hand must be splinted with the wrist in complete extension and the metacarpophalangeal joint similarly in complete extension. The thumb in its entirety must be maintained in its position of extension until the tendon has had an opportunity to unite firmly. On the other hand, in lacerations to the flexor tendons the hand must be held in the flexed position with the wrist in flexion and all the joints of the fingers and thumb flexed without tension until healing is well established. For this purpose a plaster of paris or an aluminum splint may be applied to the back of the wrist extending from the forearm to the metacarpophalangeal joint. To this may be added a compression dressing at the site of the injury to relieve pain, prevent outflow of serum and promote healing.

INJURIES OF NERVES

The three nerves which supply the hand are the radial, the ulnar and the median. One or all of these may be injured and cause dysfunction of the muscles that they supply.

The radial nerve is commonly injured above the elbow when the humerus is fractured. After such an injury there is immediate paralysis and dysfunction of all the extensor muscles of the forearm, with subsequent inability to extend the wrist, to extend the fingers at the metacarpophalangeal joint or to extend the entire thumb. Such a drop of the wrist should not be permitted to continue, for it causes overstretching of the muscles and tendons, and even when the function of the nerve is restored the muscles and tendons fail to function. Therefore, with an understanding of the function of the radial nerve, a splint must be applied which will put these various muscles in the relaxed position; that is, the wrist must be extended, the metacarpophalangeal joint must be extended and the thumb must be brought into complete extension. How this is obtained is of little importance. Some prefer to put a splint on the volar surface of the hand to include the thumb. Others prefer to put a similar splint on the back of the hand but with an elastic appliance about the palm to allow exercise of the member.

The ulnar nerve is frequently injured at or about the elbow and as the result of an injury to the upper or lower part of the forearm. The ulnar nerve supplies sensation to the ulnar side of the hand, to the little finger and to one-half the ring finger. The motor portion of the nerve in the hand supplies all the intrinsic muscles of the hyperthenar eminence, all the interossei muscles and the two ulnar lumbrical muscles. Another motor branch crosses the entire palm of the hand and supplies the adductor muscle of the thumb and the short head of the flexor brevis pollicis. Therefore after an injury to the ulnar nerve the hand should be so splinted that the muscles thus supplied are put at rest. The thumb should be brought close to the index finger to relax the adductor, the metacarpophalangeal joints should be flexed at right angles to relax the interossei and lumbrical muscles and the middle finger should be semiflexed to relax the muscles of the hyperthenar eminence.

The median nerve, which is frequently cut in the middle of the forearm, at the flexor crease of the thumb gives off sensory branches which supply the thumb and the index, the middle and one-half the ring finger

and the medial half of the palm. Its motor branches, however, supply all the muscles of the thenar eminence of the thumb, one-half the flexor brevis pollicis and the two lateral lumbrical muscles—in other words, all the opponens muscles of the thumb. In order to put these muscles at rest the thumb must be brought into the palm of the hand so that it points to the ring finger. The fingers may be held in more or less complete extension. This position can be held by a simple bandage about the hand or with a leather support which will hold the thumb in the adducted position.

CONTRACTURES

After burns, infections and crushing injuries to the hand, sometimes the muscles of the hand are brought into a contracted position, so that the function of the member is lost. If these deformities are associated with the joints or with the capsule of a joint or with the tendons, it is often possible to overcome this contracture by slow, steady traction with garter elastic. If, on the other hand, the contracture is associated with scar tissue crossing a flexion crease it is almost impossible to overcome this scar contracture by traction with elastic. The pull of the elastic must be slight, the direction correct and the rate of stretch slow. A slight amount of traction applied slowly over a prolonged period will produce far better results than a greater amount of traction over a shorter period.

MATERIALS FOR SPLINTS

In the matter of splinting one must consider the materials available and their advantages and disadvantages.

The large compression bandage with a basis of 2 to 3 inches (5 to 7.5 cm.) of soft absorbent cotton bound firmly in place with a cotton elastic bandage gives excellent immobilization and a degree of compression which is useful in preventing swelling. This may be supplemented with a plaster, wood or metal splint. If adequate cotton is applied it is impossible to bind the hand so tightly that circulation is impeded.

Wooden splints are easily available, and in the hands of an ingenious and experienced surgeon and with the aid of a saw, a knife, a bit of sandpaper and adequate cotton padding the making of a useful splint is possible. However, wood has its limitations in that it is difficult to bend.

Metal (sheet aluminum, $\frac{1}{16}$ inch [0.16 cm.] thick) can easily be cut with a pair of tin shears to fit the given case. With the aid of a hammer, a small vice and perhaps a drill and a file, it can be molded and fitted to make any type of splint that is needed. Of course, it must be padded with felt. It is light and waterproof and offers easy passage to roentgen rays.

Plaster of paris is extensively used, particularly in the East. There is a new plaster on the market which dries rapidly and is easy to mold to the hand and arm.

Castex is lighter than plaster of paris, is waterproof, makes a more attractive splint than other materials and is particularly useful when a removable splint is desired.

There is also a new material, Thermex, which can be melted by heat and molded to the desired shape. It can be reheated and used repeatedly and has the advantages of being permeable by roentgen rays and of being waterproof.

With all these materials available it is possible for the surgeon to select the one best suiting his immediate need.

RESTORATION OF FUNCTION

When healing has advanced sufficiently for one to feel that no simple procedure will destroy healing, active voluntary use of the hand is the best method of restoring useful function. In the hand, as nowhere else in the body, active use is the best method of restoring muscle power and coordination of this muscle power. What a man can and will do with his crippled hand has, in my experience, never been harmful. In my clinic I have almost entirely discarded other physical therapeutic means and have found that occupation in a workshop, often with the splint still in place, hastens the restoration of useful function and obtains an optimum end result.

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INJURIES TO NERVES AND TENDONS
OF THE HAND

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The repair of injuries to the nerves and tendons of the hand, with any reasonable assurance of success, is a product of modern aseptic, atraumatic surgery. With an increasing appreciation of wound healing and the many factors which affect it has come the realization that man is dependent for repair on living, healthy cells and that no amount of technical skill or rapid operating dexterity can compensate for disregard of delicate living tissue. Important in all surgery, this realization is doubly so in repair of the nerves and tendons of the hand, for in few situations do even minor disturbances of a wound play such havoc with end results. The first prerequisite for this type of surgical intervention is an appreciation of just what is meant by primary healing, since without this and without the patience to work carefully to attain it the end results will always be disappointing.

I cannot hope at this time to discuss adequately all those things which go to make up the "atraumatic" technic. No matter how gently tissues are handled, countless thousands of cells are injured, and all such damaged tissue interferes to a greater or less extent with repair. The surgeon has no control over the tissue damage due to the injury itself, but from the time of injury on, except under the most adverse conditions, further trauma may be prevented or minimized by intelligent care. The first aid treatment should consist in the application of a dry, sterile dressing bandaged snugly over the hand to control bleeding. The bottle of antiseptic should be left entirely out of the first-aid kit, since antiseptics damage tissues and do not sterilize a wound but render it distinctly unfavorable for primary repair of nerves and tendons. A splint should be applied to keep the hand and fingers at rest, and the arm should be placed in a sling while the patient is transported to the emergency room or hospital, where examination for diagnosis of the extent and nature of the lesion should be done with a minimum of exposure and handling.

The operative repair itself is a crucial test of the surgeon's ability to handle tissues gently and to leave in

his wake a minimum of devitalization. The preparation of the operative field by careful washing with soap and water and irrigation with physiologic solution of sodium chloride can be depended on to provide a "clean" cutaneous surface and a "clean" open wound with a minimum of irritation of the tissues within which the repair of nerves and tendons may be safely accomplished. Irritative antiseptics have no more place at operation than in first aid and should be scrupulously avoided. The excision of devitalized tissues removes from the wound a most serious handicap to primary healing and should be carried out thoroughly but intelligently. In handling the tissues, forceful tugging and retraction, grasping of edges of skin and other tissues with heavy forceps and unnecessary clamping add to the burden of healing. In the ligation of vessels, care should be taken that only the bleeding point is grasped in the forceps and that the ligature does not include large amounts of surrounding tissues destined to become necrotic.

The control of bleeding during operation, and hemostasis afterward, is an important consideration. An operative field flooded with blood is conducive to wiping and sponging with rough gauze, makes identification of anatomic structures difficult—often impossible—and is so distracting to the surgeon that satisfactory repair is impossible. A bloodless field, secured by means of a blood pressure apparatus pumped up to 250 to 260 mm. of mercury after thirty seconds' elevation of the arm, is an absolute necessity. This pressure may be maintained as long as is necessary to complete the procedure and is released just once during the operation in order to aid in ligating bleeding points not visualized during dissection. The pressure is maintained until the wound has been cleansed, excision of tissue has been accomplished, divided structures have been identified and mobilized and the surgeon has determined on his course of action. The cuff is then deflated and gauze pressure maintained on the wound for a few minutes until the reactive hyperemia begins to subside. Bleeding points are then grasped and ligated, and the blood pressure cuff is again inflated after thirty seconds' elevation of the arm. The remainder of the operation is accomplished, the wound closed and the dressing applied before the sphygmomanometer is finally released. The dressing of a large mass of fluffed gauze bandaged snugly over the hand prevents oozing into the tissues in the immediate postoperative period. In this way the wound is kept free of hemorrhage during operation and hematomas are prevented from developing afterward.

Drying and heat from the lights of the operating room and from exposure to the air may be minimized by frequent irrigation with physiologic solution of sodium chloride. During the care of the immediate injury, copious irrigation is done throughout the whole procedure; in the secondary operation, irrigation need not be so profuse but should be sufficient to keep the wound moist and to wash out debris. For the same reasons, gauze sponges used during the operation should be moistened with saline solution.

The instruments and suture material for the repair of nerves and tendons are relatively simple and include no complicated, specialized "gadgets." The tissue forceps, hemostats, scissors, retractors and needles ordinarily supplied in an operating room are usually much too coarse for this type of work. Fine hemostats, tissue forceps with fine grasping ends and retractors

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with small blades are necessary. The needles, both curved and straight, should not be heavier than a fine cambric needle, while for closure of skin one should use the finest curved cutting needle that will go through the skin without breaking. Sutures are important and must be considered from the standpoint of both size and composition. In the search for the finest and the least irritative suture material silk, cotton and steel have proved the best. My preference is for untreated silk in the fine sizes. In the present state of confusion regarding sizes of silk, one cannot define it in precise terms. It is hoped that a system of grading silk in terms of diameter and tensile strength will eventually be evolved. The heaviest silk necessary for the suture of tendons need not have a tensile strength greater than $4\frac{1}{2}$ to 5 pounds (2 to 2.3 Kg.), and it is not unlikely that this is too heavy. For the repair of nerves a 6-0 or even an 8-0 nerve or eye silk (tensile strength $\frac{1}{2}$ pound [0.2 Kg.] or less), swaged on $\frac{1}{2}$ or $\frac{3}{4}$ inch (1.2 to 2 cm.) straight or curved needles, is excellent. For ordinary ligature and for subcutaneous closure, a silk with a tensile strength of $1\frac{1}{2}$ to 2 pounds (0.7 to 1 Kg.) is ample. Closure of the skin may be done with fine cutting needles and fine horsehair, the advantages of which have been learned from the plastic surgeon.

The operative technic so far touched on has had to do primarily with minimization of trauma to the operative or accidental wound and with removal or avoidance of mechanical or chemical irritants and excision of devitalized tissues. These have been stressed to emphasize the importance of healthy tissues in repair. Bacterial contaminants, however, are also important, and, while healthy tissues are the greatest protection against bacterial invasion, they cannot cope with excessive numbers of organisms and have little or no power to resist immediate invasion by certain types of virulent, human-acclimatized germs. Bacterial contaminants introduced at the time of injury, except in some few specific types of wounds, are seldom immediately invasive. These may be removed from the wound in sufficient numbers by cleansing, irrigation and excision, so that healthy tissues may deal with those which are left. Other organisms, and particularly hemolytic streptococci of group A, which are rarely introduced by the traumatizing agent, gain entrance into wounds as secondary invaders from the upper part of the respiratory tract and from the fingers of the patient or of one of his many attendants. The prevention of secondary invasion by these bacteria, the causative organisms of most if not all postoperative infections, is therefore of great importance. Careful protection of the wound from contamination by droplets from the nose and throat and from ungloved fingers and contaminated instruments and dressings must receive attention from the time of injury until definitive closure of the wound. It must not be forgotten, furthermore, that such contamination may be introduced during postoperative dressings as well.

One could amplify all these points of operative technic and add to them in great detail. The manner of putting on the postoperative dressing, the importance of splinting and how it should be accomplished and numerous other "wrinkles" are important; many of them are touched on by other contributors to this symposium. I have gone into the operative technic and have stressed certain details because it has seemed to me that without an appreciation of them it is useless to discuss the repair of nerves and tendons.

The manner in which nerves and tendons heal gives information as to the proper technic for repair. Peripheral nerves regenerate by a prolific downgrowth of fine axonic fibers from the central into the distal stump. These fibers are easily interfered with, and scar tissue or clots between the ends will entirely prevent recovery. Suture of nerves, therefore, should secure accurate end to end apposition of normal cross sections of nerve trunks. In the case of an immediate suture, the crushed and disrupted nerve ends should be sectioned back with a sharp blade to normal tissue. As a rule, however, in the immediate injury little and often no excision is needed. In secondary repair, however, both stumps will be found to be capped with fibrous scar tissue, and the bulbous neuroma of the central end is a tangled mass of nerve fibrils and connective tissue. By careful cross sectioning of the nerve ends the surgeon reaches a place where normal nerve bundles appear.

Sutures employed for apposition should consist of fine silk and should be introduced through the nerve sheath only and in a sufficient number to obtain complete apposition. Penetration of the nerve by sutures leads to disruption of the fibers, causes scarring within the nerve and is one of the commonest causes for failure of regeneration after suture. The fibers within the nerve are arranged in bundles, the distribution of which changes from level to level. When a segment has been removed from a nerve the bundle pattern in one stump will not necessarily correspond with that of the other. It is important, however, not to rotate stumps when suturing them. To maintain correct orientation the surgeon can place a fine suture through the nerve sheath on corresponding surfaces of the two stumps before normal relationships above and below the site of injury have been disturbed.

The repair of tendons likewise depends on accurate approximation of healthy tendon ends. Because of the relatively poor blood supply of tendons they are dependent during the early stages of healing on surrounding sheath tissues and other soft tissues in the neighborhood. During the first ten to fourteen days after suture the stumps of opposed tendons are fused to each other by a fibroblastic cuff of tissue which has formed as the result of proliferation of the connective tissues in and about the tendon. During this time proliferation is going on in the tendon as well, but it is not until the end of the second week that the ends of the tendon become united by tendon fibers. From then on the initial fibroblastic cuff becomes thinner and less dense and the central core stronger. Under favorable circumstances the cuff disappears to a large extent, its place being taken by sheets of areolar tissue which serve as a gliding mechanism. The nature of the tissues which surround the site of suture of a tendon is important since, if the early attachments have been made to dense fibrous tissue or bone, firm adhesions result. It is this factor which makes it so difficult to obtain successful repair of tendons in the fingers and which is the reason for excising a window in the fibrous sheath over the site of suture. It is for this reason also that pedunculated flaps must often be used to replace scarred skin and subcutaneous tissues at the site of the proposed restoration of a tendon. At other times it is advisable to place small grafts of fat about the site of suture. Whether they persist as fat or not is of no significance as long as they preserve a gliding mechanism.

The method of suture of a tendon should be such that the ends of the tendon are accurately apposed and that no foreign material such as a knot is allowed to come between them. The ends of the tendon on which depends the ultimate union should not be burdened with a suture or disrupted by forceps and needles. A method which has been tested out first experimentally and has now been used clinically for several years consists of a set of tension sutures which take up the pull of the tendon, supplemented by approximation sutures which pass through the sheath at the site of apposition. The tension sutures, of silk with a $4\frac{1}{2}$ pound tensile strength, are introduced into each stump at about 1 to 1.5 cm. from the divided end. The suture first catches a small bundle of fibers about 1 mm. in diameter at the periphery of the tendon. The suture is knotted securely about this small bundle of fibers and is then passed straight through the tendon to come out on the opposite side. A second suture is then taken and inserted in a similar manner on the opposite side of the tendon. It picks up a small peripheral bundle of fibers just beneath the point of emergence of the first suture; a knot is tied, and the suture is then passed straight through the tendon to the opposite side to come out above the knot of the companion stitch. It is important, when the suture emerges from the tendon, that it lie in the grasp of those tendon fibers which have been caught in the knot of the opposite suture. The knot acts as a pulley over which the suture runs and which changes the longitudinal direction of pull to a transverse one at the site of attachment. Unless the suture is held over the knot by tendon fibers, it slips to one side or the other and the whole rationale of the suture is lost. A few fine 6-0 or 8-0 silk sutures through the sheath only, at the site of apposition of the stumps, keep the stumps in alignment but add little to the holding power.

Primary repair of divided nerves and tendons offers so much better prognosis than secondary repair that it should be done if at all feasible. It should not be attempted if there is any doubt that primary healing will not occur, since secondary repair after the failure of primary suture, particularly if infection has intervened, is much more difficult and much less likely to succeed. When one is in doubt, therefore, it is preferable to close the wound and plan on a secondary repair after healing has occurred. The surgeon who undertakes primary repair assumes a definite responsibility, and it is advantageous to have certain criteria by which he may decide whether or not primary repair is indicated.

Judgment as to whether or not primary suture is indicated is made from a consideration of a number of factors. The time that has elapsed since the injury should be carefully ascertained. If certain time limits have been exceeded, primary repair is a hazardous procedure. The limits vary somewhat, depending on the tendons injured. In the case of the extensor tendons over that part of their course in which they are surrounded by paratenon, a limit of four hours from injury to operating table seems safe. In the case of sheath-enclosed tendons, three hours is a safer limit, while for the flexor tendons on the fingers a limit of two hours should not be overstepped. If these limits have been exceeded it is wiser to cleanse and close the wound and plan to perform secondary repair after healing has taken place. Suture of nerves, on the other hand, may usually be accomplished within the limits during which primary closure is permissible, since

approximation of the ends of nerves does not demand the extensive exposure which is necessary in the case of tendons.

Repair of nerves and tendons should not be attempted in wounds that are contaminated with human-acclimatized organisms, i. e., particularly the streptococcus group A from human sources. There is no rapid, immediate method for determining the presence of these organisms within a wound; one can only surmise whether or not they may have been introduced from a carefully taken history of the wound from the time of its inception to the time it is seen. If the wound was immediately covered with a sterile dressing and this dressing has not been removed, the chances of the wound's containing human-acclimatized organisms is slight. Few wounds except injury from a human bite and wounds from contaminated operating or autopsy instruments contain such organisms. However, they may be introduced secondarily by droplet contamination from the patient, of course, but, what is of much more importance, from any one or several of the numerous persons who have seen, examined and treated the injury. These organisms may also be carried on soiled dressings, instruments, ligatures and fingers as well as coughed or breathed into the wound by unmasked first-aid men, interns, nurses and physicians. If such sources of contamination appear probable, the repair of nerves and tendons is seriously jeopardized. If an operative procedure has been attempted elsewhere, for example in the emergency room, it is unwise to repair the nerves and tendons because of the added traumatization and the dangers of virulent contamination. If vessels have been clamped and ligated under conditions of questionable asepsis or if an antiseptic has been poured into the wound, repair of tendons is certainly inadvisable.

The condition of the covering tissues and bones should be taken into consideration. With loss of cutaneous coverage sufficient to require grafts of skin over areas of damage to tendons and with open fractures at the site of injury to tendons, repair seems best deferred until the other injuries have healed.

Finally, the surgeon should be adequately prepared with the proper instruments, sutures, assistants and anesthetist to carry out the operation. Repair of nerves and tendons on the hand cannot be done except under the best of conditions. It should not be attempted in the emergency room or in the office.

The diagnosis of injuries to tendons and nerves is well discussed by Dr. Winfield. Needless to say, the surgeon should determine as accurately as possible the extent of the damage before starting the operation. The difficulties which may be encountered in locating retracted stumps of tendons or in finding divided nerves emphasize the value of knowing beforehand what to look for. In making the diagnosis an intimate knowledge of the anatomy is essential, and in locating nerves and tendons in the operative field it is absolutely indispensable. This cannot be gained on the spur of the moment or from textbooks propped up on a chair in front of the operator.

The original wound seldom permits adequate exposure and exploration, particularly for the retracted ends of tendons, and it is usually necessary to enlarge it. To do so by making an incision at right angles to the laceration produces a cruciate wound with four flaps which come together in a point at the center, where they are sure to become necrotic, with subsequent

development of infection. This type of enlarging incision too often lies in the midline of the forearm, wrist or finger and produces a scar which overlies the site of repair and subsequently contracts and produces deformity. If the original wound does not afford adequate exposure, it may be enlarged by curving incisions from one or both ends which are removed from the site of injury and produce flaps of subcutaneous fat and skin. To describe all possibilities of gaining adequate exposure would be impracticable since no two wounds are exactly similar. However, one may be guided by certain principles. It is desired to secure flaps to overlie the site of repair, and these flaps should include the subcutaneous tissue down to and including the deep fascia. Incisions in the midline should be avoided, as should also incisions which cross flexion creases. As nearly as possible, longitudinal incisions should be made on the lateral or medial side of the fingers and forearm. Incisions on the volar surface of the fingers, wrist and forearm should run transversely or obliquely and may be combined with longitudinal incisions along the side, to obtain adequate exposure. If it becomes necessary to cross the flexion crease at the wrist or on a finger, a bayonet type of incision is advantageous, the transverse line of the incision paralleling one of the flexion creases.

The search for and the identification of nerves and tendons should proceed in an orderly fashion. It is best to isolate the nerves first, since they are more subject to injury than the tendons. As soon as they have been located they may be identified by a small silk suture and covered with a sponge made moist with saline solution. Tendons are next sought for, and as each end is found it is identified by a suture. The proximal tendon stumps may have retracted some distance proximally, and many ingenious methods have been proposed to locate them. If adequate exposure is secured the nerves and tendons are usually not difficult to find. They are also subject to less trauma during repair if the operative field is sufficiently large than if one attempts to work in cramped quarters.

Secondary repair of nerves and tendons offers excellent prognosis, provided that the original wound healed without reaction. If a reaction has occurred, however, the prognosis is not nearly so good, and the operation is often more difficult. The opportune time to attempt secondary repair and the type of procedure indicated will depend on the manner of healing of the wound, the condition of the skin and other covering tissues, the degree of mobility of the joints and the tendons which are involved.

The manner in which the original wound healed gives a clue as to the possibility of lighting up an old infectious process. If the original wound healed by primary intention with no granulating spots between sutures it may be reopened in from three to six weeks, other conditions permitting. If a mild reaction occurred, a superficial staphylococcal infection without cellulitis and fever, it is usually safe to reopen the wound in from six to eight months after healing has occurred. If, however, there was a severe infection, a streptococcal cellulitis or lymphangitis, with fever and other manifestations of general toxemia, the interval should be lengthened to twelve or eighteen months after complete subsidence of the process.

The condition of the soft tissues about the site of injury may preclude early operation even if other conditions might permit. If the tissues are hard and indurated it may signify residues of an infection or

absorption of infiltrated blood. Whatever it may mean, it is almost hopeless to attempt to dissect nerves and tendons out of such tissue. At best secondary dissections are not easy, but if the surgeon is further handicapped by indurated, unyielding tissues in which all structures are matted together identification and repair may be impossible.

The joints moved by the involved tendons should be mobile before repair is done. If they cannot be flexed passively by external force it is useless to hope that the newly sutured tendon can do so. Effort should be expended to prevent ankylosis from occurring. If it is present, physical therapy and tension splinting should be instituted to relieve it. At times, operative intervention on the joints is indicated. Division of the collateral ligaments of the metacarpophalangeal joints has proved itself a most valuable procedure. Similar division of ligaments at the interphalangeal joints has not been so successful but is worthy of trial. Transplantation of fat into the joint spaces and other procedures come into consideration in case bony ankylosis is present.

It may be necessary to excise dense cutaneous and subcutaneous scars and replace them with pedunculated flaps of skin before attempting repair of nerves and tendons. A good bed and viable flaps of skin are necessary if one hopes to obtain reactionless healing and subsequent function.

I can cover only in a general way the technic of secondary repair. The incision for approach to the site of injury follows the same principles as do incisions for enlarging primary wounds. It is essential that the search for the ends of nerves and tendons be started in normal tissue above and below the actual site of injury. It is virtually impossible to identify these structures by dissecting in the scar, and only by following them from normal areas into the area of scar can one avoid injury. This dissection requires a bloodless field, as does the primary procedure, which may be secured by means of a blood pressure apparatus. After the various structures have been identified the surgeon decides what he will do to repair the injury and releases the blood pressure cuff for a few minutes. Bleeding points are taken care of and the cuff is reinflated and the operation completed.

The mobilization of nerves and tendons may necessitate extensive dissection. When the tendons have been divided at the wrist the distal segments tend to become adherent along their whole course down into the fingers. After they have been exposed at the wrist and followed into the palm their proximal ends may be grasped with moist sponges, and by gentle traction it is often possible to release them. If this fails, the finger will require to be incised along its lateral surface and the tendon released by sharp dissection. Although instruments resembling cork borers have been devised to secure this mobilization, I have never been very successful in their use.

Sufficient mobilization of the nerves to permit end to end suture may present difficulties, particularly if a previous operative attempt has been made and large bulbous neuromas are present. It is well not to excise the scars on the ends of nerves until it has been decided that suture can be accomplished. Flexion of the wrist and fingers will often produce sufficient relaxation to allow suture. The ulnar nerve may often be transposed anterior to the medial epicondyle and sufficient length obtained to permit suture. If after careful mobilization sufficient length still cannot be obtained, the surgeon

has two recourses: He can suture the neuromas together with the joints flexed and close the wound; then, by gradually straightening the joints over a period of several weeks, he may obtain enough elongation to permit end to end suture as a second stage procedure. The other solution would be a neural graft, which is still not on a sufficiently secure basis to justify whole-hearted recommendation of it. Encouraging reports, however, would seem to indicate that in time surgeons will learn how to use nerve grafts. Theoretically at least, they should be as successful as tendon grafts. I have used them in but 2 instances, and the results have not been overly encouraging. Suture of neuromas and gradual stretching, however, I have performed many times and can recommend.

Whether repair of tendons may be accomplished by suture or by tendon graft will depend on two factors. One of these is the condition of the tendon as to length and structure; the other is the condition of the surrounding tissues. Obviously, it is necessary to resort to tendon graft if end to end apposition cannot be secured after satisfactory mobilization and relaxation. If apposition can be secured only with great effort, with complete flexion of all joints and only after exerting considerable pull on the muscle, then end to end suture would result in too short a tendon. It is difficult to know under just how much tension a tendon should be sutured and, if suture cannot be done, just how long a graft to insert and under how much tension it should be sutured. I usually like to have the sutured or grafted tendon hold the involved joints in about the midposition. If the tendon to be repaired has been badly damaged and reduced to thin, irregular scar without surface gliding tissue it is usually advisable to sacrifice it and insert a graft. If the tendon has become fused with the surrounding tissues so that after mobilizing it one is left with a scarred, bleeding tendon surface, adhesions are sure to reform and compromise the end result. In such a case it is preferable to excise the tendon entirely, along with the surrounding scar tissue, and insert a tendon graft.

This is the situation which usually faces one in the secondary repair of flexor tendons in the fingers, which, as a rule, require a tendon graft. The removal of the scarred fibrous sheath in the finger leaves one without vaginal ligaments, so that a bow-string deformity is certain to occur unless the ligaments are replaced with strips of tendon or fascia.

In the case of the thumb, secondary repair of the flexor pollicis longus often requires a graft because of the great amount of retraction of the proximal stump in its long sheath.

Under certain circumstances tendon transference may be used to avoid the necessity for a tendon graft. Thus at times one may use the flexor sublimis tendon of an adjoining finger to suture to the distal stump of a divided profundus tendon. On the dorsum of the wrist the surgeon may suture the proximal end of the extensor carpi radialis brevis to the distal stump of the extensor pollicis longus.

The importance of adequate postoperative splinting for injuries of nerves and tendons, as well as for other conditions of the hand, will be discussed elsewhere in this symposium. I wish to say a few words, however, relative to how and when motion may be started safely after the repair of a tendon. I have tried to stress the significance of primary healing in the surgery of tendons, and it is from this standpoint that I have attacked

the problem of splinting. Experiments have shown that the healing of tendons proceeds at the same rate as other tissue repair for the first fourteen to sixteen days. During this time healing is fibroblastic, and while the resultant union at the end of this time will withstand gentle traction it is not sufficiently strong to resist the pull of muscles. If the healing tendon during this stage is subjected to uncontrolled, active use, a drastic reaction occurs; the ends separate within the cuff, and a thick bulbous mass or callus develops at the site of suture. Sudden, unguarded use may even lead to complete rupture.

Even after three weeks of complete immobility in a cast active, unrestricted use causes a noticeable bulbous reaction, and on cutting through the bulb one may see that the ends of the tendon, instead of being in complete apposition, have separated and that the interval between them is filled with fibrous tissue stained with the residue of recent hemorrhage. Tests of the tensile strength of healing tendons show that motion of any sort before the fourteenth to sixteenth day leads to no acceleration of the curve of tensile strength over that of the completely immobilized tendon. If after this time the healing tendon is subjected to use, the curve of tensile strength tends to increase more rapidly than in the completely immobilized tendon. I have shown, however, that if this use is too active a reaction and separation occur and that these may result in adhesions and functional disturbances. It seems probable that some use is beneficial, and experimental work with restricted use has shown that motion may be started in a splint at the end of the second week with safety and benefit. This restricted use may be kept up for two weeks, after which it seems safe to allow free, active motion. It does not seem safe, however, to subject the healed tendon to strenuous activity until about six weeks after operation.

SUMMARY

Surgery of the nerves and tendons of the hand is a critical test of a surgeon's ability to operate carefully and to obtain primary healing. Success depends on careful attention to many technical details, an exact preoperative diagnosis and an intimate anatomic knowledge of the hand. Primary repair of nerves and tendons may be successfully carried out if the wound is seen early enough, if rapidly invasive organisms have not been introduced, if associated injuries permit and if proper facilities are available. If satisfactory conditions do not obtain, primary repair should not be attempted; the wound should be closed and secondary repair performed later in a clean field under more favorable circumstances.

54 East Erie Street.

Exercise for the Reduction of Weight.—Exercise is a valuable aid in the treatment of obesity, provided it is used with discretion and in conjunction with dietary measures. Discretion is necessary because excessive fat throws a heavy load on the heart and circulatory system, and it may be dangerous to increase this still more by strenuous exercise. Another disadvantage of exercise is that it increases the appetite and so makes food restriction more difficult. Moderate general exercise, such as walking, and calisthenics which exercise the muscles of the abdomen and back are useful to give a feeling of well-being and to increase the tone of the tissues. It is unwise, however, for the person over 40 to carry these exercises to the point of exhaustion or shortness of breath.—Dichl, Harold S. *Healthful Living*, New York, McGraw-Hill Book Company Inc., 1941.

EMPLOYMENT OF THE PHYSICALLY
HANDICAPPEDD. L. LYNCH, M.D.
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The subject of this paper is one that arouses two emotions—one of sympathy, the other of fear—each tempered by the environment in which we find ourselves. When you come on a one-legged young man, sitting sad faced at a busy street corner with cap in hand awaiting your tribute to his incapacity, you pity him. You feel that there should be some way that he could be made self supporting. Your business takes you into the transportation office of a large machinery manufacturing concern where you carry on with a pleasant middle-aged man who uses an artificial larynx to talk with you, and excuses himself while he answers a telephone call. You admire him.

Some, at least, of the personnel engaged in vocational rehabilitation and in other social work will say that industry has not given the handicapped a fair break toward employment. On the other hand, when an employer or his representative, attempting to secure an adjustment in a case of prolonged or permanent incapacity thought to be dependent on a preexisting disability, is told by the arbitrator "When your company employed this man, you either knew of his defect or, if you didn't know it, it was your business to have discovered it," he cannot be otherwise than fearful of the consequences of employing handicapped persons. He is likely to run to cover and refuse to accept them in order that the owners of the business may not be subjected to avoidable risks.

These expressions of differing opinions stimulated interest and caused me to investigate the extent and the seriousness of the problem presented by physically handicapped persons.

In order to approach the problem intelligently, it seems necessary first to define and classify as clearly as possible the handicapped to whom I refer and then to determine the extent of the problem they present.

DEFINITION

There is no common understanding, I find, especially among physicians in industry, of what is meant by a handicapped person. One will reply that every one past 40 years of age has some type of physical handicap, while another will reply that every one to whom an occupational restriction is applied is a handicapped person.

It is my intent in this paper to follow the popular concept of handicapped persons and to discuss the employment of those persons who, on medical or other inspection, present a major physical disability which is permanent. The majority of these are orthopedic disabilities, congenital or the result of disease or accident. The remainder would include those having impairment of sight or hearing, and reference is made to cardiac and pulmonary conditions.

CLASSIFICATION

Many and varied classifications of physically handicapped persons have been suggested. But for the purpose of discussing their employability I like best

the following groupings, according to vocational adjustment proposed by Dr. H. H. Kessler:¹

There is, first, the fully productive class, that group of handicapped persons who, if adequately treated and trained—and frequently without these aids—will be fit for employment under normal industrial conditions.

There is the second group of handicapped persons—the partially productive—who, in most instances, will never be fit for employment under normal industrial conditions but who would be fit for work under conditions in which their disability is allowed for. I have taken the liberty of inserting the phrase "in most instances," into this description because I am mindful of a foundry man who had been awarded compensation for permanent disability because of a rigidly flexed elbow and reappeared five years later with a perfectly functioning elbow joint, achieved through his own work effort.

A third group consists of persons who are bedridden or otherwise confined to their homes with little hope of rehabilitation. To this group should be added those so circumstanced financially or socially that they do not seek employment.

It is in the first two of these groups that I am interested.

THE EXTENT OF THE PROBLEM

One cannot satisfactorily appraise a problem without a knowledge of the matter to be covered. There is no other field of work, probably, in which it is as difficult to ascertain the extent of the problem as in this one. In fact it can be authoritatively stated² that no reliable census or completely satisfactory estimate of the number of persons in the country who at any one time are handicapped by permanent physical impairments or chronic disease has ever been made.

The first obstacle to a reliable census lies in the fact that there is no generally accepted nomenclature of defects. One term has a multitude of meanings; one defect may have a multitude of names.³ Hence, in census taking involving medical diagnosis, varying interpretations of medical terminology have resulted in varying reports and unstable conclusions. The answer lies in the adoption and use of some standard set of diagnoses.

The second difficulty in ascertaining the number of the handicapped, reflects that misguided philosophy, persistent in all ages, that the presence of a congenital or adventitious deformity or disability is a thing to be denied or screened from public view. Thus it is that the parents of the handicapped young, who might otherwise be rehabilitated, frequently fail to disclose their existence, while the adolescent and the adult fail to take advantage of the opportunities for vocational adjustment that are available. There is even cause for surprise in the number of physicians, teachers and others meeting the handicapped who are unaware of the excellent facilities for rehabilitation that are available. I have been informed of a school teacher who was totally ignorant of the existence and purpose of the state department of vocational rehabilitation, located in the building just across the street from that in which she was employed. The answer to these difficulties lies in wider publicity by the federal and state vocational bureaus of their services and their excellent accomplishments.

1. Kessler, H. H.: *The Crippled and the Disabled*, New York, Columbia University Press, 1935.

2. Thomas, of the Federal Vocational Bureau: *Personal communication to the author.*

3. Frampton and Rowell: *Education of the Handicapped*, vol. 2.

A third obstacle in securing an accurate census arises from the fact that many persons are unaware of their impairment because it does not seriously affect their functional capacity, such defects, for examples, as unilateral blindness, slight to moderate deafness, and hernia.

The fourth barrier, imaginary or otherwise, lies in the handicapped person's fear of the unfavorable consequence which may befall him, socially or vocationally, on its discovery. It is the bugaboo of periodic health examinations in industry.

However, over a long period of years, surveys of the physically handicapped have been made in a number of states and by various commissions and private agencies, and the recent survey by the National Health Institute justified the following conclusions nine or ten months ago when the study was started:

1. In the total population of 130,000,000 there are approximately 4,000,000 permanently physically handicapped persons, 70 per cent of whom are males, 30 per cent females. This estimate was confirmed by a house to house canvass of 153,106 persons and disclosed 3.1 per cent of the total population with physical defects sufficiently serious as to interfere with ordinary activities.

2. Of this number, approximately 1,800,000 are unemployable by reason of age; they are either too young or too old.

3. The remaining approximately 2,200,000 physically handicapped persons are in the age of employability from 17 to 64. They represent about 1.6 per cent of the total population.

At first sight this estimate may appear too small, as it did when it was prepared. It is interesting, however, to note that information from one department of the federal government cautiously suggested the figure of 2,000,000 handicapped persons, while from an analysis of a survey by a second department, an estimate of 1,900,000 seems to be proper. At any rate, they are quite alike, and the higher estimate has been increased to 2,200,000 to adjust it better to the working age group. No breakdown of the total group by specific types of disability has been found available.

4. To divide this group further into those who are totally incapacitated for any ordinary activity, those who are unemployed, those who are employed and those who are not seeking employment by reason of a favorable economic situation is most difficult.

An estimate very cautiously prepared last winter indicated that there were 300,000 handicapped employables seeking employment, leaving a balance of about 1,900,000 who are employed, employable or do not seek employment. Concerning this balance of 1,900,000 handicapped persons, data available from the larger insurance companies, our state unemployment commission, our state and the federal vocational bureaus, Department of Labor Statistics Census reports, state surveys and the National Health Survey have been studied; there is a disappointing lack of information about them and searching for it is discouraging. But since 70 per cent of injured industrial workers do not lose their skill, it is reasonable to assume that a large proportion of them are at work. After all, it appears that our problem concerns only 2.9 per cent of all persons in the working age group. By comparison, then, with the whole problem of employment, that of the handicapped is not a major one. But it is all that and much more to the person unfortunate enough to

become the victim of a permanently disabling accident or disease, or otherwise to acquire a physical defect which inhibits his ability to be self supporting.

THE ANNUAL INCREMENT OF HANDICAPPED PERSONS

1. The Bureau of Vocational Rehabilitation of the United States Department of Education reports that each year in the nation 800,000 persons become permanently disabled through congenital defect, accidental injury or disease. At first sight that appears to be a somewhat staggering figure, but when it is recognized that approximately 35,000 persons are killed each year in automobile accidents alone and that there is a total of 120,000 accidental deaths from all causes, it is less difficult to realize that by all manner of accidents, by disease and by congenital defect, the ratio of 7 permanently disabled persons to each one killed does not appear so unreasonable. The National Safety Council reports that 170,000 permanent disabilities resulted from about 5,000,000 home accidents and that there were 98,000 occupational permanent disabilities in 1938 among 3,700,000 industrial workers.

2. Of this yearly total of 800,000 persons becoming permanently handicapped each year:

- (a) Approximately 600,000 are so slightly or so moderately impaired that their functional activity is not affected, or is reduced so little that they are able to return to or to enter employment.

- (b) Approximately 50,000 are so totally disabled that they remain permanently unemployable.

- (c) Approximately 40,000 are either under or over the age of employability.

- (d) Of the remaining 110,000, about one fifth, or 20,000 are cared for under Vocational Rehabilitation Programs, and a fraction do not seek employment by reason of circumstance.

- (e) The remainder, approximately 75,000, represents the annual increment of handicapped employable persons who need some form of rehabilitation or vocational adjustment in order that they may become employable.

CAUSES OF PHYSICAL IMPAIRMENTS

1. A survey of 312,000 persons, made by the National Institute of Health, disclosed the following causative distribution of permanent physical impairments, indicating the damaging effect of accidents: by accidental injury 61 per cent, resulting from disease 33 per cent, due to congenital defects 6 per cent.

2. An analysis by the National Safety Council of 400,000 permanent, nonfatal disabilities due to accidents revealed the following causations: home accidents 41.4 per cent, motor accidents 25.6 per cent, occupational accidents 17.1 per cent, public place accidents 15.9 per cent.

3. While the first survey indicates that the majority of permanent physical impairments are due to accidents, the second survey emphasizes the fact that the majority of these accidents are either home or automobile accidents and that a man at work is relatively safe from injury. But these surveys, nevertheless, indicate that safety movements in industry and on the highways, effective as they have been, must be sustained and emphasized if the annual increment of handicapped persons is to be controlled or reduced. Very recent reports indicate a definite increase in highway and occupational accidents, especially the latter.

EMPLOYMENT POSSIBILITIES FOR HANDICAPPED

Since I began this study some months ago detailed investigation has not produced worth while statistics on the number of handicapped persons employed in

industry at any one time. Surveys show wide variations due to employment policies, the nature of the industry or the type of occupation, labor demand and supply, and the cooperation of employer and employee in disclosing physical handicaps. Many employers who do a particularly fine job in providing work for the physically handicapped are reluctant to expose it to public view. Others state frankly that they don't know who among their employees is handicapped.

What seems to be one of the best of such surveys⁴ reveals that 2.3 per cent of nearly 170,000 employed persons in industry were handicapped, while 7.9 per cent of employees in the public service were handicapped. Adding the two groups, these surveys indicate that 2.6 per cent of nearly 200,000 employed persons were handicapped persons. That is an interesting finding when compared with the estimate of 1.6 per cent employable handicapped in the total working age group.

It is reported by one of the large motor industries that of approximately 125,000 employees more than 10,000, or 8 per cent, are blind, crippled or otherwise incapacitated for normal productive work. Granted that they do not produce profitably, it is evidence of a true regard for the problems of the handicapped. My information suggests that the motor industry, as a whole, is very liberal toward the employment of the physically handicapped worker.

In another manufacturing industry employing approximately 10,000 persons, 12.8 per cent were restricted in their work by reason of some physical condition. The bulk of them were on limited duty because of disabilities of the back, hernias or following abdominal surgery. Ten per cent of them were restricted because of pulmonary conditions, a large number had evident visual disturbances, of whom 2 were blind, 32 had suffered amputations, mostly fingers, 14 had appreciable hearing defects and others had miscellaneous disabilities.

A study of 1,128 employees in another industry revealed 7.9 per cent to have unrepaired hernias, 7.9 per cent to have cardiovascular disease, 4.95 per cent to have impaired pulmonary conditions; there were 33 finger deformities, 32 finger amputations, 14 leg deformities with 2 amputations, 1 foot amputation; 1 person was deaf and dumb and 17 had defective hearing.

A review of the tuberculosis problem in a business employing an average of 20,000 persons, about one half of whom are women, revealed that of 173 persons in whom tuberculosis developed in the last decade 97, or 53 per cent, have so far recovered and have returned to work.

A survey in Massachusetts revealed physically handicapped employees in 113 different industries in 149 different occupations. A survey in California disclosed handicapped employees in 290 different occupations. A national survey revealed 6,097 disabled persons in 628 different job classifications.

It is not of much assistance in the solution of a particular problem to prepare a list of jobs at which the physically handicapped are engaged, because variable circumstances control the proper placement of each person. Such a list, however, would indicate clearly that the possibilities of placement are much more diversified than have frequently been considered possible. A job analysis in any industry will disclose opportunities in which physically handicapped persons can be placed

without introducing any hazard to themselves, to others or to property.

The most helpful survey of this kind available was issued in 1935 by the Department of Education of California. It was designed to show whether the job could be performed or not by a person with a given handicap, or whether he might perform it conditionally, i. e. if certain adjustments were made in the method of operation or with the aid of some artificial appliance. Twenty-eight classifications of disabilities were selected and 14,460 different jobs analyzed, a total of 404,880 theoretical possibilities in office positions, commercial positions, factory jobs, mechanical jobs and miscellaneous occupations in about equal proportions.

The number of theoretical jobs which might be filled by suitably trained workers was found to be 124,569, or 30.6 per cent, indicating the wide range of job possibilities for physically handicapped persons, actually about three out of every ten jobs.

A further analysis of the 404,880 theoretical employment possibilities indicates that 37 per cent of the handicapped can be assigned to office work, 34 per cent to commercial work, 25 per cent to factory work, 22 per cent to mechanical work and 28 per cent to miscellaneous jobs.

Dr. W. D. Stroud reports a survey of 40,000 workers directly observed in the performance of one thousand operations in twenty-five industries. It was concluded that, in normal times, of the 200,000 odd jobs in manual work in Philadelphia industries, 25 per cent, or 50,000 jobs, could be performed by persons having heart disease without compromising either the job or the worker.

In a previous paper I mentioned the fact that the condition of the labor market was an important factor in the employability of the handicapped. When unemployment is widespread and acute among normal workers, it cannot be less so among the marginal group. It is apparent to all that the national defense program has stimulated industry and increased the requirement for workers. Probably for that reason the Bureau of Vocational Rehabilitation of the United States is able to report that in the Northeastern area of the nation 3,067 physically handicapped persons have been placed in employment. Among these handicapped, 598 had undergone amputations, 1,603 had defects of the extremities, 27 were blind, 62 were deaf, 114 were deaf and dumb, 63 had cardiac disease and 182 had tuberculous impairment.

Enlightening, also, in this connection is the following paragraph, which I quote from a personal communication from a member of the federal bureau:

"The demand for skilled workers has almost completely absorbed our surplus of disabled trainees who had not previously been placed. Furthermore, our supply of handicapped disabled persons whose only need for service was a job—because they already had their skill—have practically all been placed. Fortunately at the beginning of the war in Europe we had anticipated that this country would need skilled workers and had deliberately trained as many as our funds would permit in specialized jobs, and had accumulated a large supply of those who needed placement only. The number rehabilitated this fiscal year will be much larger than any previous year."

That physically handicapped workers are generally a careful, industrious and loyal group is indicated by the following survey made in a large manufacturing plant, some 685 handicapped employees being compared with the same number of normal employees:

Seven and nine tenths per cent more normal workers resigned than handicapped workers.

Seven per cent more absences among normal workers.

Five and six tenths per cent fewer accidents among the handicapped workers.

Seven and four tenths per cent more discharges for cause among normal workers.

Four and six tenths per cent increased earnings for the handicapped as compared with 4 per cent for the normal workers.

From these analyses, the suitably trained handicapped person may well take courage in his search for employment when employment is available to any one, when employment managers appraise functional capacity rather than the handicap itself and when employers are not likely to be doubly penalized in the event of a second injury.

Much depends on proper placement and much depends on the morale of the person.

Physically handicapped persons differ from one another as do normal persons in mental and temperamental characteristics. Frequently the deciding factor is the spirit of the person to succeed in a job in spite of his physical handicap. One man who submitted to a laryngectomy because of cancer returned to his regular occupation and has carried on successfully for eight years with the aid of an artificial larynx. A second man, under almost exactly similar circumstances, committed suicide.

A while ago I visited a project in which 106 persons presenting all manner of permanent physical defects were employed. The man in charge, about 40 years of age, was on crutches, both legs made useless by infantile paralysis at the age of 7. He went easily up and down the stairway showing me about. He was asked about his past and replied that he had been a printer for fifteen years until the depression closed the business, that his former boss had twice attempted to engage him at a new plant but nothing came of it, for which he blamed the insurance company; he said that he had never been injured while at work. While that is probably not a fact, nevertheless he expressed the feeling that the employment of these physically handicapped persons unnecessarily increases the costs of industrial accident compensation.

In a bulletin issued by the Bureau of Labor Statistics on the "Causes and Prevention of Accidents in the Iron and Steel Industry," one finds fourteen pages devoted to a study of the human causes of accidents, but nowhere is mention made of physical handicaps as a cause.

In the most recent report issued by the Industrial Accident Commission of our state, 30,000 accidental injuries are tabulated. They are all accidents to which the normal person is exposed just as well as the handicapped.

The feeling that the handicapped group introduces an unnecessary hazard into industry has been overemphasized, I believe. The experience of many physicians in industry and of impartial examiners agrees with that of Dr. A. F. Lecklider, who stated "Physical examinations most often were completely negative in our worst accident cases. We tend to attach too much weight to physical defects. More often I was impressed with the mental or character type of the injured individual than I was with his physical setup."

Of all the disabling so-called lumbar strains occurring in the last two years in the company with which I am affiliated, the most acute and long lasting was in a man under 30 years of age. His examination revealed no evidence of structural defect or of arthritis so frequently held to be the underlying cause of disability.

The fear of second injury, of adding a permanent defect to one already existing, was so great that provisions for a second injury have been written into workmen's compensation legislation in many of the states. Yet the fact remains that a second disabling injury is of infrequent happening. Out of nearly 34,000 tabulated injuries in Massachusetts in the year ended June 30, 1938, there were three second injuries for which compensation was awarded, a second injury experience of less than 0.0001 per cent. Is that serious enough to erect a barrier against the employment of these persons? In my state the supervisor of rehabilitation reports that there has been no litigation for second injury concerning any rehabilitated worker.

Because it agrees with my observation of the safety with which one-armed men, one-legged men, one-eyed men and women, those crippled with infantile paralysis on crutches or with crooked spines and others with physical handicaps in our company perform their work, I conclude with a paragraph taken from a personal communication from the federal vocational bureau concerning the effect of the national defense program:

The employment of large numbers of trained skilled handicapped workers has had the effect of calming the fears of many employers that handicapped persons are more apt to suffer a second injury, and hence cause a boost in their workmen's compensation rates. Many firms that previously refused to employ disabled workers are now asking for them. They are finding that the percentage of injuries to disabled workers is actually less than for nonhandicapped workers and that a disabled person placed in the proper job is just as efficient as the nonhandicapped person.

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AGING AS AN INDUSTRIAL HEALTH PROBLEM

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Most arguments arise out of confused definition of terms. It is important, therefore, to have it understood what is meant by the problems of aging. Aging must not be confused with the aged. The aged show the consequences of aging. This distinction is fundamental. The medical care of the aged constitutes the specialty of geriatrics and is of but little direct concern to industry. The truly senile are pensioned. On the other hand, gerontology, which is the science of aging,¹ is of rapidly growing importance to the industrial physician. Probably the most significant period of human life from the point of view of senescence is the two decades from 40 to 60. It is here that gerontology can and should mean prophylactic geriatrics. Prophylactic pediatrics, by dramatically increasing life expectancy, has emphasized the problems of senescence. Pediatrics advanced rapidly only after attention was focused on the fact that the child is not merely "the little man" but presented nutritional, immunologic, functional and anatomic problems peculiar to infancy and childhood. A similar focus of emphasis on the problems of senescence should accelerate progress in effective preventive medicine for the later years of life. In the brief time allotted I can hope to point out only a few of the major problems and perhaps offer some suggestions of means by which these vexing questions may be attacked.

Read before the Third Annual Congress on Industrial Health, Chicago, Jan. 14, 1941.

From the Unit on Gerontology, Division of Chemotherapy, National Institute of Health, U. S. Public Health Service.

1. Gerontology, editorial, *Ann. Int. Med.* 14: 737 (Oct.) 1940.

PROBLEMS OF AGING

The problems of aging are readily classified into three major categories:

1. *The Biology of Senescence as a Process.*—Aging is a part of living. Both evolution and involution are functions of aging. The basic phenomena are amenable to study by many disciplines.

2. *The Clinical Problems of Human Senescence.*—These are obviously further divisible into normal aging and the problems arising in connection with those diseases whose incidence rises with advancing years. Aging brings many changes, some obvious, many obscure, but all insidious and inevitably progressive. Structural alterations, changing psychologic characteristics and biochemical and physiologic differences are all involved. Thus "normal" is not a fixed point but a series of variables which change with age. The distinctions between the changes of normal senescence and certain of the so-called degenerative disorders are not sharply defined. Certain vascular, renal, cerebral and metabolic changes are part of aging per se. The phenomena of disease are always exaggerations of normal reactions rather than of new mechanisms.

3. *The Socioeconomic Problems of Aging.*—These arise out of the shifting average age of the population. They are immense, complex and increasingly urgent questions. If one pauses to think of the implications of the fact that life expectancy has increased from about 47 to over 63 since the turn of the century and that conservative estimates anticipate that in another forty years more than 40 per cent of the population of this country will be 45 years of age or older, the immensity of these problems becomes obvious. The wise answers to these problems, however, are far from being clear. It is with the search for these that every one must concern oneself, for logic inexorably leads to the conclusion that either these increasing millions of elderly persons must have the opportunity to work and support themselves or the proportionately smaller group of younger persons will have to support them in one way or another. One answer implies productivity suited to capacity, the other destructive costs on what may ultimately become a minority.² The present and impending situations are wholly unprecedented: an average population age far in excess of anything known heretofore. The primary concern of medicine is with the first two of these three major categories, but the industrial physician cannot ignore the sociologic and economic factors involved.³ Illumination by research of the basic processes of senescence, the biologic and psychologic changes and the altered capacities will facilitate solution of both the clinical and the sociologic problems.

The change in population age is reflected in industry. Certain larger organizations have become acutely aware of the fact that the average age of their employees is increasing at a surprising rate; almost a year annually in one immense manufacturing concern! This has occurred despite the fact that until recently the vast numbers of unemployed permitted and encouraged the selection of younger men. In the present emergency the shortage of trained personnel for technical jobs and the diversion of young men into training camps can but operate to accelerate the rise in average age of employees in most industries. War would further exacerbate the situation.

CHANGE IN INDUSTRIAL MEDICINE

The practice of medicine is changing. As acute infective diseases fall more and more under the control of preventive measures, the chronic and progressive disorders of middle and later life take increasingly important places. Industrial medicine, which started out as emergency traumatic surgery and then grew to include hygiene and toxicology to prevent industrial disease, has but recently become aware of the potentialities of preventive medicine. It is necessary only to recall that sickness absenteeism of nonindustrial origin is responsible for about twenty times as much lost time as industrial injuries of all sorts in order to appreciate the fundamental importance of preventive medicine. Industry is in an exceptionally strong position to foster adult preventive medicine. The factory stands in much the same relationship to the adult that schools hold in relation to the child. The role of the school in developing prophylactic pediatrics was and is significant. With the industrial worker under medical supervision in the plant one third of his time, the industrial physician has opportunities for education in hygiene and for preventive medicine which are unique. Preventive medicine for adults must include consideration of senescence.

Space does not permit discussion of the relationships of age to rehabilitation, to the complexities of compensation laws with reference to the exacerbation of pre-existing disease, the placement of older workers so that maximum value of their experience may be reflected in production, the relation of age to the incidence of neuroses, the psychology of senescence⁴ and many more significant questions. These questions can be asked now and should be answered soon. A recent statistical study⁵ confirms the previously discovered fact⁶ that the frequency of industrial injuries diminishes with age, though the severity and duration of disability increase slightly.

The physician concerned with industrial medicine properly includes among his responsibilities health maintenance of employees. His problems with older workers are not the same as with younger persons. How effective will be his prophylactic geriatrics depends on at least three significant variables: (1) advances in the science of gerontology and the practice of geriatrics, (2) the extent with which the industrial physician keeps abreast of advancing knowledge and (3) the conscientiousness with which this is applied.

It has been said that in the practice of industrial medicine the factor of age has for a long time been given due and adequate attention and that perhaps efforts to focus attention on age as an industrial health problem is the equivalent of a tempest in a teapot. In this attitude I cannot concur. Although the practice of medicine, as a whole, has for many years taken care of older persons as well as younger, it is entirely unjustified to assume that the care has been as effective as it might be. In the clinical practice of industrial medicine, one of the most important activities is the examination of prospective employees to determine physical fitness. Unfortunately such examinations have applied rather arbitrary standards of physical fitness without consideration of the age variable and, frankly, without adequate definition of what constitutes health. Health is not the mere absence of disease. Health is a relative and a quantitative matter, and those who are truly and

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5. Kossoris, M. D.: *Labor Inform. Bull.* 7: 11 (Nov.) 1940.

6. Vernon, H. M.: *Accidents and Their Prevention*, London, Cambridge University Press, 1936, p. 346.

2. Clague, E.: *Milbank Memorial Fund Quart.* 13: 345 (Oct.) 1940.
3. Piersol, G. M.: *Ann. Int. Med.* 12: 964 (Jan.) 1939.

fully normal are great exceptions. Health evaluation is often a more difficult and complex problem than the diagnosis of disease. The changes of aging affect the criteria of health.

CHRONOLOGIC VS. PHYSIOLOGIC AGE

Chronologic age, as measured in years and months, is not the same as physiologic age. Rare is the man on the shady side of 50 who is not thoroughly convinced that he is younger than his years. Sometimes he will be right; all too often the conviction is naught but wishful thinking. Physiologic age varies with each person. The greater the duration of life the greater the variation. Furthermore, no person is of the same physiologic age throughout, for different structures and systems age at different rates at various times in the same person. At certain ages, involution of certain structures is accelerated. For example, thymic involution is rapid in infancy and the generative organs age most quickly at the climacteric. Mental senescence may come prematurely in some; in others the continued brilliance of the intellect appears to defy the corporeal senility. Osler said "a man is as old as his arteries," but it would be equally sound to say that he is as old as his vision or his imagination. There are many with presbyopic vision who retain the imagination and the enthusiasm of youth. Because of this variability in the rate of senescence in different structures, no single criterion of physiologic age will ever be feasible.

Aging is a continuous process, though the rate is variable. It does not begin on any certain birthday some time in the forties or thereabouts but starts on the conception of a new individual. Aging progresses most rapidly in the fetus and infant, less quickly during childhood and more slowly after puberty. It is fundamental that it be remembered constantly that the aged are the consequences of aging and that the pathogenesis of senescence starts in youth. It will then not be forgotten that more can be accomplished for the aging than for the aged.

Aging does not necessarily mean decline alone. It is axiomatic that compensation takes place for every deviation. Though certain functional capacities diminish, others are enhanced. For example, as speed of reaction is lowered with age there occurs a compensatory increase in endurance. This has been revealed in a number of different ways: In athletic performance there is a positive correlation between success in competition requiring endurance and full maturity. The world records for sprints are held by very young men, but the records for the marathon have been made by men well over 30. Far greater differences in endurance and reaction to exercise are found in persons in the same age groups than are observed between younger and middle aged subjects.⁷ Loss of mere physical strength is often compensated for by increased skill and judgment.⁸ Though ambition may become less virile, the pride in good work well done and the reestimation of values which come with maturity may compensate, particularly if an honest recognition of limitations is included in the mental changes of aging. It is not merely a coincidence that the engineers of the crack trains, that the captains of the most important ships and that the directors of the greatest industries are old men.

The question of how physiologic age may be measured and evaluated is perhaps the most significant of all the clinical problems. A general impression is instinctively arrived at by the physician by means of that peculiar and indefinable something which is called clinical judgment. However, there is little precision in such evaluation and it is by no means standardizable from the point of view of the reactions of the individual to employment. It is my feeling that the most logical approach to quantitation of physiologic age is through the measurements of several functional reserve capacities. Depletion of reserve occurs long before there is actual failure. This depletion is detectable only by controlled stress procedures which elicit responses to increased physiologic work. For example, it takes a panic to reveal the weakness of a bank; it takes a steep hill or, even better, a proving ground to reveal the weak spots in an automobile. Applying this basic principle clinically, one may say that a single observation of a normal pulse rate or a normal blood pressure at rest does not reveal how the circulatory system will react under conditions of stress. For example, a procedure involving exertion or the cold pressor test⁹ will be infinitely more informative.

It is vitally important to recognize that with increasing age individual variability likewise increases. It has just been mentioned that studies in fatigue showed greater differences between persons in the same age group than between the averages of various age categories. Individuality is a composite of inherited and inherent characteristics and the accumulative vicissitudes of existence. Generalities concerning babies are far more justified than generalities concerning the same individuals forty or more years later, for each and every person has accumulated a highly personal set of experiences, infections, intoxications and mental actions and reactions. The greater the age, the greater the individual variability. Though the baby knows nothing and the mature adult, if honest, may likewise admit knowing nothing, the latter should at least suspect a great deal.

INDUSTRIAL HEALTH

This greatly increased individual variation in older persons is important to industrial health in many ways. In the measurement of functional reserve, in the placement of older employees and in therapy and prognosis of disease in older persons the industrial physician must avoid standardized routine if he hopes to utilize the best that older persons have to offer. And that is just what American civilization is going to have to do if our culture is to grow.

Those diseases whose incidence rises with advancing age will become inevitably more and more frequent problems both in the field of employment and in periodic health inventory of personnel. First and foremost in this group are the cardiovascular-renal disorders.¹⁰ Arthritis¹¹ is deceptively insidious, for the low mortality does not reveal the immense toll of disability. The National Health Survey¹² revealed that arthritis (all forms) was first as a cause of disability (if mental disease was excluded), second as a cause of permanent invalidism but only fourteenth as a cause of death.

9. Hines, E. A., Jr., and Brown, G. E.: *Ann. Int. Med.* 7: 289 (Aug.) 1933. Stieglitz, E. J.: *Abnormal Arterial Tension*, New York, National Medical Book Company, 1935.

10. Stieglitz, E. J.: *J. Michigan M. Soc.* 39: 827 (Nov.) 1940. Stroud, W. D.: *The Diagnosis and Treatment of Cardiovascular Disease*, Philadelphia, F. A. Davis Company, 1940. Stieglitz, E.

11. Osgood, R. B.: *Am. J. M. S.* 200: 429 (Oct.) 1940.

12. National Health Survey: Report of the Surgeon General of the U. S. Public Health Service, Washington, D. C., Government Printing Office, No. 6, 1935-1936.

7. Dill, D. B.: *Indust. Med.* 5: 315 (July) 1939. Robinson, S.; Edwards, H. T., and Dill, D. B.: *Science* 55: 409 (April 23) 1937.

8. Miles, W. R.: *Age and Human Ability*, *Psychol. Rev.* 40: 99, 1933.

Diabetes mellitus, all forms of cancer and both the masculine and the feminine climacteric will inevitably be of increasing concern to the industrial physician. The gynecology of senescence has been sadly neglected. Obviously these immense clinical problems cannot be discussed here, though emphasis of one basic concept is necessary. In evaluating the degree of physical impairment in industry, it is extremely important to distinguish between physical defects which are relatively stationary and those disorders which tend to progress. It is characteristic of all these so-called degenerative disorders of middle and later life that they are progressive. True enough, often the progression is slow, but it is invariably and inevitably persistent. None are self-limited diseases tending toward spontaneous cure. The best therapeutics cannot "cure" hypertensive disease, gout, diabetes or chronic arthritis. These disorders, however, can be controlled and the progression greatly retarded. The earlier in the course of these diseases control measures are instituted, the more effective is the therapy. This is prophylactic geriatrics.

It is the rule that the earlier in life "degenerative diseases" begin, the graver is the outlook and the more rapid the deterioration.¹³ Though there may be isolated exceptions to this rule, the clinical assumption is amply justified by experience. Hypertensive disease in a young man implies a much poorer prognosis than the same "severity" of hypertension in a man of 55. Hypertension should never be ignored, but it becomes clear that aging may affect prognoses favorably as well as adversely.

These are entirely different problems from those concerned with employability of those with static or non-progressive defects.¹⁴ An amputated finger, an ankylosed joint or the loss of one eye will not progress with time, and the risks are calculated on entirely different bases.

Industrial medicine can do much to improve clinical methods of health evaluation, help develop practical procedures for the measurement of functional reserve capacities and thus assist in establishing the urgently needed base lines for the mensuration of physiologic age. Not only do industrial physicians have the opportunity to examine hundreds of thousands of new employees each year, but they have the invaluable privilege of reexamining these same men and women at periodic intervals for many years and thus checking the accuracy of the original prognostication. Suppose John Smith "passes" his preemployment examination but in subsequent years loses an inordinate amount of time because of sickness absenteeism.¹⁵ This should immediately raise the following questions: Was something missed on the original examination? If so, what? And why? Can procedures be improved to correct such errors? Has his repeated absenteeism anything to do with his work or industrial environment? Is he in the wrong job? And many more. The industrial physician can, if he will but try, answer many of these questions. In the aggregate such analyses will become increasingly valuable.

JOB PLACEMENT

In job placement, thought must be given not only to the immediate capacities of the employee but also to his future capacities. Physical fitness implies not

only the capacity to work but continuity of productive-ness.¹⁶ Youth is molded with relative ease; with advancing years adaptation is more difficult. But it is not impossible. The difficulty lies more in the speed with which adaptation occurs than in the final effectiveness. As previously pointed out, aging brings compensations as well as defects. Cannot these compensatory characteristics be utilized? They can. It is not necessary that the aging mechanic or artisan whose speed is reduced but whose skill and judgment are becoming greater be discarded or transferred to sorting bolts and nuts in the junk shop or to watching a gate. Such a transfer is equivalent to the judicial decision "You are through—useless. You've worked hard and we'll feed you for it, but no longer may you feel pride in your work or have the precious satisfaction of feeling really useful." All know of intimate instances in which such premature retirement was but the herald of a death certificate. Under such blows even the best men quit. If, however, they may feel that they are sharing in the work to be done and are permitted to give their best, it is the best which is obtained.

Such relegation to enforced idleness and obligatory pensioning is not necessary. There are many very useful things that the aging and aged worker may do, and do better. Direct competition with youthful strength in a production line may be unwise, despite increased skill. Such unequal competition leads to neuroses. But in some larger plants, parallel production lines running at a slower tempo are feasible or a greater number of men may be assigned to a portion of the work so that frequent short rest periods are possible. One well known factory has several employees over 80 years of age continuing at the same pay and with responsibility for fine precise work. Inquiry as to the reason for this rather unusual situation elicited the statement that the value to plant morale and *esprit de corps* was immeasurable. Industry must not forget these factors.

The employee of 60 and over has important potentialities as a teacher of new or younger employees. Industry is now suffering from an acute dearth of technically trained personnel. The education of apprentices and the development of finer skill, application of accuracy and pride of workmanship can well be a function of the older workers. It is saddening to see the generalized loss of respect for the dignity of work in the younger generation. Perhaps our older men and women will welcome the opportunity to rekindle this vitalizing spark. Not satisfied to just "get by," they can set splendid examples if given the chance.

Permit me one more thought in connection with industry's better utilization of the older worker. Is it not feasible to train aging employees gradually for occupations more suited to their capacities and limitations? The notion persists that older people do not and can not learn. This is untrue. True it is that they learn more slowly and that interruptions in the habit of learning create great handicaps. But this is likewise so in youth; the lad who quits school and then returns has difficulty in readapting himself to study. On the other hand, if study is continued the habit becomes ingrained and the ability strengthened. This is clearly demonstrated by physicians: if we as a profession ceased study and training on graduation, it would be a sorry state of affairs. Is it logical, therefore, that those in other occupations be trained and taught only to a certain fixed point and that then all opportunities for technical

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15. Lanza, A. J., and Vane, R. J.: Absenteeism in Industry, *Bull.* 4, *Medical Service Air Hygiene Foundation*, Pittsburgh.

16. Kessler, H. H.: The Determination of Physical Fitness, *J. A. M. A.* 115: 1591 (Nov. 9) 1940.

education cease? No. With proper pedagogy and with continuity of technical training, there is no reason whatever why aging workers may not be continuously prepared for more and more technical responsibilities definitely compatible with their capacities. A pilot study attempting to do just this under the guidance and on the suggestion of a modern industrial medical department should prove invaluable. Certain industrial concerns have organized procedures for the diversified training of younger employees. I fail to appreciate why such technical training should not continue, though at a lessened pace, throughout the productive years.

PERIODIC EXAMINATIONS

The importance of periodic reexaminations has been stressed repeatedly and emphatically. But such reexaminations are not enough if they are superficially conducted and nothing is done beyond the recording of data on record cards. Unfortunately, this is all too frequently the case with periodic examinations not only in industry but in the practice of medicine as a whole. In many quarters periodic health inventory has fallen into disrepute not because of any inherent weakness of the principles involved but because of the negligible application of preventive treatment. A health inventory is far more than a mere clinical physical examination. It should include a detailed interim history, discussion of habits of living, laboratory information, function test procedures and, most important of all, advice concerning active therapy of early disorders to retard progression before it is too late. It is essential that the patient have explained his share of responsibility in health maintenance. Such periodic analytic inventories, if properly conducted, constitute the basis for personal preventive medicine.

With the aging employees such consultations acquire greatly increased significance, for the disorders of later and middle life are not amenable to mass prevention as are infective diseases. As people become more and more individualized with aging, so must the application of preventive medicine. Mass production is effective only as long as the units produced are identical. As the person grows older he deviates more and more from uniformity, and medical care must similarly become less and less routinized.

It is realized that it has been difficult to convince both management and labor as to the values of periodic medical examinations. Perhaps it might be easier to sell the procedure if these examinations were made more effective by including more sound medical advice to the individual. The profession must never deviate from the rule that if it is worth doing it is worth doing right. The value of properly conducted prophylactic consultations is unquestioned.

Personal preventive medicine in industry should start at the top. This is important for a number of reasons: 1. The key men are the most difficult to replace, and their judgment and experience constitute valuable national as well as company assets. 2. The leaders are almost invariably older persons in particular need of active and energetic health maintenance. 3. They carry the heaviest responsibilities. 4. Their acceptance of such prophylactic measure sets the necessary example for their organization. Who should lead in setting a good example? None other than the physician! Let us not neglect the educational potentialities of proper personal preventive medicine or prophylactic geriatrics among ourselves and remember that, though it is easier to fight for our convictions than to live up to them, it is often less useful.

Clinical Notes, Suggestions and New Instruments

A DIVING APPARATUS FOR LIFE SAVING WORK

CHRISTIAN J. LAMBERTSEN, PHILADELPHIA

Frequently drownings occur in spite of apparently adequate patrolling of beaches and lakes by trained lifeguards. A swimmer who, because of panic or exhaustion, sinks beneath the surface of the water is usually quickly lost to sight. The task of the lifeguard is to swim down under water, holding his breath, in an attempt to locate the drowning person. Holding the breath while undergoing the exertion of swimming under water is extremely tiring. Rarely can an untrained person remain under water in this manner for more than one minute or dive deeper than about 30 feet. When the lifeguard does come to the surface for air he is exhausted, and his successive dives will necessarily be shorter and shallower until finally

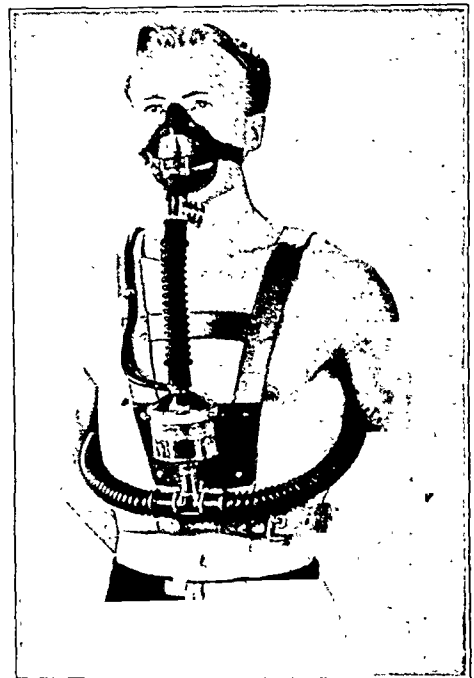


Fig. 1.—The apparatus in position, front view, showing lead plate, soda-lime container and inhaler.

he can no longer continue. Valuable time is wasted in coming to the surface for air, and time is an all-important factor in an emergency of this sort.

An apparatus which permits respiration under water for an extended period of time in depths far greater than a person could withstand unaided should prove valuable in instances such as the one described. This would be especially true if the apparatus could be quickly put on and were an independent unit, making the diver completely self sufficient while below the surface. The apparatus described here permits respiration under water for eighteen to twenty-five minutes in depths to 60 feet.

The foundation for the respiratory apparatus, which is the functional part of the diving equipment, is a relatively simple harness designed primarily for rapid donning. The harness is designed to fit persons of varied shape and size without time-consuming adjustment. A pocket for carrying a small cylinder of oxygen or a nitrogen-oxygen mixture is at the back of the harness (fig. 2). At the front of the harness, over the abdomen, is a small plate of lead, weighing approximately

Prof. H. C. Bazett of the University of Pennsylvania Medical School gave advice on physiologic aspects of the problem, and the Ohio Chemical Company gave assistance in developing the mechanical equipment.

DIVING APPARATUS—LAMBERTSEN

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3 pounds (1.3 Kg.), which serves the twofold purpose of weighting the apparatus and of providing a base to which is fastened a container of soda lime (fig. 1). The total weight of the harness and respiratory apparatus is about 12½ pounds (5.7 Kg.). Metal rings on the belt provide for the attachment of additional weight, which is necessary if walking under water is to be efficiently accomplished, since the apparatus was designed primarily for swimming under water.

Simply, the respiratory apparatus is a rebreathing system composed of an inhaler, breathing tubes, soda lime container, rebreathing bags and a supply of oxygen. The oxygen reservoir is a small cylinder containing 51 liters of oxygen at 1,800 pounds pressure and 70 F. The weight of the cylinder filled with oxygen is 3 pounds 14 ounces (1.7 Kg.). A single stage regulator attached to the oxygen cylinder reduces the pressure and delivers a flow of 2 liters per minute for twenty-five minutes at atmospheric pressure. There is therefore a continuous flow of oxygen in excess of body requirements under conditions of maximal work. The flow of oxygen increases slightly with depth of diving, because of the con-

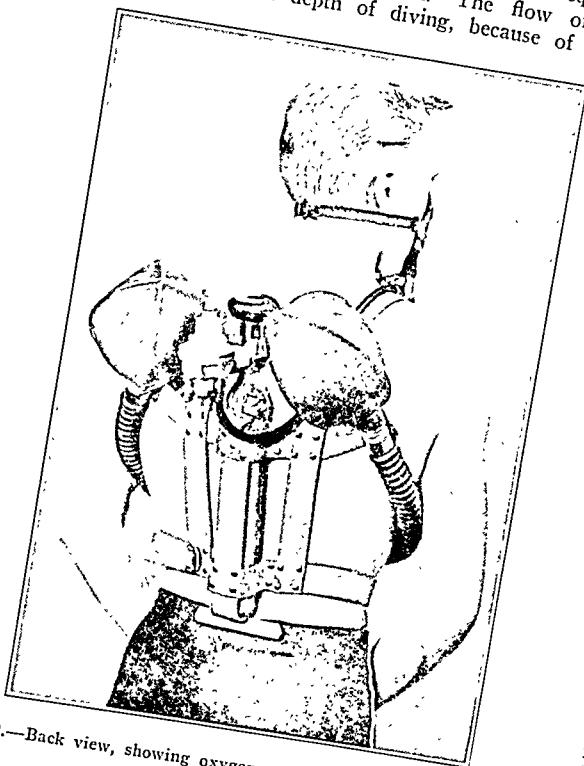


Fig. 2.—Back view, showing oxygen cylinder and breathing bags.

struction of the regulator; therefore the time limit of a 60 foot dive is eighteen minutes rather than the expected twenty-five minutes.

The rebreathing bags of latex rubber are in duplicate, one bag being fastened behind each shoulder, thus giving optimum balance and maneuverability to the diver. The total capacity of the rebreathing bags is 4 liters. This volume is far in excess of normal tidal respiration. However, there are three reasons for the apparently excessive size of the bags: 1. On rapid descent increasing water pressure compresses the gas in the bags until at 30 feet less than 2 liters remains. Rapid descent to greater depths results in compression of the gas to a volume too small for a complete inspiration. Several minutes must pass before the bags are completely refilled. 2. Exercise and low water temperatures result in increased formation of carbon dioxide and therefore deepen respiration. 3. There is some slight respiratory stimulation due to carbon dioxide in the "dead space" of the apparatus, especially at depths greater than 30 feet. As pressure increases, more gas is compressed into the dead space and carbon dioxide tension rises. At 60 feet this effect is pronounced.

Within each breathing bag is a perforated metal tube which prevents air from becoming trapped as the bag mouth constricts on inspiration. When the apparatus is in use the breathing

bags are most often in an inverted position, with the mouths downward. Gas therefore rises in the inverted bags, bulging the upper portion and leaving the lower portion (neck) constricted. On sudden inspiration the reduction in pressure inside the bags results in a compression of the bag neck which would trap the oxygen within the bags if it were not for the drainage afforded by the perforated tubes.

A pair of corrugated latex rubber tubes connects the paired breathing bags with the soda lime container by means of a metal T connection. In each corrugation is a metal ring which prevents collapse of the tubes on inhalation due to the slight reduction in pressure within them. As the tubes are extensible, they fit snugly a variety of bodies.

Economy of oxygen and, therefore, increased duration of possible diving time result from the use of a "to and fro" rebreathing of expired gases. Oxygen from the rebreathing bags is breathed back and forth through the soda lime container which is attached to the lead plate on the front of the harness. The soda lime in the container will remove carbon dioxide efficiently for about two hours under conditions of moderate work.

Connecting the soda lime container with the inhaler, or mask, is a short, corrugated rubber tube, containing metal rings as did the previously mentioned breathing tubes. These rings, while preventing collapse of the breathing tubes, in no way detract from their flexibility and permit free movement of the head. This tube and the inhaler comprise the artificial dead space of the apparatus.

Of the inhaler little need be said except that it is the oronasal type with a thin, flexible edge to insure fit on a variety of facial structures.

An overpressure, or exhaling, valve situated below the inhaler prevents overdistention of the system by permitting the escape of excess gases. The valve is set at a light tension with limits of 8 and 13 mm. of mercury, which requires that the breathing bags be filled by an expiration before pressure of gas can open it. Since the valve is situated just below the inhaler, it is the latter part of the exhalation, containing the highest percentage of carbon dioxide, which escapes. This action supplements the function of the soda lime container in lowering the carbon dioxide content of the system. The valve is so constructed that gases can be exhaled through it without allowing water to enter the rebreathing system. On descent the valve is turned clockwise to the 13 mm. stop, increasing the valve tension. This prevents loss of oxygen from the system while the gas in the rebreathing bags is being compressed by water pressure. Loss of gas on descent would decrease still further the volume of gas available for respiration which had already been decreased by compression. When at the lower level of the dive the valve can be turned counterclockwise to the 8 mm. stop, facilitating the escape of excess gases.

Oxygen enters the system just below the exhaling valve and is therefore poured into the dead space above the soda lime container, diluting the carbon dioxide there and lowering its tension. The dead space is therefore rendered less effective. The apparatus can be used to the full duration of oxygen flow without fear of anoxia as the flow ceases. The oxygen concentration is well over 90 per cent and the slow, gradual emptying of the breathing bags due to utilization of oxygen gives ample warning (three to four minutes) that oxygen has stopped flowing.

The total weight of the apparatus slightly exceeds 12 pounds in air; when submerged it is practically weightless. The breathing bags, breathing tubes and inhaler all are buoyant under water. The underwater weight of the oxygen cylinder, regulator, soda lime container and lead plate balances almost exactly the lift of the buoyant parts of the apparatus. This enables the diver to ascend or descend at will. There is therefore complete independence of aid from or connection with the surface, such as pumps, ropes, air line or assistants. The position of the breathing bags, oxygen cylinder and lead plate provides optimum balance to the body of the diver.

The apparatus is extremely simple to use. It can be put on and be in use in fifteen seconds or less. Self sufficiency is its outstanding feature, in regard both to oxygen supply and

to aid from the surface in descending and ascending. The latter may require some explanation.

With the bags filled initially with an exhalation of air, and with oxygen flowing, descent is accomplished by a single upward sweep of the arms through the water, submerging the body. The resulting compression of the gas in the breathing bags by water pressure decreases the buoyancy of the apparatus, aiding descent. Descent can be rapid to about 30 feet and then should be slower so that the oxygen entering the system can maintain the gas volume in spite of compression. If a diver descends rapidly to depths greater than 30 feet he will find himself temporarily unable to breathe because of compression of the gas in the bags to a volume insufficient for inspiration. Ear pressures are equalized on descent by swallowing, since regardless of depth the pressure of the gas breathed approximately equals the water pressure on the outside of the ear drum.

Ascent is accomplished by swimming motions. The expansion of oxygen in the breathing bags due to decrease in water pressure increases the buoyancy of the apparatus, facilitating ascent. On ascending a large quantity of oxygen will bubble from the exhaling valve. This is a result of the expansion of oxygen on releasing the water pressure which had been exerted on it. Despite the loss of this oxygen the breathing bags will still be full when the diver reaches the surface.

The diver may ascend as rapidly as desired without fear of the "bends." The short duration of the dive and the absence of nitrogen in the system eliminates this danger.

The apparatus, as it employs pure oxygen, should not be used at depths greater than 60 feet because of the toxicity of pure oxygen at pressures over 3 atmospheres, resulting in convulsions. However, for diving at depths greater than 60 feet a mixture of nitrogen and oxygen can be used. The nitrogen serves to dilute the oxygen, decreasing its tension and therefore its toxicity. For example:

A mixture of 40 per cent nitrogen and 60 per cent oxygen could be used with safety at a depth of 100 feet, a pressure slightly greater than 4 atmospheres. Disregarding the negligible effects of water vapor and carbon dioxide tension in the system for simplicity, one can see that at 4 atmospheres the partial pressure of the oxygen in the mixture will be 0.60×4 , or 2.4 atmospheres. This partial pressure is well below the limit of 3 atmospheres above which oxygen is toxic. The partial pressure of the nitrogen in the mixture at 4 atmospheres is 0.40×4 , or 1.6 atmospheres. This is equivalent to the partial pressure of nitrogen in air under 2 atmospheres' pressure (0.80×2), or a depth of approximately 32 feet. Under this partial pressure nitrogen will have no effect in producing bends.¹ By the use of helium in place of nitrogen for diluting the oxygen the practical depth could possibly be increased.² This, however, is theoretical.

Since the apparatus described was designed for use in depths of less than 60 feet a modification decreasing the artificial dead space would be necessary to make diving to greater depths possible. Without such a change the tension of carbon dioxide in the dead space would rise to an uncomfortable degree.

To summarize briefly, the limits of the underwater respiratory apparatus are those of time and depth. Although in shallow water (to 10 feet) oxygen flows from the cylinder for approximately twenty-five minutes; at 60 feet, because of structural peculiarities of the regulator, oxygen flow per minute is increased, shortening the possible diving time to about eighteen minutes. The duration of a dive can be extended by the use of a larger cylinder of oxygen, but this would be of little advantage in life saving.

The depth to which diving with this apparatus is practical is determined by several factors. If one uses pure oxygen, which is toxic at pressures greater than 3 atmospheres, even for short periods, the limit is approximately 60 feet. This limit can be safely increased to 100 feet or more by proper dilution of the oxygen with nitrogen or helium. Thirty feet is the limiting depth for an extremely rapid dive because of a decrease in the volume of gas available for respiration as a result of compression. However, by descending slowly from this level

or by incorporating a by-pass or accessory cylinder for more rapid inflation of the breathing bags, greater depths can be attained.

Perhaps one other limiting factor is the capacity of the diver to withstand exposure, since the body is unprotected against loss of heat while under water. For prolonged deep diving, some means of insulating the body is necessary. A light diving suit may be used for this purpose but would require additional weights to counteract its buoyancy.

The uses of this apparatus are varied. It was primarily intended for rescue of drowning persons and recovery of bodies from deep water. Other applications are inspection of damage to hulls of boats, minor underwater repairs, pearl and sponge fishing, and sport, as in goggle fishing. Goggles are worn over the eyes to improve vision under water. With slight modification the apparatus can be adapted for use in atmospheres deficient in oxygen or containing noxious gases. Thus it would find wide application industrially for use in mines, sewers, chemical plants and gas companies. The modification consists simply of replacing the paired breathing bags, breathing tubes and T connection with a single 3 liter bag, attached directly to the soda lime container. The weight of such an industrial gas mask is slightly greater than 9 pounds (4 Kg.).

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LEAD IN A RENAL CALCULUS

MAX TRUMPER, PH.D., AND SAMUEL T. GORDY, M.D., PHILADELPHIA

O. H., a Negro aged 46, married, had been employed for five and one-half years in the corroding white lead department (Old Dutch process) of a plant manufacturing lead paints and oxides of lead for the making of storage batteries. There was a high exposure to lead dust, as evidenced by the fact that we have had a number of cases of lead poisoning from this plant which still used the Old Dutch process.

The patient had had no illness other than gonorrhea in 1912; he also had had antisyphilitic therapy consisting of thirty-two injections. He gave no history of tuberculosis, cancer or cardiorenal disease. He did have measles and chickenpox; he had had no operations or accidents.

His first complaint was in 1929 of discomfort high up under the sternum, which gradually migrated downward to the epigastrium and abdomen. For about three months after this onset he complained of sourness in the stomach from one-half to one hour after each meal. He consulted his family physician, who advised him to avoid fried foods and gave him some medication. There were no further symptoms until Sept. 13, 1939, when nausea began and he vomited twice that day. The patient came into the accident ward of St. Luke's and Children's Hospital in a fixed, crouched position, complaining of severe generalized abdominal pain. On September 15 this became more severe, appearing first throughout the lower part of the abdomen, then becoming generalized. The resident regarded the case as having a suggestive history of ulcer. The entire abdomen was rigid, more especially in the right upper quadrant of the abdomen. There was diffuse tenderness, and peristalsis was greatly diminished. The patient at all times preferred a fixed position. His temperature was 98 F., pulse 64, blood pressure 100 systolic and 60 diastolic. He had exquisite tenderness over the entire abdomen and palpation of the costovertebral area caused severe pain anteriorly in the abdomen. The pulse was slow and full. The patient was well developed; when being examined he was lying in bed in a drowsy state. There was no evidence of dyspnea, cyanosis or edema. His temperature was 99 F., respiratory rate 18, pulse rate 72 and blood pressure 122 systolic and 80 diastolic. His bowel hygiene was fair. The heart sounds were of good tone and regular, and there were no murmurs. The lungs were clear and resonant. On palpation of the costovertebral angle the patient complained of severe pain anteriorly around the umbilicus. On examination of the nervous system the pupils were constricted, and there was no reaction to light. The biceps reflexes were active and bilaterally

From St. Luke's and Children's Hospital.

1. Haldane, J. S.: *Respiration*, New Haven, Conn., Yale University Press, 1922, p. 335.

2. Behnke, A. R., and Yarbrough, O. D.: *Physiological Studies of Helium*, U. S. Nav. M. Bull. 36: 542-558 (Oct.) 1938.

equal; the patellar reflex was absent bilaterally. There was no gross pathologic condition of the eyes and ears. The throat, nose and larynx superficially were normal.

One week later in the hospital the patient still had a rigid abdomen with extreme tenderness over the gallbladder area and a questionable mass palpable in the right upper quadrant. This severe pain of the lower part of the abdomen continued except on September 16, when early that day the patient received 10 cc. intravenously of 10 per cent calcium gluconate. During the rest of that day there was no complaint of any abdominal pain until evening. The following day the pain became more intense. At this time the hemoglobin was 74 per cent, the red cells numbered 3,750,000 and he had refused permission for a spinal tap.

In view of the fixed pupils and the absence of the knee jerks, tabetic gastric crisis was suspected and it was deemed advisable not to operate. He was discharged September 30.

The patient was readmitted Sept. 2, 1940, to the accident ward of the hospital with a history of pain followed by vomiting. The pain was costovertebral, was on the right side and radiated down to the lower right quadrant. The intern gave him one-fourth grain (0.016 Gm.) of morphine sulfate with a tentative diagnosis of renal colic, possibly lead colic. His temperature was 98.4 F., pulse rate 56 and respiratory rate 28. His pulse was weak but regular in rate and rhythm. The white count was 15,000, 80 per cent hemoglobin, 85 per cent polymorphonuclear leukocytes, 14 per cent lymphocytes, 1 per cent monocytes. The red blood cells were negative for stippling. September 18 the blood urea was 37.5 mg., the creatinine 1.8 mg. and the blood sugar 95 mg. per hundred cubic centimeters. The urine showed a trace of albumin and from 30 to 40 white blood cells (high power field) as well as from 5 to 25 red blood cells. The Wassermann and Kahn reactions of the blood both gave negative results. The Boerner and Lukens flocculation tests also gave negative results. In the right lumbar region as well as in the epigastrium the pain was severe enough to cause an outcry by the patient. On September 2 at 6 a. m. he felt as though something fell from the kidney and then experienced a severe pain in the lumbar region posteriorly. Three months before the patient passed little clots of blood. On September 4 his temperature was 101 F., pulse rate 92 and respiratory rate 24. He was given 10 cc. of calcium gluconate intravenously as well as intravenous 5 per cent dextrose in saline solution totaling 1,000 cc. His pain receded during the period of this medication. The next day there was a return of pain in the abdomen; similar intravenous medication and therapy were given him during the next few days.

A roentgenologic report of September 4 by Dr. Joseph W. Post was as follows: "Examination made of the long bones of both extremities show no evidence of changes that warrant an interpretation of lead poisoning. This observation, however, does not exclude the possibility of lead poisoning from this aspect in a patient of this age. The right forearm, left leg and thigh show the presence of shadows indicative of possible lead bird shot. Both posterior tibial arteries show an abnormal degree of calcareous infiltration for a patient of this age." We later got a history of his having been shot at in 1917. Dr. I. J. Wessel, the roentgenologist, reported: "Examination made of the abdomen before and after the introduction of opaque ureteral catheters reveals the presence of two moderate sized shadows of calcareous density, one on either side of the spinal column. The shadow on the right side from its proximity to the tip of the catheter, has the roentgen appearance of urinary calculus. The one on the left side does not have the characteristic of a urinary calculus but would give one the impression of a large extraureteral shadow. From its appearance, a small calcified mesenteric gland cannot be excluded." The diagnosis was pathologic changes of the right kidney. The final diagnosis was bilateral genitourinary calculi.

At the operation, performed September 2, Dr. H. L. Weinstock found a small stone just below the right ureteropelvic junction. The stone was removed by forceps from the right ureter. Since the roentgenogram revealed a stone in the left lower pelvis, Dr. Weinstock prepared the patient for a second operation, but the patient refused operation despite a nonfunctioning left kidney.

The stone weighed 190 mg. and contained 3 per cent of lead. It was a typical phosphatic calculus. It is interesting to note that on Oct. 5, 1939, when the urine was analyzed for lead, 0.054 mg. per liter of urine was found, which was within the so-called normal range. There is one additional feature of this case and that is the unusual etiology. The question is whether the lead found in the kidney stone was occupational or nonoccupational in origin, or possibly both. As revealed by the roentgen studies, this patient still carries "bird" shot in his right forearm, the left leg and the thigh. His occupational exposure to lead dust was for five and one-half years while his "bird shot" exposure was for a period of twenty-three years. After the remaining calculus has been removed we may be able to answer this question from a study of the impurities present in the metal.

As far as we have been able to learn from a careful search of the American and foreign literature, there has been no previous report of a urinary calculus which contained lead.

921 Medical Arts Building—4312 Spruce Street.

The Chemical Laboratory and the Council on Pharmacy and Chemistry

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING
STATEMENT. OFFICE OF THE COUNCIL.

The Council on Pharmacy and Chemistry and the Chemical Laboratory of the American Medical Association record with deep sorrow the death, Jan. 14, 1941, of

Paul Nicholas Leech

When Dr. Leech was stricken in his office and died shortly thereafter of a cerebral hemorrhage at the age of 51, the American Medical Association lost a faithful employee and medicine a guiding spirit. The Council on Pharmacy and Chemistry and the Chemical Laboratory lost the man who for many years had been largely responsible for the effectiveness of these departments. The many messages of condolence which have poured into the Council office testify to the esteem of those with whom he had come in contact during his twenty-seven years of service in the Chemical Laboratory, during the last nine years of which he had served also as secretary of the Council. He worked devotedly for the ideals of the Council and of the Association. Probably only members of the Council and of the headquarters staff of the American Medical Association can truly appreciate the loss to the Association occasioned by his untimely death.

Dr. Leech was born in Oxford, Ohio, on Aug. 12, 1889, the son of a chemist who was active in state food and drug control work. He received his bachelor's degree from Miami University in his home town in 1910 and the degree of Master of Science in Chemistry from the University of Chicago in 1911. His graduate studies in chemistry were conducted under the tutelage of the late Prof. Julius Stieglitz, a former member of the Council on Pharmacy and Chemistry. He received the degree of Doctor of Philosophy in 1913, after completing studies on formic acid and the chemistry of molecular rearrangements. The Philadelphia College of Pharmacy conferred on him the honorary degree of Master of Pharmacy in 1937. From 1911 to 1913 he served as a research assistant in the Department of Chemistry at the University of Chicago. On May 16, 1913 he joined the staff of the American Medical Association as a chemist in the laboratory, then under the direction of the late Prof. W. A. Puckner. He was made director of the Chemical Laboratory in 1924 and continued in this capacity until his death. In 1932 he was appointed Secretary of the Council on Pharmacy and Chemistry and later, when the Division of Drugs, Foods and Physical Therapy was created by the Board of Trustees to coordinate the central office activities of the Councils, he was placed in charge of this department.

While Dr. Leech served the Chemical Laboratory and the Council on Pharmacy and Chemistry continuously for many years, his activities extended to other fields. In common with many other officials of the American Medical Association, he served during the World War, being commissioned as First Lieutenant in the Sanitary Corps in 1918. Early in his career he became a member of the American Chemical Society and for many years was active in the work of this organization. He was chairman of the Chicago section in 1926, a councilor from 1921 to 1936; he served as chairman of the Section of Medicinal Chemistry in 1934 and was a member of the board of directors of the Chicago section from 1928 to 1934. He was well known in chemical circles for his part in formulating the type of programs used by the Chicago section of the American Chemical Society, generally known as the group meeting plan. These group meetings have been adopted elsewhere by chemists emigrating from the Chicago area who carry with them a knowledge of the enthusiasm with which Chicago section meetings are held.

Dr. Leech was a charter member of the Chemists Club of Chicago and served as trustee of this organization for several years. As he was an excellent organizer, meetings in which he had a part invariably seemed to run smoothly. Because of his ability to give attention to the minutiae on which purposeful organized meetings depend, he was called on frequently to help out in various activities of the American Medical Association. He was secretary of the Advertising Committee for the publications of the American Medical Association. From 1922 to 1930, in addition to other duties, he was director of the Scientific Exhibit and, under the direction of a committee of the Board of Trustees, he was instrumental in aiding the development of this activity to the important place it now occupies in the annual sessions of the Association. At all times Dr. Leech was ready to give of his time and energy to whatever duties were necessary to carry out the functions of the Association.

Paul Nicholas Leech (he spelled out his middle name because many years earlier his mother had expressed the wish that he use the name Nicholas) had an active career in the field of drug development and medicinal chemistry. Coming to the American Medical Association in an era when nostrums were still widely advertised to the medical profession, he joined with the efforts of the Council and of the Bureau of Investigation to expose many frauds or misrepresentations to the American public. He played an active part, along with others, in the chemical investigations incident to the celebrated Wine of Cardui trial. Many years later in the well known Elixir of Sulfanilimide-Massengill incident he was active in eliciting the exposure of this example of unscientific compounding of therapeutic preparations. Dr. Leech witnessed the development of many new therapeutic agents in connection with the considerations of these products by the Council and the Chemical Laboratory. During the first World War his knowledge of chemistry aided materially in the development of a rational basis for the naming of American-made drugs that no longer could be imported.

Dr. Leech was a member of Sigma Xi and an honorary member of Phi Beta Kappa. He was affiliated with a number of scientific societies in the field of his specialty. He is survived by his wife, Esther Birch Leech, a son and daughter, and two sisters.

The high place of Dr. Leech in the regard of men in scientific and medical circles resulted from his unusual scientific attainments and his absolute integrity, combined with a personality characterized by friendliness, directness and a fine sense of humor.

The source of his strength in the Council on Pharmacy and Chemistry lay in his own wide knowledge of chemistry combined with excellent judgment and ability to look on all sides of each question. Even when it was necessary for him to convey to manufacturers, or others, unfavorable opinions and conclusions of the Council they always felt that at least he was fair and absolutely honest. The importance of the work of Paul Nicholas Leech for the Council on Pharmacy and Chemistry, and for the medical profession of this country and the world, can hardly be realized. The results of his efforts will become more and more evident as the years pass.

The Chairman of the Council on Pharmacy and Chemistry, himself a founder member, has written of Dr. Leech's work in the following words:

"The task was great, and great the difficulty of keeping so many elements working smoothly and harmoniously together. His knowledge, insight and fairness found the way, his indefatigable industry and inexhaustible patience provided the means, his courtesy, good humor and kindness put it through. The work that he did lives after him. May his spirit abide with us!"

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

OFFICE OF THE COUNCIL.

LIVER EXTRACT (INJECTABLE) U. S. P.-ENDO, 10 UNITS PER CC.—A sterile aqueous solution of liver preserved with 0.5 per cent of phenol. The daily parenteral administration of 0.1 cc. has been found to produce the standard reticulocyte response defined as 1 U. S. P. unit (injectable) when assayed in cases of pernicious anemia as required by the Council.

Actions and Uses.—Liver extract-Endo is used for intramuscular injection in the treatment of pernicious anemia. See the general article Liver and Stomach Preparations, New and Nonofficial Remedies, 1940, p. 320.

Dosage.—Daily intramuscular injections of from 0.25 cc. to 0.5 cc. (2½ to 5 U. S. P. injectable units) may be given until the reticulocyte peak has been reached. The dosage is then kept at a level which will maintain remission.

Distributed by Endo Products, Inc., Richmond Hill, N. Y. No U. S. patent or trademark.

Liver Extract (Injectable) U. S. P.-Endo (10 U. S. P. units per cc.), 1 cc. Ampoule.

Liver Extract (Injectable) U. S. P.-Endo (10 U. S. P. units per cc.), 10 cc. Vial.

Liver extract (injectable) U. S. P.-Endo, 10 units per cubic centimeter, is prepared as follows: Fresh edible liver is extracted with water at 170 F. for thirty minutes and filtered. The filtrate is concentrated in vacuo and extracted with 70 per cent alcohol; the alcoholic extracts are concentrated in vacuo and precipitated with ammonium sulfate. The precipitate is further purified by alcoholic fractionation, the alcohol removed and the extract made up to volume so that each cubic centimeter contains the extract from 100 Gm. of fresh liver. Five tenths per cent phenol is used as a preservative.

NEO-SYNEPHRIN HYDROCHLORIDE (See New and Nonofficial Remedies, 1940, p. 250).

The following dosage form has been accepted:

Neo-Synephrin Hydrochloride 14% in Ringer's Solution with Aromatics: Each fluidounce contains neo-synephrin hydrochloride 0.25 per cent, sodium bicarbonate 0.0025 per cent, sodium sulfite not more than 0.11 per cent, with camphor, menthol, eucalyptus and Ringer's solution.

PITRESSIN (See New and Nonofficial Remedies, 1940, p. 385).

The following additional dosage form has been accepted:

Ampoules of Pitressin, 0.5 cc.: Each ampule contains sufficient to allow withdrawal of 0.5 cc.

Manufactured by Parke, Davis & Co., Detroit.

RIBOFLAVIN (See New and Nonofficial Remedies, 1940, p. 526).

The following dosage form has been accepted:

Tablets Riboflavin, 1 mg.
Prepared by George A. Breon & Co., Inc., Kansas City, Mo. No U. S. patent or trademark.

SULFANILAMIDE (See New and Nonofficial Remedies, 1940, p. 492).

The following dosage form has been accepted:

Tablets Sulfanilamide, 5 grains.
Prepared by George A. Breon & Co., Kansas City, Mo. No U. S. patent or trademark.

SULFATHIAZOLE (See THE JOURNAL, Jan. 25, 1941, p. 308).

Sulfathiazole-Alba.—A brand of sulfathiazole-N. N. R.

Manufactured by Alba Pharmaceutical Company, New York. U. S. patent applied for. No U. S. trademark.

Tablets Sulfathiazole-Alba, 0.5 Gm. (7.7 grains).

Sulfathiazole-Calco.—A brand of sulfathiazole-N. N. R.

Manufactured by Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J. No U. S. patent or trademark.

Tablets Sulfathiazole-Calco, 0.5 Gm. (7.7 grains).

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, MARCH 29, 1941

AVAILABILITY OF TRAINED INDUSTRIAL PHYSICIANS

The demand for more and better trained medical personnel in war industries, under both governmental and private control, is steadily becoming more insistent. The scarcity of competent industrial nurses, engineers and physicians accords with an early impression of the Committee on Medical Preparedness of the American Medical Association; one of the first resolutions of the committee called for prompt organization and adequate support of training facilities for physicians interested in this field. As reported elsewhere in this issue, the committee is prepared to supply some data on the experience, training and facilities of physicians who devote a substantial part of their time to industrial affairs. Obviously, such lists of physicians constitute a record of men already placed. No matter what their qualifications, they are available for service elsewhere only at the expense of industrial service in which they are already engaged.

The present emergency will undoubtedly be sufficient inducement for many more physicians to undertake industrial medical service, especially those who have an interest in preventive medicine and a flair for administration. There are sound indications for believing that interest in industrial medicine and hygiene will not lapse as it did in the period following the last war. Opportunity for professional advancement, then, is most reassuring and need not be considered as limited to the period of the emergency. Certainly the obligation of medical educators to prepare the profession for greater and more competent participation in the maintenance of health in industry is much better recognized. At present organized instruction is available in a few medical and professional schools. Teaching facilities of the same type ought to be widespread and will be developed elsewhere without much difficulty as soon as financial support becomes available. The fundamentals of preventive industrial medicine and surgery

can be supplied to a well qualified physician in three months' time, especially if a period of controlled experience in an acceptable industrial medical department can be added to this instruction. Since the medical requirements of industry are so varied, considerable adaptability in the content of the course and in field work is essential. Medical societies are also developing introductory and refresher courses as part of the program to integrate all industrial medical activity under the joint guidance of the committees on industrial health in the state medical societies and the bureaus of industrial hygiene in the state governments.

The Subcommittee on Industrial Health and Medicine of the Federal Security Agency, acting as coordinator in this field, has developed a Committee on Registration and Training of Medical Personnel for Service in Industry. During the early period of adjustment to emergency conditions, physicians who wish to apply for intensive training or for actual placement in industry are urged to register their names with the office of the Council on Industrial Health of the American Medical Association, 535 North Dearborn Street, Chicago. It is expected that the development of such a central advisory and placement service will do much to supply industry with dependable sources of assistance and service from the medical profession.

THE MEDICALLY HANDICAPPED CHILD

Children whose physical handicaps are not readily visible to the observer constitute a special problem in the conservation of child health. Boyd¹ refers particularly to children with chronic illnesses rather than to those with surgical disabilities commonly classified under the head of crippling. More attention is paid to the crippled child in the narrow sense of the term than to any others. The child with medical "crippling," such as heart disease, congenital syphilis or diabetes, is seldom included in the classification of crippled children either under such laws as the Social Security Act or in voluntary programs.

Boyd holds that "the outlook for the child with chronic illness is determined not only by the type and amount of medical supervision he receives during and after his episodes of acute illness but also by the adequacy of his environment to meet his needs." The needs of the child include those demanded by the illness and those required for the safety and health of the normal child. The need of the child with chronic illness for medical supervision extends beyond the acute stages of the disease. Coupled with this is the necessity for supervision during protracted convalescence, perhaps with convalescent nursing home care, hospital care or care in a supervised foster home which gives superior

1. Boyd, J. D.: Conservation of the Medically Handicapped Child, *The Child* 5:91 (Oct.) 1940.

physical, economic or emotional environment as compared with that which exists in the child's own home. Special stress is laid on the importance of emotional factors. Compromises are often necessitated because of economic, social or emotional pressures which deprive the child of optimum opportunities for recovery and rehabilitation or because parents may be satisfied with passive methods when active methods are urgently required.

Medical phases of treatment should not be the sole consideration. The child's disability is not due entirely to his illness or to crippling from his medical handicap but includes social, educational and emotional inadequacies or maladjustments which may outweigh the physical incapacity. Particularly important is the isolation of the child from the normal contacts of the well child. This isolation increases in direct proportion to the prolongation of his handicap and may render the child unable to reorient himself in the normal surroundings and activities of healthy children. It may even handicap him into his adult life. "The situation surely is ironic, when medical treatment permits the continuation of life, yet socioeconomic forces prevent normal participation in its activities."

A satisfactory program for the medical handicapped child is outlined by Boyd in the following five essentials:

- (a) Routine physical examinations of well children to detect disease in its incipience.
- (b) Appraisal of the child's environment, with special attention to the possibility of correcting undesirable conditions.
- (c) Supervision of the child's welfare until maximum recovery is achieved.
- (d) Optimum facilities for treatment through convalescence.
- (e) Correlation of medical and nonmedical agencies "toward a plan for living which would be within the child's capacity."

Although the plan outlined is idealistic, "it does not call for a quality of medical attention different from that generally available; it calls primarily for a breadth of vision and an integration of the work of agencies concerned with the child." This integration calls for the services of the public school system, skilled social workers, public health nurses, visiting teachers and child psychologists, as well as of the physician. Only in favored areas can all these forces be brought to bear on the problem.

In a nation with an aging population and a falling birth rate it is not enough that child lives shall be saved. They must also be conserved. Much has been heard of late years about the inadequacy of medical care, but medical care may not be the main lack in many of these situations. Inadequate homes and inadequate appreciation of factors other than medical are vital to the health and welfare of children. The practicing physician has long recognized that his advice and his efforts are futile in many situations because means do not exist for carrying into effect his advice with relation to environment, nutrition and emotional adjustments. Such lack may frustrate the best of medical care.

MORBIDITY OF BRITISH WORKERS

An opportunity to compare the health of a sample of British workers as to physical condition and morbidity with the numerous reports of similar investigations in the United States is afforded by an article which appears in a recent issue of the *Lancet*.¹ The report covers an examination of 1,592 workers, including 1,352 men and 240 women. There was nothing amateurish or superficial about the examination. "Many were seen twice and a few three times; some 60 were sent for a second opinion to members of the consulting staff of the local municipal hospital. The pathological and x-ray facilities of the hospital were freely used; though it was not possible to do routine radiography of the chest or examine the cerebrospinal fluid." The distribution by age groups seems to have been fairly representative of a general working population, there being 290 between 17 and 29, 468 from 30 to 39, 319 from 40 to 49 and 275 from 50 to 64. Only workers actually employed were examined. Twenty employees were excluded because of absence on account of sickness. The report is detailed as to the defects discovered. In the table, only the main classifications in the original list are given.

Defects Found in 1,352 Men

Cardiovascular	298	Genitourinary	42
Alimentary (including dental)	1,485	Chronic rheumatic	21
Respiratory	50	Occupational	8
Nervous	18	Miscellaneous	836

Concerning the results the examiner says:

All the men and women examined were under national health insurance. The general standard of health cannot, therefore, be considered satisfactory. Of the 1,592 examined, 112 (7 per cent) would probably have been rejected for life insurance and might therefore be described as suffering from major disorders; many more would have been weighted. Minor disorders were legion and included bad teeth, dyspepsia, hernia, chronic bronchitis, defects of hearing and vision, anemia, varicose veins and deformed feet.

Of the 112 men and women in whom major disorders were found, 12 were, or had recently been, under medical care at the time of the examination. Similar records showed that in the case of varicose veins, a minor disorder of the 252 men who had the condition, only 7 had ever consulted their doctors about it. For the most part both major and minor disorders were neglected or unsuspected. Inquiry did not confirm the disinclination to seek advice noted at the Peckham Health Centre, although the workers as a rule sought medical attention only for the alleviation of symptoms which were both unpleasant and disabling. Actually, 50 per cent had seen their doctors during the preceding two years, and 22 per cent between two and five years ago. Most of the major disorders found were symptomless or symptoms which did not interfere with the daily work. The minor disorders were usually quite obvious; they were seen but not perceived. Bad teeth, as far as most of the subjects were aware, were quite natural and normal. Most of the major disorders would have benefited from medical care, if only as management. The minor disorders were largely

1. Morris, J. N.: A Medical Examination of 1,592 Workers, *Lancet* 1: 51 (Jan. 11) 1941.

avoidable and unnecessary; they could have been prevented, controlled or cured.

These findings demonstrate the value of routine medical inspection or health examination of adults, such as those already taken for granted in the school population. Once organized, regular health examinations would mark a major advance in public health.

Since this examination is based on a fair sample of the English working population, it seems to offer a challenge to those who claim that compulsory health insurance encourages preventive care, discovers disease in its early stages, assures adequate care of the insured at all times and maintains a higher physical standard for the insured than is found among the noninsured population of a like kind in the United States.

Current Comment

DANGEROUS TRADES

Every catastrophe in industry lends added force to the contention that the welfare of the employed population would be vastly improved if means and personnel were available to apply existing knowledge about prevention of accidents and disease. Mining is classed as a dangerous trade, yet much is known about the causes and prevention of dangerous exposures and much can be done to reduce the hazardous nature of this occupation. The United States Bureau of Mines investigated a recent disastrous explosion near Beckley, W. Va., and showed again that every coal mine is potentially a hazard for gas. Although the mine in question had been in operation for forty years without a report of the existence of gas, dangerous concentrations were discovered in the subsequent inquiry. The official report states that smoking was not prohibited and that probably all employees carried matches, contrary to all existing safety recommendations. It appears that regular and intelligent inspection would also have brought to light certain unsatisfactory ventilating practices, and that rock dusting would have eliminated coal dust as a potential cause or contributor to the explosion and consequent loss of life.

WORKERS IN INDUSTRIAL MEDICINE

Under a special order to factories issued by the medical welfare services in Great Britain in 1940, employers may be asked by the factory inspectorate to appoint medical officers on either a whole time or a part time basis. The Council of the British Medical Association has developed a salary scale for such appointments, in which connection it points out that the appointments are to be regarded as war time appointments made under abnormal conditions and that new conditions will probably prevail after the war. A full time medical officer in charge of medical work in a factory is to have a salary of £800 a year, and an assistant medical officer from £600 to £650 a year. It is said that at present no practitioner liable to service

in the army will be appointed to industry as a whole time medical officer. Furthermore, it is emphasized that it is preferable that medical officers in industry should be over 35 years of age. Physicians employed on a part time basis are to be paid on a salary equivalent to 1½ guineas for a session of not more than two hours. The Council of the British Medical Association has recommended that medical officers appointed to industry should preferably have had good experience in general practice. They should have first hand experience not only of medical but also of social conditions prevailing in the industrial community. They should be able to understand the point of view of, and to cooperate with, both the management and the workers. The Factory Department of the Ministry of Labor and National Service in Great Britain has issued a special memorandum on medical supervision in factories which outlines the duties of medical officers. This memorandum from the British Medical Association indicates the extreme importance now attached in Great Britain to the health of the worker in industry.

SPECIALTY PRACTICE AND INDUSTRIAL HEALTH

One of the important consulting groups in industry is the dermatologists, since the majority of all claims for compensation covering occupational disease fall in the classification of harmful exposure of the skin. For some years the Section on Dermatology and Syphilology of the American Medical Association has maintained a Committee on Industrial Dermatoses which has studied these problems jointly with a similar agency in the American Dermatological Association. Recently close working relationships have been established between this joint committee and the Council on Industrial Health. An early and important result of this collaboration has been the development of an acceptable medical definition of an occupational dermatosis and its submission to the Council for publication and general adoption:

An occupational dermatosis is a pathologic condition of the skin for which occupational exposure can be shown to be a major causal or a major contributory factor.

Through organized activity of this kind, acceptance of reliable standards governing the recognition, control and treatment of occupational cutaneous disorders by dermatologist, industrial practitioner and the general profession will be greatly hastened and strengthened. Other specialty groups have equally important reasons for clarifying their relationships to industry. The Council on Industrial Health has recommended to the sections in the Scientific Assembly that cooperating committees be created for the regular consideration of industrial problems. Given an energetic and representative membership and a clear conception of needs, there appears to be almost no limit to the salutary influence which these agencies can exert on medical accomplishment in industry and the clarification of medical aspects of workmen's compensation procedure.

MEDICAL PREPAREDNESS

In this section of The Journal each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY WAR DEPARTMENT

The following additional medical reserve corps officers have been ordered to extended active duty by the War Department:

BECKER, Maurice Loren, Captain, Chicago.
BERGER, Arthur Julian, Captain, New York.
BRANDON, Thomas Campbell, 1st Lieut., Williamsport, Pa.
BRYLAWSKI, Michael, 1st Lieut., Philadelphia.
CHING, Samuel, Captain, Victorville, Calif.
CLISBY, Keith Merle, Captain, Portland, Ore.
CROMWELL, James Oliver, 1st Lieut., Blackfoot, Idaho.
DAMMIN, Gustave John, 1st Lieut., New York.
DAVIS, Charles Quincy, Major, Houston, Texas.
DOMINICK, John Frank, 1st Lieut., Washington, D. C.
ERSAY, Emil Francis, Captain, Cleveland.
EVERETT, Peter, Captain, New Orleans.
FAIER, Herman Irwin, 1st Lieut., Los Angeles.
FEY, David William, Captain, Peoria, Ill.
FIRESTONE, Charles, Captain, Seattle.
FREDIANI, Alexander William, 1st Lieut., Wayne, Pa.
FULLER, Lawrence Stokes, Major, Columbia, S. C.
GARRETT, Robert Thompson, 1st Lieut., Southampton, L. I., N. Y.
GRAY, Luther Wilson, Captain, Washington, D. C.
GROSHART, Oscar Doyle, Captain, Slaton, Texas.
HAGEN, Walter Henry, 1st Lieut., East Orange, N. J.
HARDIN, Parker Calhoun, Captain, Monroe, N. C.
HAYWARD, Joseph Clauson, 1st Lieut., Chattanooga, Tenn.
HOWARD, Robert Bruce, 1st Lieut., Oklahoma City.
JOHNSTON, Robert Hartman, Captain, Clarksville, Ark.
KATZ, Seymour Milton, 1st Lieut., Brooklyn.
KAUFMAN, Russell Henry, Captain, Portland, Ore.

KAVANAGH, William Paul, 1st Lieut., Cooleemee, N. C.
KOSSMANN, Charles Edward, 1st Lieut., New York.
LaROE, Arthur, Captain, New York.
LEAVY, Philip Gerard, 1st Lieut., Pittsburgh.
LUTHER, Ross Daniel, 1st Lieut., Denver.
MANTZ, Harry Earl, 1st Lieut., St. Louis.
MAYORAL, Antonio, Major, New Orleans.
McHARDY, George Gordon, 1st Lieut., New Orleans.
MENDEL, Charles Louis, 1st Lieut., Washington, D. C.
MENDELIS, Christopher Joseph, 1st Lieut., Baltimore.
MILLER, Alexander, Captain, Cleveland.
MILLER, Hubert Wainwright, 1st Lieut., Artesia, N. M.
MITCHELL, Charles Henry, 1st Lieut., Decatur, Ga.
MURPHY, Owen Bernard, Jr., 1st Lieut., Peoria, Ill.
NUNN, Leslie Laughlin, Captain, Vancouver, Wash.
OETTING, William Henry, Jr., 1st Lieut., Wilkinsburg, Pa.
OGAARD, Adolph Thompson, 1st Lieut., New Orleans.
PARNALL, Christopher G., Jr., 1st Lieut., Rochester, N. Y.
RAMER, Samuel Milton, 1st Lieut., Las Cruces, N. M.
RICE, Albert John, 1st Lieut., Georgetown, Texas.
SANES, Gilmore Maurice, 1st Lieut., Pittsburgh.
STALS, Wayne W. C., Captain, Seattle.
SURACI, Alfred John, 1st Lieut., Washington, D. C.
THOMAS, Herbert Hall, 1st Lieut., Myrtle Point, Ore.
THORNESS, Edwin Trueman, Major, Denver.
TINSLEY, Milton, 1st Lieut., Chicago.
TREMAINE, Jay Eugene, 1st Lieut., Ajo, Ariz.
TRUEMAN, Robert Heiserman, 1st Lieut., Philadelphia.
WARD, Henry Hansford, 1st Lieut., Miami, Fla.
WATERS, Floyd Leo, 1st Lieut., Hugo, Okla.
WILSON, Gale Edward, Captain, Seattle.
WOLDENBERG, Saul Charles, Lieut. Col., Castle Point, N. Y.

SECOND CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Second Corps Area, which comprises the states of New York, New Jersey and Delaware:

ALTMAN, Jacob, 1st Lieut., New York, Camp Livingston, La.
AMYOT, Rudolph F., 1st Lieut., Cohoes, N. Y., West Point, N. Y.
ANGELO, Joseph A., 1st Lieut., Secaucus, N. J., Fort Knox, Ky.
BARNEY, Clyde O., Lieut. Col., Syracuse, N. Y., Pine Camp, N. Y.
BERCHENKO, Frank, 1st Lieut., Brooklyn, Fort Moultrie, S. C.
BRYANT, Tracy L., Captain, Syracuse, N. Y., Pine Camp, N. Y.
HURTON, Benjamin F., Jr., 1st Lieut., Dover, Del., Camp Stewart, Ga.
COHEN, Irving, 1st Lieut., Flushing, L. I., N. Y., Fitzsimons General Hospital, Denver.
COHEN, Max M., 1st Lieut., Brooklyn, Fort Benning, Ga.
COLLINS, Ralph T., Captain, Albany, N. Y., Induction Station, Syracuse, N. Y.
DEMBINSKI, Thomas H., 1st Lieut., Trenton, N. J., Camp Davis, N. C.
DI BRIZZI, Thomas G., Captain, Brooklyn, Fort Hamilton, N. Y.
DURIAM, James R., Jr., 1st Lieut., Wilmington, Del., Camp Croft, S. C.
FAIRCHILD, Robert D., 1st Lieut., Syracuse, N. Y., Pine Camp, N. Y.
FOGEL, David H., 1st Lieut., Brooklyn, Camp Blanding, Fla.
GADEK, Stanley A., 1st Lieut., Perth Amboy, N. J., Camp Forrest, Tenn.
GAMBERT, Lawrence, 1st Lieut., Brooklyn, Fort Dix, N. J.
GANZ, Samuel E., 1st Lieut., New York, Fort Wadsworth, N. Y.
GROSS, Reuben, 1st Lieut., Brooklyn, Camp Stewart, Ga.
GOLDBERG, George J., 1st Lieut., Woodhaven, N. Y., Fort Dix, N. J.
GOLDFEDER, Abraham C., 1st Lieut., Brooklyn, Camp Forrest, Tenn.
HALL, John B., 1st Lieut., Jamestown, N. Y., Camp Forrest, Tenn.
HATZ, Bernhard, 1st Lieut., Cedarhurst, L. I., N. Y., Induction Station, Buffalo.
HERSHMAN, Arthur, 1st Lieut., Brooklyn, Camp Blanding, Fla.
HOFFMAN, Parker M., 1st Lieut., Painted Post, N. Y., Fort Ontario, N. Y.
HUDSON, Howard S., 1st Lieut., Mays Landing, N. J., Camp Croft, S. C.
KINSEY, Roy E., 1st Lieut., Peckskill, N. Y., Camp Blanding, Fla.
KLUFFT, Jack M., 1st Lieut., Perth Amboy, N. J., Camp Forrest, Tenn.

KRISTAL, Jackson J., 1st Lieut., New York, Fort Wadsworth, N. Y.
KOENIG, George A., Lieut. Col., New York, Fort Jay, N. Y.
LEAMAN, Granville M., 1st Lieut., East Orange, N. J., Camp Croft, S. C.
LOVE, John W. P., Captain, New Castle, Del., Army Medical Center, Washington, D. C.
MANCUSO, Natale P., 1st Lieut., Buffalo, Fort Bragg, N. C.
MANUELE, Charles A., 1st Lieut., Rochester, N. Y., Fort Ontario, N. Y.
MAYER, Hyman R., 1st Lieut., Woodside, N. Y., Fort Bragg, N. C.
MORRIS, Carlyle, Captain, Metuchen, N. J., Fort Jackson, S. C.
NEBLETT, Douglas C., 1st Lieut., Great Kills, S. I., N. Y., Fort Monmouth, N. J.
NEMIROFF, Nathan, 1st Lieut., New York, Fort Bragg, N. C.
NOVELO, Joseph A., 1st Lieut., Elizabeth, N. J., Camp Davis, N. C.
PARVEY, Marcus A., 1st Lieut., Brooklyn, Camp Stewart, Ga.
PETRONE, John C., Jr., 1st Lieut., Suffern, N. Y., Southern New York Recruiting District, New York.
PYTMAN, David B., 1st Lieut., Port Washington, N. Y., Fort Barrancas, Fla.
PRICE, Louis A., 1st Lieut., Jackson Heights, N. Y., Camp Livingston, La.
ROBINSON, Walter G., 1st Lieut., New York, Madison Barracks, N. Y.
SABATINI, Silvio A., 1st Lieut., New York, Camp Claiborne, La.
SANDS, Abraham M., Captain, Brooklyn, Fort Benning, Ga.
SCHNAP, Emil H., 1st Lieut., Albany, N. Y., West Point, N. Y.
SERIO, Joseph C., 1st Lieut., Buffalo, Camp Forrest, Tenn.
SPIVACK, Isaac D., Captain, Brooklyn, Camp Blanding, Fla.
STRINGER, Sydney W., Captain, Syracuse, N. Y., Pine Camp, N. Y.
STUBENRAUCH, Walter H., 1st Lieut., Union City, N. J., Camp Davis, N. C.
TELLMAN, Edwin T., 1st Lieut., Palmyra, N. Y., Camp Claiborne, La.
WACHTEL, Sidney, 1st Lieut., New York, Fort Benning, Ga.
WATERS, Carlton H., 1st Lieut., Medina, N. Y., Fort Niagara, N. Y.
WEINER, Aaron, 1st Lieut., Brooklyn, Fort Hancock, N. J.
WEISS, Paul, 1st Lieut., Woodside, L. I., N. Y., Camp Blanding, Fla.
WHARTON, Rachurn J., Lieut. Col., Johnson City, N. Y., Pine Camp, N. Y.
WILSON, Charles H., Major, New York, Camp Blanding, Fla.
ZUCKERMAN, Isador C., Major, Brooklyn, Camp Peay, Tenn.

THIRD CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Third Corps Area, which comprises the states of Pennsylvania, Virginia, District of Columbia and Maryland:

AXELMAN, Edward Lewis, 1st Lieut., Darby, Pa., Military Reservation, Indiantown Gap, Pa.
BAIR, Victor Wherry, 1st Lieut., Belle Vernon, Pa., Camp Lee, Va.
BLOOM, Samuel Michael, 1st Lieut., Clifton Forge, Va., Camp Lee, Va.
BOYLAN, Joseph Thomas, 1st Lieut., Scranton, Pa., Military Reservation, Indiantown Gap, Pa.
CANDLER, Paul Kiser, 1st Lieut., Reedville, Va., Fort George G. Meade, Md.
CAPLAN, Aaron, 1st Lieut., Ellwood City, Pa., Fort George G. Meade, Md.
CHASE, Morris, Captain, Washington, D. C., Camp Lee, Va.
CHERVINKO, Joseph, 1st Lieut., Farrell, Pa., Military Reservation, Indiantown Gap, Pa.
CRAVOTTA, Charles Angelo, Captain, Pittsburgh, Fort Monroe, Va.
DEIBERT, Glenn Aeneas, 1st Lieut., Reading, Pa., Military Reservation, Indiantown Gap, Pa.
DESNICK, William Jay, 1st Lieut., Deal Island, Md., Fort George G. Meade, Md.
DIETRICH, Sterrett Ernest, Captain, Ingram, Pa., Fort Eustis, Va.
DRAYER, Calvin Searle, Captain, Upper Darby, Pa., Camp Lee, Va.
DUFALUT, Leo William, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.
ETTER, Lewis Elmer, Captain Warrendale, Pa., Fort George G. Meade, Md.
FINKELMAN, Samuel, 1st Lieut., Upper Darby, Pa., Fort George G. Meade, Md.
FISHKIN, Hymel, 1st Lieut., Natrona Heights, Pa., Fort George G. Meade, Md.
FISSEL, John Edward, Jr., 1st Lieut., Newport News, Va., Fort George G. Meade, Md.
FISTER, Thomas Reuben, 1st Lieut., Fredericksburg, Pa., Military Reservation, Indiantown Gap, Pa.
FOGEL, Julius, 1st Lieut., Lynchburg, Va., Fort Benning, Ga.
FRENKIL, James, 1st Lieut., Baltimore, Fort George G. Meade, Md.
GALLAHER, George Regis, Captain, Pittsburgh, Military Reservation, Indiantown Gap, Pa.
GILMARTIN, Joseph Aloysius, Captain, Pittsburgh, Fort George G. Meade, Md.
GINSBERG, Joseph Edwin, 1st Lieut., New Castle, Pa., Savannah Air Base, Savannah, Ga.
GOLDMAN, Gilbert Sanes, 1st Lieut., Pittsburgh, Fort George G. Meade, Md.
GOLDSTONE, Herbert, 1st Lieut., Baltimore, Fort George G. Meade, Md.
GROBMAN, Irving Leonard, 1st Lieut., Philadelphia, Fort George G. Meade, Md.
HARMEIER, John Watson, Captain, Pittsburgh, Fort Eustis, Va.
HOCKENBERRY, Everett Dale, Major, Etna, Pa., District Recruiting Office, Pittsburgh.
HOLLER, George Frank, Major, Waynesboro, Va., Camp Stewart, Ga.
HONIGMAN, Milton Albert, Captain, Baltimore, Camp Lee, Va.
JACQUES, George Alfred, Captain, Brackenridge, Pa., Military Reservation, Indiantown Gap, Pa.
JAMACK, John August, 1st Lieut., Yatesboro, Pa., Military Reservation, Indiantown Gap, Pa.
JOSE, John Frederick, Captain, Curtisville, Pa., Military Reservation, Indiantown Gap, Pa.
KAPLAN, Isadore, 1st Lieut., Baltimore, Fort George G. Meade, Md.
KAUFMAN, Benjamin Victor, 1st Lieut., Scranton, Pa., Fort George G. Meade, Md.
KISER, Jefferson Bishop, 1st Lieut., Emporia, Va., Fort Eustis, Va.
KULACKI, Leo Luke, 1st Lieut., Baltimore, Fort George G. Meade, Md.
LAKATOS, Nicholas Raymond, 1st Lieut., Nanticoke, Pa., Fort George G. Meade, Md.
LAMBERT, Richard Hooker, 1st Lieut., Baltimore, Camp Lee, Va.
LANDY, Julius C., 1st Lieut., Pittsburgh, Fort George G. Meade, Md.
MANGO, Albert Edward, Captain, Erie, Pa., Military Reservation, Indiantown Gap, Pa.
McFADDEN, Roscoe Isaac, 1st Lieut., Newport News, Va., Fort George G. Meade, Md.

McFARLAND, Kenneth Thomas Hanna, Jr., 1st Lieut., Coraopolis, Pa., Camp Lee, Va.
McSTEEN, Arthur Joseph, Captain, West Newton, Pa., Military Reservation, Indiantown Gap, Pa.
MECKSTROTH, Herman Franklin, 1st Lieut., Red Hill, Pa., Military Reservation, Indiantown Gap, Pa.
MENDOZA, Joseph William, Captain, Pittsburgh, Military Reservation, Indiantown Gap, Pa.
MILLER, Elmer Harry, 1st Lieut., Scranton, Pa., Fort Belvoir, Va.
MILLER, John Veil, Captain, Dillsburg, Pa., Fort Belvoir, Va.
MORRIS, Edward Starr, 1st Lieut., Wyncote, Pa., Fort Story, Va.
MORROCCO, John D., 1st Lieut., Pittsburgh, Military Reservation, Indiantown Gap, Pa.
ODEN, Philip Wood, Captain, Richmond, Va., Camp Lee, Va.
PEARCE, Leroy Sannoner, 1st Lieut., Falkner, Miss., Camp Lee, Va.
PETRAGLIA, Angelo Anthony, 1st Lieut., Pittsburgh, Military Reservation, Indiantown Gap, Pa.
PUGH, George Elbert, 1st Lieut., Scranton, Pa., Military Reservation, Indiantown Gap, Pa.
RACHUNIS, Michael Lewis, 1st Lieut., Glen Lyon, Pa., Military Reservation, Indiantown Gap, Pa.
REDDING, Willis Arthur, 1st Lieut., Towanda, Pa., Military Reservation, Indiantown Gap, Pa.
RILEY, Francis William, 1st Lieut., Scranton, Pa., Military Reservation, Indiantown Gap, Pa.
ROBERTS, David P., 1st Lieut., Baltimore, Fort George G. Meade, Md.
ROLLINS, Clark Thomas, 1st Lieut., Brackenridge, Pa., Military Reservation, Indiantown Gap, Pa.
ROMAGOSA, Samuel Sample, Captain, Philadelphia, Fort George G. Meade, Md.
ROMANOW, Peter W., 1st Lieut., Philadelphia, Military Reservation, Indiantown Gap, Pa.
ROSENBAUM, George Robert, 1st Lieut., Jewell Ridge, Va., Fort George G. Meade, Md.
RUDMAN, Gilbert Elmore, 1st Lieut., Baltimore, Fort George G. Meade, Md.
RUSSO, Albert John, 1st Lieut., Check, Va., Fort Belvoir, Va.
SCHULTZ, Edward Murry, Captain, McKees Rocks, Pa., Military Reservation, Indiantown Gap, Pa.
SCHULTZ, Frank Bernard, Captain, Falls Church, Va., Military Reservation, Indiantown Gap, Pa.
SCHWALM, Ralph Ivan, 1st Lieut., Valley View, Langley Field, Va.
SELBY, George Durward, 1st Lieut., Germantown, Md., Fort George G. Meade, Md.
SHAFFER, Donald Young, Captain, New Brighton, Pa., Fort George G. Meade, Md.
SHAW, Harry Edward, Captain, Donegal, Pa., Military Reservation, Indiantown Gap, Pa.
SIMS, Arthur Isaac, 1st Lieut., Philadelphia, Military Reservation, Indiantown Gap, Pa.
SMITH, Lewis Aaron, Captain, Pen Argyl, Pa., Fort George G. Meade, Md.
SNIDER, John Dennis, 1st Lieut., Ashburn, Va., Fort George G. Meade, Md.
SNYDER, Luther Henry, 1st Lieut., Washington, D. C., Washington Military District, Washington, D. C.
STEINBERG, Harry, 1st Lieut., Bastian, Va., Fort George G. Meade, Md.
STEINER, Sylvan Adolph, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.
STEPT, Raymond, 1st Lieut., Pittsburgh, Camp Lee, Va.
STERLING, Julian Alexander, 1st Lieut., Philadelphia, Fort George G. Meade, Md.
SUNDAY, Stuart Dos Passos, 1st Lieut., Baltimore, Fort George G. Meade, Md.
SUTER, James Marion, Captain, Bristol, Va., Camp Lee, Va.
TOSICK, William Andrew, 1st Lieut., Cambridge, Md., Fort George G. Meade, Md.
VORBRINCK, Thomas Mathews, Captain, Norfolk, Va., Fort Monroe, Va.
WASSELL, George Clayton, 1st Lieut., Sharon, Pa., Military Reservation, Indiantown Gap, Pa.
WEYAND, James Gilbert Mason, Captain, Beaver, Pa., Washington, D. C.
WILCOX, Wilfred Whitman, Captain, Montoursville, Pa., Military Reservation, Indiantown Gap, Pa.
WILNER, Paul Robert, 1st Lieut., Washington, D. C., General Dispensary, U. S. Army, Baltimore.
WINN, Washington Carlyle, 1st Lieut., Richmond, Va., Fort Monroe, Va.
WIRTS, Carl Alexander, 1st Lieut., Pittsburgh, Fort Monroe, Va.
ZOLA, Samuel, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.

FOURTH CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Fourth Corps Area, which comprises the states of Tennessee, North Carolina, South Carolina, Alabama, Georgia, Mississippi, Florida and Louisiana:

BABERS, Henry J., Jr., 1st Lieut., Gainesville, Fla., Fort McPherson, Ga.
BERTINOT, Gerald Jr., 1st Lieut., Sunset, La., Fort Benning, Ga.
BROWN, Harold O., Major, Tampa, Fla., Fort Bragg, N. C.
COHEN, Jonathan, 1st Lieut., Savannah, Ga., Fort Benning, Ga.
COOPER, Albert L., 1st Lieut., Chapel Hill, Tenn., Fort Bragg, N. C.
COOPER, Albert L., 1st Lieut., New Orleans, Fort Bragg, N. C.
CRICHLAW, Richard S., Lieut. Col., New Orleans, Fort Bragg, N. C.
DAVIS, Charles W., Jr., 1st Lieut., Humboldt, Tenn., Fort Jackson, S. C.
DAVIS, John P., Captain, Winston-Salem, N. C., Camp Livingston, La.
DROHOMER, Peter, Captain, Daytona Beach, Fla., Fort Benning, Ga.

FERBER, Leon, 1st Lieut., Nashville, Tenn., Camp Blanding, Fla.
GRIFFIN, Eugene L., 1st Lieut., Augusta, Ga., Fort Oglethorpe, Ga.
KNOEPP, Louis F., Captain, Shreveport, La., Fort Benning, Ga.
LEVY, Louis, Major, Memphis, Tenn., Camp Shelby, Miss.
MAYS, John R. S., Captain, Macon, Ga., Camp Blanding, Fla.
McEVITT, William G., 1st Lieut., Madisonville, Tenn., Camp Shelby, Miss.
MERRITT, J. Webster, 1st Lieut., Jacksonville, Fla., Camp Blanding, Fla.
MOORHEAD, William H., 1st Lieut., Goldville, S. C., Camp Blanding, Fla.
NAUGLE, Thomas C., 1st Lieut., Gadsden, Ala., Fort Bragg, N. C.
NELSON, Thomas F., Captain, Tampa, Fla., Fort Benning, Ga.
NEUBERN, Walter R., 1st Lieut., Statesville, N. C., Fort Benning, Ga.
NUNN, Joshua H., 1st Lieut., Ripley, Tenn., Fort McPherson, Ga.
OETJEN, George E., Major, Jacksonville, Fla., Fort Benning, Ga.
PARSONS, Hugh E., 1st Lieut., Tampa, Fla., Camp Shelby, Miss.
RAMSAY, Thomas R., 1st Lieut., Laurel, Miss., Fort Bragg, N. C.
RAMSEY, George A., Captain, Farmerville, La., Fort McClellan, Ala.
ROPER, C. James, 1st Lieut., Jasper, Ga., Fort Benning, Ga.

SANDUSKY, William R., Captain, Pensacola, Fla., Camp Blanding, Fla.
SHEPARD, Richard C., Captain, LaFayette, Ga., Fort Bragg, N. C.
SUMMER, William C., Major, Minden, La., Camp Livingston, La.
TEEM, Martin V. B., 1st Lieut., Marietta, Fla., Fort Bragg, N. C.
WEIL, Nathan, Jr., 1st Lieut., Jacksonville, Fla., Fort McPherson, Ga.
WHITEHEAD, Clarence M., 1st Lieut., Greenville, Ga., Fort Bragg, N. C.
WILLIEN, Leon J., Captain, Knoxville, Tenn., Fort Jackson, S. C.
WISE, Robert A., 1st Lieut., Chattanooga, Tenn., Fort McPherson, Ga.
ZUCKERMAN, William, Major, Kentwood, La., Camp Livingston, La.

Orders Revoked

ALBRIGHT, Samuel L., 1st Lieut., Belmont, N. C.
BERGMAN, Sam, 1st Lieut., New Orleans.
RICHARD, Philip M., 1st Lieut., Orlando, Fla.
BUSSABARGER, Robert A., 1st Lieut., Memphis, Tenn.
COE, Isaac S., 1st Lieut., Memphis, Tenn.
HOLLOWELL, Claude V., 1st Lieut., Corapeake, N. C.
JOHNSON, John R., Major, Jackson, Miss.
MARTIN, Farris J., 1st Lieut., Montgomery, Ala.
PATTON, Marion L., Captain, Memphis, Tenn.

SEVENTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Seventh Corps Area, which comprises the states of North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri, Arkansas and Wyoming:

AAGESEN, Carl Arthur, 1st Lieut., Dows, Iowa, Fort Knox, Ky.
ALDEN, Oscar, 1st Lieut., Red Oak, Iowa, Fort Knox, Ky.
BECKER, George Henry, Captain, St. Louis, Fort Knox, Ky.
BLAIR, Ralph Ledwich, 1st Lieut., Broken Bow, Neb., Fort Leonard Wood, Mo.
BOE, Henry, Captain, Sioux City, Iowa, Fort Knox, Ky.
BOLEY, James Oren, 1st Lieut., Pilot Grove, Mo., Fort Knox, Ky.
BOTTORFF, Melvin Kinch, Captain, Lake Village, Ark., Fort Knox, Ky.
BRAY, Kenneth Eben, 1st Lieut., Park Rapids, Minn., Fort Knox, Ky.
BREWSTER, Edward Sumner, 1st Lieut., Boone, Iowa, Fort Knox, Ky.
BROWN, John Jefferson, 1st Lieut., Fulton, Mo., Fort Knox, Ky.
CARLSON, Elmer Henry, 1st Lieut., Muscatine, Iowa, Fort Knox, Ky.
CLEARY, Frank, 1st Lieut., St. Louis, Hamilton Field, Calif.
COWAN, Watt Overton, 1st Lieut., Greenfield, Iowa, Fort Knox, Ky.
DAVIDSON, Henry Everett, Captain, Lead, S. D., Fort Knox, Ky.
DICK, Harry Jacob, 1st Lieut., St. Louis, Hamilton Field, Calif.
DOUGLAS, Thomas Harrelson, Jr., 1st Lieut., Osceola, Mo., Fort Knox, Ky.
FAST, William Spencer, 1st Lieut., Atchinson, Kan., Fort Knox, Ky.
FLYNN, George Thomas, 1st Lieut., St. Louis, Fort Leonard Wood, Mo.
HAIRSTON, Glenn George, 1st Lieut., Prescott, Ark., Fort Knox, Ky.
HAYES, Paul Wesley, 1st Lieut., Hot Springs, S. D., Fort Francis E. Warren, Wyo.
HELBING, Edward John, 1st Lieut., Richmond Heights, Mo., Fort Knox, Ky.
HILL, Edwin Ruthven, Jr., 1st Lieut., Pleasanton, Kan., Fort Knox, Ky.
HILL, Willard Hughes, 1st Lieut., Bismarck, N. D., Fort Lewis, Wash.
HUGHES, Shelby Bond, 1st Lieut., Clinton, Mo., Fort Knox, Ky.
KARN, Jacob Francis, 1st Lieut., St. Paul, Fort Knox, Ky.
KENNEDY, James Forde, 1st Lieut., Alliance, Neb., Fort Leonard Wood, Mo.
LANNON, James Woodward, 1st Lieut., Clear Lake, Iowa, Camp J. T. Robinson, Ark.
LARSON, Ernest John, 1st Lieut., Jamestown, N. D., Fort Riley, Kan.

LEE, Robert Louis, Captain, Kansas City, Kan., Fort Knox, Ky.
MAHOWALD, Ralph Edward, 1st Lieut., Grand Forks, N. D., Fort Knox, Ky.
MAILLIARD, Robert Eloy, Captain, Storm Lake, Iowa, Fort Knox, Ky.
MULLINIKS, Edward Cotham, 1st Lieut., Springfield, Mo., Fort Knox, Ky.
NELSON, Nesmith Perry, Captain, Brainerd, Minn., Fort Knox, Ky.
NEMEC, Edward Charles, 1st Lieut., Omaha, Fort Knox, Ky.
NEUMAIER, Arthur, 1st Lieut., Lindstrom, Minn., Fort Knox, Ky.
NEWPORT, Pearce Everett, Captain, Clarinda, Iowa, Fort Knox, Ky.
NORALL, Victor Delmer, 1st Lieut., Lexington, Neb., Fort Knox, Ky.
O'BRIEN, William Martin, Captain, St. Paul, Fort Knox, Ky.
O'NEAL, Harold Elmo, Captain, Tipton, Iowa, Fort Knox, Ky.
PERLMAN, Everett Charles, Captain, Minneapolis, Fort Knox, Ky.
PLOTKE, Harry Louis, 1st Lieut., Little Falls, Minn., Fort Meade, S. D.
RICE, Grover Cleveland, Major, Kansas City, Mo., Fort Knox, Ky.
RILEY, Warren Sumner, Captain, El Dorado, Ark., Fort Knox, Ky.
RUMPF, Carl Walter, Captain, Faribault, Minn., Fort Knox, Ky.
RYAN, John Joseph, Major, St. Louis, Fort Knox, Ky.
SHUPPE, Lester L., 1st Lieut., Fairbury, Neb., Fort Leonard Wood, Mo.
SPAFFORD, Allen Leo, Captain, Oswatimie, Kan., Fort Knox, Ky.
STOCK, Maurice Frederick, 1st Lieut., St. Louis, Fort Riley, Kan.
SWEDENBURG, Paul Alexander, Captain, Swanville, Minn., Fort Knox, Ky.
TATE, Waddy Phocion, Jr., Captain, St. Louis, Fort Knox, Ky.
THOMPSON, Floyd Ammann, Captain, St. Paul, Fort Knox, Ky.
WELLS, Aubrey Hanson, 1st Lieut., Boonville, Mo., Fort Leonard Wood, Mo.
WILLIAMS, Martin Palmer, Captain, Franklin, Neb., Fort Knox, Ky.
WILLIAMS, Pearl Alexander, 1st Lieut., St. Louis, Camp Livingston, La.
WINDER, Clifford D., Captain, Waterloo, Iowa, Fort Knox, Ky.
ZARCHY, Alex Cecil, 1st Lieut., Des Moines, Iowa, Fort Knox, Ky.

Orders Revoked

BENESH, Louis Alfred, 1st Lieut., Minneapolis, Fort Francis E. Warren, Wyo.
BRICKER, Eugene Myron, 1st Lieut., Columbia, Mo., Fort Leonard Wood, Mo.
COLLINS, Leigh George, 1st Lieut., West Point, Neb., Fort Ord, Calif.
CRAWFORD, William Henry, Major, Omaha, Fort Ord, Calif.
WHITE, Charles Herbert, 1st Lieut., Kansas City, Mo., Fort Leonard Wood, Mo.

NINTH CORPS AREA

The following additional medical reserve officers have been ordered to extended active duty by the Commanding General, Ninth Corps Area, which comprises the states of Washington, Montana, Oregon, Nevada, Utah, California and Idaho:

ABRAMSON, Arthur J., 1st Lieut., San Francisco, Fort Ord, Calif.
ALLEN, Carlton S., Major, Los Angeles, Southern California Military District, Los Angeles.
ANDREWS, A. V., 1st Lieut., Livingston, Calif., Camp San Luis Obispo, Calif.
ARMOUR, Paul S., 1st Lieut., Seattle, Fort Lewis, Wash.
ATKINS, Charles B., Captain, Portland, Ore., Vancouver Barracks, Wash.
BREGER, Samuel, Captain, San Francisco, Fort Scott, Calif.
CHAIN, John S., 1st Lieut., Eureka, Calif., Presidio of Monterey, Calif.
CHRISTENSEN, Chester H., 1st Lieut., Bountiful, Utah, 9th Army Corps, Fort Lewis, Wash.
COATS, Robert M., 1st Lieut., Weiser, Ida., 3d Medical Battalion, Fort Lewis, Wash.
COTTRELL, George W., 1st Lieut., Portland, Ore., Fort Lewis, Wash.
DAGGETT, Gilbert G., 1st Lieut., Madera, Calif., Fort Worden, Wash.
DONAHEY, Victor V., 1st Lieut., Los Angeles, Camp San Luis Obispo, Calif.
DUNCAN, David G., 1st Lieut., Council, Ida., 41st Division, Camp Murray, Wash.
EASLEY, Clifford E., 1st Lieut., Redondo Beach, Calif., First Medical Regiment, Fort Ord, Calif.
ECK, Raymond L., 1st Lieut., Lewiston, Mont., Fort Lewis, Wash.
GANTENBEIN, Calvin E., Captain, Portland, Ore., Fort Lewis, Wash.
GOLDMAN, Mervin J., 1st Lieut., San Francisco, Fort Winfield Scott, Calif.
GORDON, Kenneth W., 1st Lieut., Los Angeles, Camp Callan, Torrey Pines, Calif.
GREEN, Ray Carr, Captain, San Bernardino, Calif., Camp Haan, Riverside, Calif.

HALE, Warren W., Captain, Portland, Ore., Fort Lewis, Wash.
HANNA, Curtis M., 1st Lieut., San Diego, Calif., Fort Ord, Calif.
HOLLOMBE, Samuel M., 1st Lieut., Los Angeles, First Medical Regiment, Fort Ord, Calif.
HUME, Wayne S., 1st Lieut., Pasadena, Calif., Camp Roberts, Calif.
KESLING, Emmett F., 1st Lieut., Wilmington, Calif., Presidio of Monterey, Calif.
KING, Stuart D., 1st Lieut., Pasadena, Calif., Fort Ord, Calif.
KIRK, Arthur H., 1st Lieut., Fresno, Calif., Seventh Division, Fort Ord, Calif.
KOSITCHEK, Robert J., 1st Lieut., Los Angeles, Seventh Division, Fort Ord, Calif.
KUFFEL, Mark J., 1st Lieut., Los Angeles, Seventh Division, Fort Ord, Calif.
LEVIN, Edward A., 1st Lieut., San Francisco, Fort Scott, Calif.
LEWIS, Thomas T., 1st Lieut., Bakersfield, Calif., 7th Division, Fort Ord, Calif.
LINNE, Francis B., 1st Lieut., Los Angeles, Camp Callan, Torrey Pines, Calif.
MACDOUGALL, Walter H., Captain, Oswego, Ore., Fort Lewis, Wash.
MANDELL, Joseph, 1st Lieut., Los Angeles, Fort Ord, Calif.
MARSHALL, Joseph W., 1st Lieut., Twin Falls, Ida., 3d Medical Battalion, Fort Lewis, Wash.
MASON, Charles E., Captain, Temple City, Calif., First Medical Regiment, Fort Ord, Calif.
MCKENNA, Stephen E., 1st Lieut., Los Angeles, Camp Callan, Torrey Pines, Calif.
MEILSTRUP, Drew B., Captain, Salt Lake City, Camp San Luis Obispo, Calif.
MERRET, Russell J., 1st Lieut., Dunsmuir, Calif., Seventh Division, Fort Ord, Calif.
MILLER, Benjamin F., 1st Lieut., Yuba City, Calif., Fort Ord, Calif.
MITCHELL, William J., 1st Lieut., Alhambra, Calif., Seventh Division, Fort Ord, Calif.
MOHUN, Charles C., 1st Lieut., San Francisco, First Medical Regiment, Fort Ord, Calif.
MUDRY, Joseph, 1st Lieut., San Pedro, Calif., Fort Ord, Calif.
MUNGER, Irvin A., Captain, Vancouver, Wash., Vancouver Barracks, Wash.

MURPHY, Morton J., 1st Lieut., Redding, Calif., 7th Division, Fort Ord, Calif.
 NETHERY, William M., 1st Lieut., Covina, Calif., Fort Ord, Calif.
 PERRY, William J., 1st Lieut., Chico, Calif., Camp Callan, Torrey Pines, Calif.
 PHETTEPLACE, Dale Oscar, 1st Lieut., Fullerton, Calif., Presidio of Monterey, Calif.
 PIERCY, Watt H., 1st Lieut., Hillsboro, Ore., Fort Lewis, Wash.
 PITMAN, Harry Theron, 1st Lieut., Fresno, Calif., Fort Ord, Calif.
 POTASZ, Thomas M., Captain, Los Angeles, Camp Callan, Torrey Pines, Calif.
 PRIVETT, Lowell B., Captain, Boise, Ida., Fort Lewis, Wash.
 QUINN, William J., 1st Lieut., San Francisco, Camp McQuaide, Calif.
 ROSS, Weldon T., 1st Lieut., McMinnville, Ore., Fort Lewis, Wash.
 RUKKE, Raymond V., 1st Lieut., Monterey, Calif., Fort Ord, Calif.
 SCHADE, Frank F., Captain, Los Angeles, Camp Callan, Torrey Pines, Calif.
 SHACHTMAN, Joseph M., 1st Lieut., Los Angeles, Camp Callan, Torrey Pines, Calif.
 SILVERGLADE, Alexander, 1st Lieut., Livermore, Calif., 30th Infantry, Presidio of San Francisco, Calif.
 SIMARD, Ernest E., 1st Lieut., Los Angeles, Fort Ord, Calif.
 SMITH, Gordon K., Captain, Portland, Ore., Fort Lewis, Wash.
 SOLTER, Nathan, 1st Lieut., Santa Cruz, Calif., Fort Scott, Calif.
 SORENSON, Edward J., 1st Lieut., Beverly Hills, Calif., Fort Ord, Calif.
 STARR, Harvey E., 1st Lieut., Los Angeles, March Field, Calif.
 STEELE, John G., 1st Lieut., Boise, Ida., Fort Douglas, Utah.
 STILLWELL, Leland E., Captain, Hollywood, Calif., Camp Callan, Torrey Pines, Calif.
 SUCKOW, George R., Captain, Portland, Ore., Fort Lewis, Wash.
 SWERDLOFF, Harold, 1st Lieut., Los Angeles, Camp Roberts, Calif.
 TAYLOR, Leonard M., 1st Lieut., San Bernardino, Calif., Camp Haan, Riverside, Calif.

TERRY, James G., 1st Lieut., San Francisco, Camp San Luis Obispo, Calif.
 THUESSEN, Andrew E., 1st Lieut., San Quentin Prison, Calif., Fort Ord, Calif.
 WALKER, Leon R., 1st Lieut., Monterey Park, Calif., Fort Ord, Calif.
 WESTERHOUT, Fritz C., Captain, Manhattan Beach, Calif., Camp Callan, Torrey Pines, Calif.
 WHITAKER, Joseph L., 1st Lieut., Bakersfield, Calif., Seventh Division, Fort Ord, Calif.
 WHITE, Ralph E., 1st Lieut., Santa Ana, Calif., Fort Ord, Calif.
 WILSON, Warren A., 1st Lieut., Los Angeles, Fort Ord, Calif.
 WORO, Benjamin, Captain, Chowchilla, Calif., First Medical Regiment, Fort Ord, Calif.
 YOUNG, Erwin L., Captain, San Diego, Calif., Camp Callan, Torrey Pines, Calif.
 ZESCHIN, Oscar L., American Falls, Ida., Fort Worden, Wash.
 ZUKOVICH, George E., Captain, San Diego, Calif., Fort Rosecrans, Calif.

Ordered for Instruction

CAMPBELL, Robert M., 1st Lieut., Helena, Mont., Carlisle Barracks, then to Camp Grant, Ill.
 FATTIC, Grover R., 1st Lieut., Hot Springs, Mont., Carlisle Barracks, then to Camp Grant, Ill.
 GNOSE, Donald D., 1st Lieut., Townsend, Mont., Carlisle Barracks, then to Camp Grant, Ill.
 MacKENZIE, Duncan Stuart Jr., 1st Lieut., Havre, Mont., Carlisle Barracks, then to Camp Grant, Ill.
 ROSS, Theodore V., 1st Lieut., Ely, Nev., Carlisle Barracks, then to Camp Grant, Ill.

Relieved from Duty or Resigned

HIGGINS, John W., 1st Lieut., resigned.
 LUND, Grant, 1st Lieut., relieved from duty.
 MOHUN, Charles C., 1st Lieut., orders revoked.

NAVAL RESERVE OFFICERS ON ACTIVE DUTY

The following medical officers of the U. S. Naval Reserve have reported for active duty:

BOUNDS, Lemann H., Lieut. (j. g.), M. C.-V. (S.), New Orleans Naval Reserve Air Base, New Orleans.
 BOWSER, Frank E., Lieut., M. C.-V. (G.), Key West, Fla., Naval Air Station, Key West, Fla.
 CAMPBELL, Charles A., Lieut. (j. g.), M. C.-V. (G.), Adrian, Mich., Naval Recruiting Station, Detroit.
 DUNCAN, Ralph E., Lieut. Comdr. M. C.-V. (G.), Kansas City, Mo., Naval Reserve Air Base, Kansas City, Kan.
 FLEISCHER, Harold W., Lieut. (j. g.), M. C.-V. (G.), Chelsea, Mass., Naval Training Station, Newport, R. I.
 FORRESTER, Charles R., Lieut. (j. g.), M. C.-V. (G.), Toledo, Ohio, Naval Air Station, San Diego, Calif.
 FREGOSI, Henry J., Lieut., M. C.-V. (S.), Rutland, Vt., Dispensary, Inshore Patrol Base C, East Boston, Mass.
 GOLDSMITH, Lauren Holmes, Lieut. Comdr., M. C.-V. (S.), Atlanta, Ga., Sixth Naval District.
 HAGUE, Robert F., Lieut. Comdr., M. C.-O., Flint, Mich., Naval Training Station, Great Lakes, Ill., Henry Ford School.
 HATCH, Joseph C., Lieut., M. C.-V. (S.), Johnstown, Pa., Norfolk Naval Hospital.
 HAWES, John K., Lieut., M. C.-V. (G.), Brooklyn, Third Naval District, Naval Reserve Flight Selection Board.
 HEINLEIN, John A., Lieut. (j. g.), M. C.-V. (G.), Brooklyn, Naval Hospital, Brooklyn.
 HOLM, Alf. J., Lieut. Comdr., M. C.-V. (S.), Chicago, Naval Reserve Midshipmen School, Chicago.
 HUNTINGTON, Robert W., Jr., Lieut. M. C.-V. (S.), New York, Naval Hospital, Newport, R. I.
 JOHNSRUD, Russell L., Lieut. (j. g.), M. C.-O., Portland, Ore., Naval Reserve Recruiting Station, Portland, Ore.
 KAHLE, Warren F., Lieut. Comdr., M. C.-V. (S.), Larchmont, N. Y., Norfolk Naval Hospital.
 KANE, John T., Lieut. (j. g.), M. C.-V. (G.), Binghamton, N. Y., Naval Hospital, Newport, R. I.
 KRUEGER, Albert P., Comdr., M. C.-V. (S.), Berkeley, Calif., Laboratory Research Unit No. 1, San Francisco.
 LUCE, James C., Lieut. (j. g.), M. C.-V. (G.), Oakland, Calif., Naval Hospital, Mare Island, Calif.
 MacGOWAN, Birkhead, Lieut. Comdr., M. C.-V. (S.), Baltimore, Navy Yard, Charleston, S. C.
 MACKINNON, Donald G., Lieut. (j. g.), M. C.-V. (G.), Exeter, Calif., 2d Marine Division, F. M. F., Marine Corps Base, San Diego, Calif.
 MANLEY, John G., Lieut. Comdr., M. C.-V. (S.), Philadelphia, Norfolk Naval Hospital.
 MARTIN, James R., Lieut., M. C.-V. (S.), Houston, Texas, Naval Reserve Air Base, Dallas, Texas.
 MASON, Malcolm W., Lieut., M. C.-V. (S.), New York, Third Naval District.
 McKITTRICK, John C., Lieut. Comdr., M. C.-O., Burlington, Iowa, Naval Training Station, Great Lakes, Ill.
 MOSELEY, Lonnie B., Lieut., M. C.-V. (S.), Jackson, Miss., Naval Hospital, Parris Island, S. C.
 NEILSON, John, Jr., Lieut. Comdr., M. C.-V. (S.), New York, Naval Torpedo Station, Newport, R. I.

NELSON, Charles M., Lieut. (j. g.), M. C.-V. (S.), Richmond, Va., Norfolk Naval Hospital, Portsmouth, Va.
 NEWHOUSE, Newman H., Lieut. (j. g.), M. C.-V. (S.), Charleston, W. Va., Naval Air Station, Jacksonville, Fla.
 O'TOOLE, John B., Lieut. (j. g.), M. C.-V. (G.), New Bedford, Mass., Naval Hospital, Newport, R. I.
 PARKER, Thomas, Lieut. (j. g.), M. C.-V. (S.), Charleston, S. C., 6th Naval Dist., Flight Selection Board, Atlanta, Ga.
 PARRISH, James, Lieut. (j. g.), M. C.-V. (S.), Portsmouth, Va., Navy Yard, Norfolk, Va.
 PEARCE, James H., Lieut. (j. g.), M. C.-V. (G.), Dillon, S. C., Naval Hospital, Parris Island, S. C.
 PERCY, Archibald E., Jr., Lieut. (j. g.), M. C.-V. (G.), Alexandria, La., Naval Air Station, Alameda, Calif.
 PETERSON, Thomas H., Lieut. Comdr., M. C.-V. (S.), Boston, Naval Hospital, Chelsea, Mass.
 PIEPER, Howard C., Lieut. (j. g.), M. C.-V. (G.), Long Branch, N. J., 9th Naval District, Flight Selection Board.
 POLLOCK, Bruce H., Lieut., M. C.-V. (S.), Norfolk, Va., Norfolk Navy Yard, Portsmouth, Va.
 PRICE, Richard H., Lieut. Comdr., M. C.-V. (S.), Quantico, Va., Receiving Ship, Norfolk, Va.
 RECH, Joseph F., Lieut., M. C.-V. (S.), Indiana, Pa., Norfolk Naval Hospital.
 REYMONT, Anthony E., Lieut. Comdr., M. C.-V. (G.), Santa Fe, N. M., 2d Marine Brigade, F. M. F., Marine Corps Base, San Diego, Calif.
 ROBINSON, Edwin G., Lieut., M. C.-V. (S.), Portland, Ore., Naval Hospital, Mare Island, Calif.
 ROGERS, John W., Lieut., M. C.-V. (S.), New York, Naval Training Station, Norfolk, Va.
 RUSSELL, William M., Lieut. Comdr., M. C.-V. (S.), Bridgeport, Calif., Naval Training Station, San Diego, Calif.
 SCHIRMER, Adelbert F., Lieut., M. C.-V. (S.), Boston, Naval Air Station, Jacksonville, Fla.
 SCHMOELE, John M., Lieut. Comdr., M. C.-V. (S.), Los Angeles Naval Dispensary, Long Beach, Calif.
 STEWART, Wayne H., Lieut. (j. g.), M. C.-O., Coraopolis, Pa., Naval Recruiting Station, Pittsburgh.
 STRACK, Jerome A., Lieut. (j. g.), M. C.-V. (G.), South Orange, N. J., Submarine Base, New London, Conn.
 SULZBERGER, Marion B., Lieut. Comdr., M. C.-V. (S.), New York, Naval Hospital, Philadelphia.
 TENNEY, Benjamin, Jr., Lieut. Comdr., M. C.-V. (S.), Boston, Naval Hospital, Portsmouth, N. H.
 THORNHILL, William A., Jr., Lieut. (j. g.), M. C.-V. (G.), Charleston, W. Va., Naval Reserve Recruiting Station, Charleston, W. Va.
 WATTLES, Frank M., Lieut. (j. g.), M. C.-V. (S.), Jacksonville, Fla., Naval Air Station, Jacksonville, Fla.
 WEBBER, Joseph T., Lieut. (j. g.), M. C.-V. (G.), Brooklyn, Marine Barracks, Quantico, Va.
 WHITEHEAD, Hugh G., Jr., Lieut., M. C.-O., Baltimore, Fitzsimons General Hospital, Denver.
 WOLF, Horace L., Lieut. (j. g.), M. C.-V. (G.), New Orleans, 2d Marine Division, F. M. F., Marine Corps Base, San Diego, Calif.

REGULAR ARMY ORDERS

BOWERS, Garvey B., Captain, from Fort Hayes, Ohio, to the Puerto Rican Department, sailing from New York, February 25.
BOWERS, John A., 1st Lieut., and CUNNINGHAM, George R., 1st Lieut., from Fort Hayes, Ohio, to the Puerto Rican Department, sailing from New York, February 25.
COGAN, Leo J., Captain, from Chanute Field, Ill., to the Hawaiian Department, sailing from New York, March 1.
DUTROW, Howard V., Major, and SHAPIRO, William M., Major, from Fort Hayes, Ohio, to the Puerto Rican Department, sailing from New York, February 25.
GILES, Robert W., 1st Lieut., from Fort Riley, Kan., to the Philippine Department, sailing April 2 from New York.
GOLD, Jacob L., Captain, from New York Port of Embarkation, Brooklyn, to the Hawaiian Department, sailing from New York, March 1.
GOLDMAN, Sidney S., Major, from Fort Monroe, Va., to the Puerto Rican Department, sailing from Newport News, Va., February 26.
HAINES, John W., 1st Lieut., from Washington, D. C., to the Philippine Department.
SICILIANO, Thomas, Captain, from Fort Dix, N. J., to the Hawaiian Department, sailing March 1 from New York.
STERN, Sigfried, 1st Lieut., from New York to the Puerto Rican Department, sailing February 25.

WONG, James S. F., Captain, from Fort Bragg, N. C., to the Hawaiian Department, sailing from Charleston, S. C., March 17.

The following officers from the station named to the Puerto Rican Department, sailing from New York, February 25:

BLOOM, Norman B., 1st Lieut., Fort Sheridan, Ill.
EISNER, David G., 1st Lieut., Fort Benjamin Harrison, Ind.
KENNEDY, Richard L., 1st Lieut., Fort Sheridan, Ill.
LITTER, Leo, 1st Lieut., Fort Hancock, N. J.
LOMBARDI, Anthony L., 1st Lieut., Fort Dix, N. J.
LYTLE, Robert P., Captain, Fort Benjamin Harrison, Ind.
RUSSELL, Lecky H., Major, New York.
STINSON, Charles L., 1st Lieut., New York.
ZEMAN, Laddie W., 1st Lieut., Fort Sheridan, Ill.

The following officers from the station named to the Puerto Rican Department, sailing from Charleston, S. C., February 27:

BRYAN, Malvern T., 1st Lieut., Fort Jackson, S. C.
HEATH, Rudolph W., 1st Lieut., Fort Jackson, S. C.
POLLACK, David, 1st Lieut., Fort Bragg, N. C.
SMITH, Jack I., 1st Lieut., Camp Blanding, Fla.
TOPP, Olvert W., 1st Lieut., Fort Bragg, N. C.

FEBRUARY QUOTA OF NURSES FILLED

The War Department announced on February 24 that the February quota of 325 nurses needed to staff hospitals at Army training centers at Fort Devens, Mass., Indiantown Gap, Pa., and Camp Forrest, Tenn., has been reached.

The Surgeon General reported also that the American Red Cross in December enrolled an additional 1,196 nurses for the Red Cross First Reserve. There are now more than 21,000 nurses in the First Reserve, which includes those available for service in the Army Nurse Corps in an emergency.

The Surgeon General urged that all eligible nurses enroll with the Red Cross Nursing Service immediately to permit a studied classification as to qualification and age and thereby make it possible to develop a reserve that will be available immediately in any eventuality. He pointed out that it is desirable to limit applications for Army service to those who are registered with the Red Cross, as much time and correspondence are spared in the investigation of basic qualifications. There were 1,239 reserve nurses on duty and under orders to report in the nine corps areas as of February 1, the report said.

HOSPITAL SOCIAL SERVICE BY THE RED CROSS

The erection of a social service and recreation building at all army station hospitals of five hundred beds or more is contemplated to function as a part of the hospital organization and under the administrative control of the commanding officer of the hospital. Each building will consist of an assembly room for patients, for the reception of friends and relatives and for medically approved entertainments. The Red Cross will furnish personnel for duty prior to completion of this construction where the need exists. In conformity with the act of incorporation of Jan. 5, 1905, the Red Cross has for many years conducted a program of hospital social service for patients in army general hospitals.

REPORT ON COLLECTION OF BLOOD PLASMA FOR BRITAIN

The Blood Transfusion Betterment Association has made a report on its project to provide blood plasma for Britain, carried on jointly with the American Red Cross from August 1940 to January 1941, according to the New York Times. Blood was collected from 14,556 American volunteers, and the total plasma saline solution produced for shipment to England was about 5,500 liters. The cost of producing the plasma was about \$40,500, about 10 per cent of its actual market value. The Red Cross provided \$25,000 of the cost and the association gave \$15,000. In addition to the volunteer donors, much of the work was done by volunteers, notably by the New York and Brooklyn chapters of the Red Cross. Nine voluntary hospitals carried out the work of taking the blood and preparing the plasma. The report pointed out that among almost 17,000 donors no instance was reported of any serious after-effects of the donation.

Under a plan suggested for the United States, it would be possible to collect 25,000 liters of blood from 100,000 donors in ten cities over a period of six months. The report recommended that one or two central stations be established to take blood and that a trial be made of mobile units to go to industrial plants, large stores and offices to obtain blood from large groups.

The report recommended that the blood be processed in a central laboratory under control of a single agency responsible for all technical procedures and that a model laboratory be set up in New York immediately, at which new and improved processes for preparing blood plasma might be tried out.

DR. HOUSER GOES TO ENGLAND

Dr. Gerald F. Houser, assistant director of the Massachusetts General Hospital, Boston, sailed on March 15 to take over his position as superintendent of the new American Red Cross-Harvard University Hospital in England. The hospital has been prefabricated in this country and is being shipped in parts to England for assembly. With Dr. Houser were Harold B. Foy, Washington, D. C., who will be director of accounts, and Kingsley Van A. Gwyer, an engineer, who will supervise the construction. Dr. John E. Gordon, professor of preventive medicine and epidemiology in the Harvard Medical School, is general director of the hospital, which will be a center for the study and treatment of communicable disease under wartime conditions.

MANPOWER OF THE UNITED STATES

The military manpower of the United States at present, according to statisticians of the Metropolitan Life Insurance Company, amounts to 28,000,000 between the ages of 18 and 44 and this number is expected to increase to a high point of 30,300,000 about the year 1955. Then it is expected to decrease so that by 1980 there will be 28,400,000 men of military ages, or 18.5 per cent of the total population. The total population of all ages, however, will continue to increase until about 1980. The number of men between the ages covered by the present Selective Service Act, that is, ages 21 to 35, increased from about 10,000,000 in 1900 to almost 16,400,000 in 1940, and in 1950, the year of maximum number of this age group, it will be about 17,800,000, or 12.6 per cent of the total population. However, by 1980 the number of men in this age rank, it is said, will decline to 15,900,000, or 10.4 per cent of the total population. Men of the age groups 18 to 20 years have increased from 2,200,000 in 1900 to 3,700,000 in 1940, but their number will diminish steadily in the coming years and by 1980 it may be about 3,100,000. Here we have clear evidence, the statisticians say, of the effect of the decline of the number of births in our population within the last two decades. The other group of men of ages 36 to 44 will not reach a peak number until about the year 1965. The number of men in the United States for this age group increased from 4,300,000 in the year 1900 to about 8,000,000 in 1940, and a maximum of 10,400,000 men of this age group is expected in 1965.

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA
VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGEONS, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOE, ROSCO GENUNG LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MCGOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 1297)

MARCH 7—MORNING

DECISION OF THE COURT ON THE MOTION FOR A DIRECTED VERDICT

THE COURT:—Acting on the motion made in behalf of the defendants for a directed verdict: In my opinion, the evidence is insufficient to justify the submission of the case to the jury as to the following defendants:

Harris County Medical Society.
Washington Academy of Surgery.
Leon Alphonse Martel.
Joseph Rogers Young.

As to the other defendants I think the evidence is sufficient to put them on their defense and, accordingly, the motion will be denied as to them.

Agreeably to this announcement, ladies and gentlemen of the jury, I now direct you to return a verdict of not guilty as to these defendants:

Harris County Medical Society.
Washington Academy of Surgery.
Leon Alphonse Martel.
Joseph Rogers Young.

You will carry out that instruction.

The Assistant Clerk:—Members of the jury, pursuant to the direction of the Court you will find the defendants:

Harris County Medical Society,
Washington Academy of Surgery,
Leon Alphonse Martel,
Joseph Rogers Young,

not guilty.

That is your verdict, each and all of you?

The Jurors:—Yes.

THE COURT:—Ladies and gentlemen of the jury: Perhaps I should make this observation to you. The fact that I have granted a motion for a directed verdict against certain defendants, taken in connection with the fact that I have denied it as to others, should not in any wise be taken by you as any suggestion or intimation on my part as to what final conclusion you should come as to those defendants to whom I have denied the motion. I have simply determined as to them that there is insufficient evidence to justify the submission of the case to the jury; at least to the point of making them put on their defense.

You will, as you have up to this time, keep an open mind; listen attentively to the evidence; hold in abeyance any conclusion until the case is finally submitted to you after argument by counsel and the proper instructions by the Court. Then, when the case is submitted to you, it will become your duty jointly to deliberate and consider these matters; until then to be impartial and fair you should keep your mind open.

TESTIMONY OF FRANCIS J. EISENMAN

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, I think you have already told us you are the superintendent of Garfield Hospital? A.—Yes.

The witness identified the clinical record of Miss Sarah Abbott.

He also identified the clinical record of Miss Elizabeth Tew.

CROSS EXAMINATION

By Mr. Levin:

Q.—Who is Dr. Holtzman? A.—Dr. Holtzman was the resident in medicine at Garfield a year or two ago.

Q.—Does that record show how long the patient here was in the hospital? A.—Yes.

Q.—Can you tell us how long Miss Sarah Abbott was in the hospital? A.—Jan. 27, 1938 to Feb. 17, 1938.

Q.—That would be how many days? A.—Twenty-one days.

Q.—You have no personal knowledge of the facts stated in this hospital history, have you? A.—No, sir.

Q.—Who is Dr. Kreutzberg? A.—He was the resident in medicine at that time.

Q.—Dr. Dugan, I believe you said, was the assistant resident in surgery at that time. Now, does that refresh your recollection as to Dr. Kreutzberg? A.—No, Dr. Dugan was also the resident the following year.

TESTIMONY OF B. BRENT SANDIDGE

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Mr. Sandidge, I think you told us you are the superintendent of Emergency? A.—Yes.

The witness identified the clinical record of Miss Abbott.

Q.—Now, you mentioned an "emergency room." Just what part of your hospital at the time this card was made out was the emergency room? A.—The accident operating rooms; and the nurses, doctors, and resident kept to treat emergency cases that are brought to the hospital when they are first brought in prior to the definite diagnosis, and given immediate emergency treatment, if it is needed.

Q.—You used the phrase "emergency cases"; what character or type of cases do you so classify? A.—Any case that is brought to the emergency room, with a serious injury or not. If the case goes through the emergency room we return it simply for record as an emergency case. In some instances they are not really what you might call an emergency, but it comes from that department and the record is made.

Q.—What happens to them then? A.—They are filed in the regular filing records in that department.

The witness identified a formal release, releasing the hospital of any result which may follow occasioned by the patient leaving the hospital against the judgment of the doctor.

Q.—Now, under the rules and regulations of your hospital in force at the time on which that particular release was executed, what was your rule with reference to releases and their execution? A.—If, in the judgment of the doctor in attendance in the emergency room, the patient should remain longer and for some reason they do not, on their own accord, we instruct our doctors and nurses to get a formal release signed by the patient leaving it with the hospital as a release of the hospital from any responsibility.

Q.—Some names appear on the face of this card, I think. Now, do you know where this man with this funny name is? How do you pronounce that? A.—That is M-a-c-k-o-w-i-a-l.

Q.—Do you know where he is? Is he in Washington, to your knowledge? A.—The latest information, if I remember correctly, I notice in a hospital journal, he had been called into selective service; the region was near Baltimore, Maryland.

Q.—Who is this man; what is his name? A.—Gerber. He was the chief resident at the hospital.

Q.—At that time he was chief resident at the hospital; will this cover Sept. 7, 1938? A.—Yes, he was chief resident at that time.

Q.—Do you know where he is now? Have you seen him recently? A.—He is at the Sinai Hospital, New York City.

Q.—There is a name "Fry" on there: Do you know where the party who bears that name is? A.—Still at Emergency.

Q.—Did you in 1938 have as an official at the hospital there a man named McKeever? A.—Yes.

Q.—What position did he hold at that time? A.—He was night superintendent, night office man. After the day's business closed he was in charge of the hospital during the night.

Q.—What were his duties as night superintendent or supervisor? A.—His duties were to take over the general duties of the hospital, such as mine were in the day; rooming patients, and any argument or difficulty that came up to his attention, to try to adjust them, or call some high official at his home, if necessary.

Q.—At that time, Sept. 7, 1938, can you tell us, Mr. Sandidge, whether you kept a list of the doctors who were on the staffs, either the general or courtesy staff of the hospital, any place there in the hospital office? A.—Yes, we maintain a courtesy file in the admitting office.

Q.—How do you maintain that file? A.—It is a regular file, a sliding file, with all the doctors' names listed, and indicating the kind of service they are permitted to perform in the hospital, as having been approved by the officials of the hospital.

Q.—Was this man McKeever a doctor? A.—No, a layman.

Q.—Do you know where Mr. McKeever is now? A.—He is on the high seas; he is in the service, Naval Reserve.

Q.—I have been asked to request of you to say whether certain numerals on the line there across from "treatment"—there is "2/2/10." Can you identify those numerals, or why they were put there: what is the significance? A.—Yes. I would rather you would ask one of the professional people what that is.

TESTIMONY OF RUTH McCLELLAND

DIRECT EXAMINATION

Miss Ruth McClelland said she has been employed at Sibley Hospital about five and a half years as a record room assistant. She identified records of a former patient at Sibley.

TESTIMONY OF MILLINA M. REALINI

DIRECT EXAMINATION

By Mr. Leahy:

Millina M. Realini is supervisor of medicine and surgery at Sibley Hospital and has been since January 1938. Her duties are to make rounds and visit every patient, and watch the nurses, so that they carry out the doctors' orders in the correct way. At present she works from seven in the morning until three in the afternoon.

The witness identified the charts and admission card of Charles Hardin.

Q.—Do you remember when he came into Sibley Hospital? A.—I can't recall definitely. I know he came in, naturally I signed; I don't think I could identify the man now.

Q.—You remember a man of that name coming to the hospital? A.—Yes, I do.

Q.—Have you an independent recollection? Can you tell us without looking at that record the date of his entry? A.—No.

Q.—Taking the record which you say you made at the time, will you now tell us when he came to the hospital? A.—He was admitted at 11:45 p. m., June 19, 1938.

Q.—Did anyone come with him? A.—I believe his brother-in-law was with him, and his wife.

Q.—Do you remember the name of the brother-in-law now? A.—No, I do not.

Q.—Do you think if you heard the name you could recall it? A.—Possibly.

Q.—Was it a Mr. Booth? A.—No, sir.

Q.—You mean it was not, or you don't remember? A.—I couldn't remember; it doesn't sound familiar.

Q.—What was done when he came in the hospital that night? A.—You mean the patient?

Q.—Yes? A.—He was already booked for an operation before I took over the duties. When the admitting nurse went off she reported there was an operation schedule for 11:45 p. m. She told me Dr. Bachrach was to be the surgeon and the patient would be in in time.

Q.—Do you know Dr. Bachrach? A.—Yes.

Q.—Did you see him there that night? A.—No.

Q.—Do you know Dr. Solet? A.—I don't know him very well; I think possibly if I saw him I would recognize him.

Q.—Do you know whether Dr. Solet was at the hospital that night? A.—I didn't see him.

Q.—As you recall, did Mr. Hardin come in with his wife, and do you think his brother-in-law was with him? A.—I know his brother-in-law was with him.

Q.—Did you see any attending physician with him that night? A.—No, sir.

Q.—Or a surgeon? A.—No.

Q.—From whom did you get the information which you wrote? A.—From his wife.

Q.—And you recorded very accurately the information which you have given me? A.—Yes, this information was given by his wife.

Q.—And was that given in response to questions which you put to her? A.—Yes, I think so; I don't know, but I think so.

Q.—In other words, did you ask her the questions to elicit the information which you have on this report? A.—Yes.

Q.—It was part of your duties to fill that in? A.—Yes.

Q.—Now what happened to Mr. Hardin after he came to the hospital? A.—Well, he was sent to the floor immediately and, since the operation was booked at 11:45, and he came in at the same time, I had to take him to the floor immediately. Then I went to the admitting office to fill out his admission record.

Q.—And did anything occur after you went back to your admitting office? A.—Yes.

Q.—What was it that occurred? A.—Mr. Hardin's brother-in-law was sitting at the desk.

Q.—What desk? A.—At the admitting desk, in the admitting room, in the admitting office.

Q.—Do you recall how it was he came to be sitting at that desk? A.—I don't recall how he came there. I would say that possibly he may have given me the information, but I don't remember.

Q.—Do you recall whether he left the admitting office at any time before you saw him sitting at the desk? A.—I didn't leave the admitting office; not at that time.

Q.—How long do you think it was from the time you left your office to go with Mr. Hardin until you got back to your admitting office? A.—Possibly two minutes; it was only on the second floor.

Q.—Did Mr. Booth say anything to you—Pardon me—whoever his brother-in-law is: Did he say anything to you? A.—Not a word; I brought the patient upstairs.

Q.—When you returned to your admitting office did he ask you anything? A.—He asked if I could let him use the telephone, which request I granted.

Q.—Did he say why he wanted to use the phone? A.—No, sir. A.—Yes.

Q.—Could you hear what he was saying, that is, on his end of the phone? A.—No, I was occupied, but from the conversation—parts of it—which I couldn't help hearing, I gathered he was talking to a physician.

Q.—Did you gather any names from the conversation? A.—No, sir.

Q.—All you gathered from the conversation is that he was talking with some physician? A.—Yes, because he addressed him as "Doctor."

Q.—Now, did there come a time when you went to the phone? A.—Mr. Booth personally handed the phone to me and said, "The doctor wants to speak to you."

Q.—Did you take the phone and speak? A.—Yes.

Q.—Who was on the phone? A.—The doctor said that he was Dr. Selders.

Q.—What did he say? A.—He said, He wanted to know if he could come in and operate on Mr. Hardin.

Q.—What did you say to him? A.—I said I was sorry, as I remember it, I think I told him, Mr. Hardin had a doctor.

Q.—Who did you say the doctor was? A.—Dr. Bachrach.

Q.—Did you tell him where Mr. Hardin was at the time? A.—I don't remember.

Q.—Tell us now as best you can what was said on the telephone that evening? A.—Well, Dr. Selders wanted to know if he could come in to operate on Mr. Hardin and I said Dr. Bachrach was the attending physician. He told me it was his

patient. I said, "Well, I am sorry, Mr. Hardin has a doctor, and there isn't anything I can do about it." He said, "He is my patient," and as I recall now I told him—he insisted upon coming in. He wanted to come in and operate; and then I told him he didn't have courtesy privileges and I couldn't allow him to come in anyway, because the patient had a doctor, and it was my duty then to tell him that. I asked him if he wanted to speak to Dr. Bachrach, but that I couldn't allow him to come in because the patient was already booked under another doctor, and so he said to me, "You refuse to have me come in"? I said, "I am not refusing you." He said, he asked me what authority I had to bar him from the hospital. I said I had no authority but I was carrying on my duties; that I was always under the impression that when a patient was admitted under one doctor that doctor was to take care of the patient until the doctor gave another doctor permission to take them over.

Q.—How long do you think he was on the telephone? *A.*—Possibly five or ten minutes.

Q.—Now, when you asked him if he would like to talk to Dr. Bachrach, what did he say? *A.*—He ignored the question.

Q.—Did the brother-in-law ask Dr. Bachrach to come to the phone? *A.*—No, sir.

Q.—After Dr. Bachrach went upstairs for the operation did you see him again? *A.*—I did not see him again that night.

Q.—Did you receive any instructions from Mr. Hardin, Mrs. Hardin, or the brother-in-law to call Dr. Bachrach to the phone. *A.*—No, sir.

Q.—Do you know whether there was any further conversation there with Dr. Selders that night? *A.*—Dr. Selders then asked who I was: he asked my name and wanted to know in what capacity I was in Sibley.

Q.—Did you tell him? *A.*—Yes.

Q.—By the way, had you had experience in other hospitals before you came to Sibley? *A.*—Yes.

Q.—How many hospitals? *A.*—I was assistant superintendent at the Millford Hospital at Millford, Massachusetts, and also acted as the superintendent at the same hospital; and worked in the, in various hospitals; in Framingham, and Boston, Massachusetts.

Q.—Miss Realini, was there anything unusual in the regulations at Sibley requiring that only physicians who are on the staff of the hospital could come in there and treat patients?

Mr. Kelleher:—We object to that on the ground it is immaterial.

THE COURT:—I think she may answer.

By Mr. Leahy:

Q.—Was there anything unusual in the rule at Sibley Hospital in existence at that time that only members of the courtesy or regular staff of the hospital could attend patients there?

Mr. Kelleher:—Also calls for the opinion of the witness.

Mr. Leahy:—Well, she has testified she has had experience in hospitals.

THE COURT:—She may answer that as to her experience in other hospitals.

Mr. Kelleher:—Why not ask her what those rules and regulations are at those other hospitals?

THE COURT:—Well, it is a shorter cut.

The Witness:—I am sorry I haven't the question.

By Mr. Leahy:

Q.—Was there anything unusual in the rule which you spoke about that night to Dr. Selders that inasmuch as he was not on the courtesy list at Sibley Hospital that he could not come in and treat a patient? *A.*—I don't remember; all I know is he was not on the courtesy list, and therefore he could not come in.

Q.—Was that the rule in Millford, Framingham, and Boston? *A.*—Yes. If a doctor didn't have courtesy privileges he couldn't operate in any hospital that I have been in.

Q.—Did you have any further conversation then with the brother-in-law of Mr. Hardin while he was still in the hospital? *A.*—I don't remember.

Q.—Do you recall whether or not on that particular occasion you made a written report on this particular incident to your hospital? *A.*—Yes.

Q.—Will you look in there and see if it is among the papers? I am going to show you a paper dated June 20, 1938: I will ask you if you can identify that paper. *A.*—Yes, I can.

Q.—Is that the report which you made to your hospital that night? *A.*—I made it the next day.

Q.—And when you made it the next day, did you write as nearly and accurately as you could as to what occurred there between you and those in the office there that evening? *A.*—Yes.

Q.—Will you kindly look it over and see if there is anything about the incident which you have forgotten to tell the jury?

Mr. Kelleher:—Are you going to have her read from this? *Mr. Lewin:*—No, it simply calls for a yes or no answer.

Mr. Leahy:—No; does that refresh your recollection in any way?

The Witness:—Yes.

By Mr. Leahy:

Q.—It does? Do you recall now, having read over your report which you made the following morning, anything either with regard to the telephone conversation you had with Dr. Selders? *A.*—I don't understand what you mean. Do you want to have me repeat the conversation?

Q.—No, having read that over, do you remember anything further that was said in the conversation with Dr. Selders?

A.—Well, he was very persistent and I sensed that he was trying to get me to say something.

Mr. Kelleher:—Just a second. We object to this.

THE COURT:—Yes.

By Mr. Leahy:

Q.—What was his manner toward you; you say he was persistent. How was his persistency shown?

Mr. Lewin:—We object to it; it has nothing to do with it.

THE COURT:—I think she can show it by stating what was said. It is hard to describe a manner, except by stating what is said, over the telephone.

Mr. Leahy:—Maybe that is true, your Honor.

THE COURT:—The kind of phones I use.

By Mr. Leahy:

Q.—Miss Realini, had you heard the name of Dr. Selders in connection with Mr. Hardin before Hardin's brother-in-law turned the phone over to you that night? *A.*—No, sir.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Miss Realini, you knew when this Hardin case came into the Sibley Hospital that it was an acute appendicitis, didn't you? *A.*—Well, I imagine it was or they wouldn't be operating at night.

Q.—Don't the hospital records show that it was an acute appendicitis (handing records to the witness)? *A.*—Well, there is nothing to indicate that it was an acute appendicitis except that it was done at night, and naturally we don't operate unless it's an emergency.

Q.—So you knew and assumed when that case came in that it was an emergency case? *A.*—Yes, sir.

Q.—And didn't you understand the rule of your hospital to be that any physician who was licensed to practice would be permitted in the Sibley Hospital to operate in an emergency case? *A.*—No, sir. I understood that any patient that had courtesy privileges at Sibley Hospital was allowed to operate at Sibley Hospital.

Mr. Kelleher:—Would you read the answer, please?

(The answer was read by the reporter.)

The Witness:—I am sorry. I meant doctor.

(Following a pause:)

Mr. Lewin:—I am sorry, your Honor; I seem to have lost my place. Well, I can't find this point, so I shall pass on to something else.

By Mr. Lewin:

Q.—Now, after you came back from taking the patient upstairs to the admitting office Mr. Booth came in and asked if he might speak over the telephone; is that right? *A.*—I don't know what his name was, but it was Mr. Hardin's brother-in-law.

Q.—Mr. Hardin's brother-in-law. And you said that he might, and you listened to part of the conversation, didn't you? *A.*—Well, I didn't really—I couldn't help overhearing it.

Q.—Yes. You couldn't help overhearing it. And you knew he was talking to a doctor, didn't you? *A.*—Yes, sir.

Q.—And you knew that he was asking that doctor whether he could come and operate on the patient, didn't you? *A.*—No, I don't know whether he was or not.

Q.—How do you know he was talking to a doctor? *A.*—Because he addressed him as "Doctor" over the telephone.

Q.—Yes. Now, you mean to say you didn't hear him talk about this doctor, whoever he was, coming there to operate?

A.—I don't remember.

Q.—What? *A.*—I don't remember the exact conversation.

Q.—You don't remember? *A.*—I knew he was talking to a doctor.

Q.—Yes. *A.*—But I didn't know what the conversation was; I just got parts of the conversation, because I was occupied.

Q.—Yes. And then the phone was turned over to you, and you talked to Dr. Selders? *A.*—Yes, sir.

Q.—And you knew, then, from your conversation with Dr. Selders, that Mr. Booth had asked Dr. Selders to come and operate on the patient, didn't you? A.—Well, I imagined that he did.

Q.—You imagined that he did? A.—Yes.

Q.—So then you knew at that time that the family wanted Dr. Selders to operate, didn't you? A.—Well, I imagined so. He wouldn't have called the doctor if he didn't want him.

Q.—Precisely. At the time you talked to Dr. Selders, then, you knew that the family of the sick man upstairs wanted a certain physician, and that was Dr. Selders; isn't that right? A.—Yes.

Q.—All right. Now, you had this conversation with Dr. Selders; you reached for a list, didn't you? A.—Yes, I did.

Q.—What? A.—Yes.

Q.—And this is the list you reached for, isn't it (handing an exhibit to the witness)? A.—Yes, I did.

Q.—This is the list you reached for? A.—Yes, sir.

Q.—Now, I think you told Mr. Leahy that there was nothing unusual in your procedure that night. Did you have a list like this for all the other doctors? A.—I didn't remember it at the time.

Q.—You mean when you answered Mr. Leahy's question you didn't remember this list? A.—No. I remembered it after he showed me my written statement.

Q.—Well, there was something a little unusual about the way you treated Dr. Selders, wasn't there? A.—I wouldn't say so.

Q.—Was that the ordinary practice for you to reach for a list like this? A.—Not ordinarily.

Q.—Did you have any other list like this in the office? A.—Not like that.

Q.—Wasn't this the list that President Taylor had required you to keep there for the Group Health doctors? A.—I don't know.

Q.—You don't know. Don't you know that that's a list of the Group Health doctors? A.—As I read (present tense) it, yes, and I signed it, but Dr. Taylor didn't say anything to me about it.

Q.—Dr. Taylor didn't say anything to you about it? A.—No.

Q.—Who did tell you to sign it? A.—I don't remember.

Q.—It was someone in authority at that hospital told you to sign it, didn't they? A.—Possibly.

Q.—They told you to keep it there in the admitting office?

A.—I am not in charge of the admitting office.

Q.—That's all right. They told you to keep it there in the admitting office and use it when you were in charge of it? A.—They didn't tell me to keep it in there.

Q.—Now, Miss Realini— A.—It was in the admitting office.

Q.—It was in the admitting office. And you were supposed to use it, weren't you? A.—Naturally, I—where I signed my name.

Q.—Yes. Naturally you were supposed to use it. And as a matter of fact you did use it in connection with Group Health doctors? A.—I used it that night.

Q.—Yes. You knew that whenever a Group Health doctor called up and identified himself you were to reach for this list and deny him the privileges of the hospital, even in emergency cases; isn't that right? A.—No, I don't think so.

Q.—Well, now, isn't that true? What did the list mean to you? What does it say? A.—It says "Group Health Association," and just a list of the doctors.

Q.—Let the jury hear it. "Group Health Association, H. O. L. C." A.—And it—

Q.—And the list of the Group Health doctors. A.—Dr. Henry Brown, Dr. Raymond Selders, Dr. Alexander.

Q.—No. Dr. Allan Lee. A.—Oh, Allan Lee; Dr. Edmund Wells, Dr. Stephen Hulburt, and Dr. M.—

Q.—Scandifio? A.—Scandifio.

Q.—Yes. Did you know any of those doctors? A.—No, sir.

Q.—Did you know Dr. Scandifio? A.—No, sir.

Q.—Hadden't he had privileges at your hospital for some time? A.—I don't remember, don't ever recall him.

Q.—You don't recall him? A.—No.

Q.—Now, then, read what was just below their names on the list: "These doctors are not to be allowed in at any time"; isn't that correct? A.—That's right.

Q.—They were your instructions, were they not? A.—Naturally, I signed my name to them.

Q.—Yes. They were the instructions to the entire admitting office, of all these people: L. Welch, Beulah Mumford, H. R. Dutton, L. A. Wood, J. Jensen, and M. M. Realini? A.—Well, Miss Welch is admittance nurse.

Q.—Yes? A.—And so is Mrs. Mumford.

Q.—Yes? A.—And Miss Dutton is Director of Student Health.

Q.—Yes? A.—And she relieves in the office.

Q.—She relieves in the office, the admitting office? A.—Yes. Miss Wood is one of the supervisors of medicine and surgery.

Q.—Yes? A.—And Miss Jensen at the time was one of the supervisors of medicine and surgery.

Q.—She relieves in the office too? A.—She has resigned since.

Q.—She has resigned. But at that time? A.—Yes, sir.

Q.—And you? A.—Yes, sir.

Q.—That covered the entire admitting office staff, didn't it? A.—Yes, sir.

Q.—So there was complete coverage there; am I right? A.—Well, there was—there's another supervisor of medicine and surgery there.

Q.—At that time? A.—Yes, sir.

Q.—But with the exception of that one, the entire admitting office was covered, and they all had those binding instructions; isn't that right, and were told to use them? A.—We were told to sign the paper.

Q.—And it was by reason of this paper that you refused to admit Dr. Selders, and told him so that night? A.—Well, first because he didn't have courtesy privileges.

Q.—Well, now, these, this—

Mr. Leahy:—Let her answer the question.

Mr. Lewin:—I think she has.

Mr. Leahy:—No, she has not.

By Mr. Lewin:

Q.—First, because he didn't have courtesy privileges. Did you look at the courtesy list at that time, or did you look at this list? A.—I looked at the courtesy list.

Q.—You looked at the courtesy list as well as this? A.—That's right.

Q.—And if he had been on the courtesy list would you have let him in notwithstanding these instructions? A.—Well, I would, yes.

Q.—You would have let him in even though you had instructions, which you were supposed to sign and follow, that he was not to be admitted in at any time? A.—Yes, if he had courtesy privileges.

Q.—Now, as a matter of fact, Miss Realini, don't you know that Dr. Scandifio was on the courtesy list at that time? A.—I didn't know it.

Q.—Well, when you looked at the courtesy list did you find Dr. Scandifio's name? A.—Well, I wasn't looking for Dr. Scandifio's name.

Q.—Well, that's all right. Isn't it your testimony that Dr. Scandifio at the time this happened, at the time this list was prepared, had courtesy staff privileges? A.—No, I don't know whether he had courtesy staff privileges.

Q.—And it is your testimony that if Dr. Selders' name had appeared on the courtesy staff privileges you would have overridden these instructions and admitted him? A.—Well, I wouldn't have consulted that.

Q.—You would not have consulted this? A.—No, after I looked.

Q.—Weren't you required to consult this in the case of all Group Health doctors, whether they had courtesy privileges or not? A.—I don't remember whether I was or not.

Q.—Do you mean to say that you got up from the telephone and left the conversation and went over and examined the entire courtesy staff list before you finally replied to Dr. Selders? A.—I don't have to get up and examine it; it's right there at the desk.

Q.—How long is the courtesy staff list at Sibley Hospital? A.—Well, it is quite long; I couldn't say offhand.

Q.—It is quite long, and you kept Dr. Selders waiting while you went down that whole list of names to find out whether he was on the courtesy staff? A.—I just went through the S's.

Q.—You just went through the S's. Is it kept in a card index? A.—Yes, sir. And they are accessible.

Q.—And you turned to the card index and ran through those cards? A.—Yes, sir.

Q.—And you did that notwithstanding this paper which settled the whole problem for you? A.—Well, I didn't think of that paper at the time.

Q.—Well, didn't you testify that you reached for this paper? A.—Yes, I did.

Q.—Isn't that the list that you reached for? A.—I reached for it after.

Q.—In the statement and report that you made to Dr. Taylor isn't this the list that you were referring to? A.—Yes.

Q.—That you said you reached for? A.—Yes, that is the list.

Q.—When you testified before the Grand Jury of the United States didn't you identify this list? A.—Yes, sir.

Q.—And tell the Grand Jury that this was the list you reached for, and it was on the basis of this list that you excluded Selders?

Mr. Leahy:—She just told you that.

Mr. Lewin:—Well, let's have it.

Mr. Kelleher:—Let's have her tell it.

Mr. Lewin:—Let's have it now.

By Mr. Lewin:

Q.—Is that right? Is that what you told the Grand Jury of the United States? *A.*—I don't remember.

Q.—You don't remember that? *A.*—No.

Q.—Well, now, after you talked with Dr. Selders that first time, Miss Realini, Mr. Booth talked to him again, didn't he, before the receiver was hung up? Or did you hang up the receiver? *A.*—I don't quite remember, but I know he talked to him a second time.

Q.—Yes. *A.*—But I think it was a separate call.

Q.—And wasn't that immediately afterward, the phone rang again? *A.*—Yes, while I was in the admitting office. I don't know how soon, but it was while I was in the admitting office.

Q.—While you were still in the admitting office? *A.*—Yes, sir.

Q.—And you would say it was a very short time elapsed before the phone rang again, and it was Selders talking to Booth again; is that right? *A.*—Yes, sir.

Q.—And then he talked to you again? *A.*—No, I don't believe the doctor talked to me again.

Q.—He didn't talk to you any more? *A.*—No, sir.

Q.—After he had the first conversation. After you overheard this second conversation you knew that Mr. Booth was talking with Dr. Selders on another conversation immediately afterward? *A.*—Pardon me.

Q.—I say, you knew that shortly after that first conversation Selders called again and talked to Booth? *A.*—Yes.

Q.—And can't you recollect that you also talked to him on a second occasion or that time? *A.*—I don't believe I did.

Q.—You don't believe you did? *A.*—No, I don't think.

Q.—Would it refresh your recollection if I called your attention to your Grand Jury testimony, do you think? Didn't you say this, in answer to the question put to you:

"Well, what happened after the conversation ended?

"Answer. Well, I think I received another call from Dr. Selders. When I picked up the receiver, he was on the line again. I think he asked me again, so I refused to let him come into the hospital."

Did you say that? *A.*—Possibly I did. I know I talked with him. Naturally I would have to get the call, and since he wanted to speak to Mr. Hardin's brother-in-law I would have to talk with him first.

Q.—Do you remember this testimony before the Grand Jury? You were asked:

"After the remarks between yourself and Dr. Selders in this second conversation, about which you have just testified, what happened next?"

And your answer:

"Well, I don't think that conversation was very long, because I believe I told Dr. Selders that the patient by this time had already been operated on"—

A.—Yes.

Q.—"or words to that effect." *A.*—I remember that.

Q.—Do you recall that now? *A.*—Yes, I do.

Q.—Now, do you remember that you didn't know whether the patient had been operated on or not? Isn't that right? *A.*—Well, I assume that the patient must have been operated on. I couldn't say definitely, but the patient must have been up in the operating room.

Q.—Yes, but you told Dr. Selders that the patient by that time had been operated on, didn't you? *A.*—I don't remember if I said that the patient had been operated on.

Q.—Well, wasn't that your testimony before the Grand Jury? Wouldn't you say this was correct: "because I believe I told Dr. Selders that the patient by this time had been operated on, or words to that effect?" *A.*—I said I believed. I didn't say that the patient was. I said I believed.

Q.—Well, you didn't say that to the Grand Jury. You said "because I believe I told Dr. Selders that the patient by this time had already been operated on, or words to that effect." Didn't you tell Dr. Selders that? *A.*—Because the patient was booked for 11:45.

Q.—Well, you were trying to discourage Dr. Selders from coming to the hospital, weren't you? *A.*—I was not.

Q.—What was your purpose in telling him that the patient had already been operated on, or that you believed the patient had already been operated on? *A.*—My purpose?

Q.—Yes. Why did you tell Dr. Selders that? *A.*—Well, because the patient was being operated on.

Q.—Well, why did you tell Dr. Selders that? Wasn't it to discourage him from coming and taking the case? *A.*—No, because the patient already had a doctor, and that's where my duties end.

Q.—Well, why did you tell Dr. Selders that the patient had been operated on, or that you believed that the patient had been operated on? *A.*—I don't know why I told him.

Q.—You don't know why? *A.*—Because I believed that the patient had been operated.

Q.—Especially when that was resting solely on an assumption on your part; am I right?

THE COURT:—I think that is argumentative. I will sustain an objection to it. That is quite argumentative.

By Mr. Lewin:

Q.—Well, now, had you left the admitting office between those two calls? *A.*—No, I hadn't.

Q.—Had anybody told you that the patient had been operated on? *A.*—No.

Q.—You simply assumed that it had? *A.*—Yes.

Q.—That the patient had been? *A.*—Yes, sir.

Q.—And yet you told Dr. Selders that the patient had been operated on?

Mr. Leahy:—She said that she believed he had been.

The Witness:—I said I believed it. I said I believed.

By Mr. Lewin:

Q.—Well, you are not quite sure about that? *A.*—I said I understand that the patient had been operated on.

Q.—And you don't know why you told Dr. Selders that? *A.*—I don't.

Mr. Leahy:—She has answered: because she believed the patient was being operated on.

Mr. Lewin:—She hasn't done anything of the sort. She said she couldn't explain it.

THE COURT:—I think you have been pretty thoroughly over that, Mr. Lewin.

By Mr. Lewin:

Q.—Did you discuss with any member of the patient's family who was there the right to have Dr. Selders perform the operation? *A.*—I don't remember.

Q.—You don't remember? *A.*—No.

Q.—Don't you remember discussing it with Mr. Booth and Mrs. Hardin, and their wanting Dr. Selders? *A.*—No, I didn't discuss—I didn't discuss with Mrs. Booth, because I don't remember.

Q.—Mrs. Hardin? *A.*—Mrs. Hardin, I mean.

Q.—Was Mrs. Hardin there at some time during the conversation? *A.*—She didn't come in the admitting office.

Q.—Didn't she come in that night? *A.*—I don't know if she came in there or not, because she was upstairs afterward to see the patient.

Q.—Did she come in later? *A.*—I believe she came in with the patient, but I didn't see her.

Q.—You are clear, though—*A.*—At least, I don't remember. Possibly she was there, but I don't remember.

Q.—You do clearly remember, though, that Mr. Booth wanted Dr. Selders? *A.*—I clearly remember that Mr. Booth was in the office and wanted to use the telephone. That is very clear in my mind.

Q.—You knew he wanted to have Dr. Selders operate, didn't you? *A.*—Not before he talked—not before I talked with Dr. Selders.

Q.—Not before you talked with Dr. Selders? *A.*—No, sir.

Q.—But after that you did, didn't you? *A.*—When I talked with Dr. Selders.

Q.—Yes. *A.*—Dr. Selders told me.

Q.—Yes. Well, then you must have known that Dr. Bachrach had no authority to go ahead with the operation, didn't you?

A.—Well, that isn't up to me. I'm the nurse. I am not a doctor.

Q.—At the time you were talking to Dr. Selders you knew that Mr. Booth didn't want Dr. Bachrach but wanted Dr. Selders; isn't that right? *A.*—Well, I knew that Mr. Booth wanted Dr. Selders, yes.

Q.—Yes. And yet you gave Dr. Selders, as one of your excuses for not letting him there, that it was Dr. Bachrach's patient? *A.*—That's right.

Q.—Which you must have known that it wasn't Dr. Bachrach's patient at that time? *A.*—The patient was admitted under Dr. Bachrach's—

Mr. Leahy (interposing):—Isn't that argumentative?

THE COURT:—Yes, Mr. Lewin.

The Witness:—The doctor—the patient was admitted under Dr. Bachrach's name.

By Mr. Lewin:

Q.—You knew that Dr. Bachrach's name was on the slip? *A.*—He didn't want—the Dr. Bachrach was booked—the operation was booked under Dr. Bachrach.

Q.—Yes. If Dr. Bachrach's name had not appeared on the admitting card, would you have admitted Dr. Selders? A.—Possibly I would have.

Q.—You would have? A.—Possibly.

Q.—Notwithstanding the list that you reached for which said that Dr. Selders was not to be allowed in at any time? A.—I don't know what I would have done if Dr. Bachrach's name wasn't on the admitting—wasn't booked for the operation.

Q.—Wasn't this the real reason that you refused Dr. Selders, and not the fact that Dr. Bachrach's name was on the card (indicating United States Exhibit 496)? A.—Primarily it was Dr. Bachrach's name, and that's why I refused him, primarily.

Q.—Weren't you asked this question before the Grand Jury:

"Is this not the reason: that when you saw this list, you knew that under no conditions could Dr. Selders be admitted to the hospital, regardless of whether the patient had another physician attending him at the time or not?"

And your answer,

"I suppose underneath it all I felt that way."

Did you give that testimony? A.—Well, if it's there I must have given it.

Q.—And is it correct? A.—I don't know whether it is or not. Q.—What? You don't know. Did you ever see this paper or the original of it (handing to the witness United States Exhibit 491)? A.—No, I don't ever remember.

Q.—Don't remember that? A.—No, I don't ever.

Mr. Leahy:—Is that an identification of it?

Mr. Lewin:—Yes, 491.

Mr. Kelleher:—It is in evidence.

REDIRECT EXAMINATION

By Mr. Leahy:

Q.—Miss Realini, do you know whose handwriting that list is in which you were shown? And I am showing Exhibit 496. A.—It looks like Beulah Mumford's.

Q.—You know it is not Dr. Taylor's, don't you? A.—I'm positive.

Q.—And Dr. Taylor never said anything to you with reference to anything contained on that list, did he? A.—No, sir.

By Mr. Leahy:

Q.—Is it anything unusual, Miss Realini, from your experience in the hospitals where you have worked, for a lady at the admitting desk to deny the right to a doctor who has no courtesy or staff privileges to treat the patient in the hospital?

Mr. Lewin:—Now, I object to the question, and I think I am entitled to it.

THE COURT:—Objection overruled.

The Witness:—Well, we have a—I don't know whether I can answer that, but we do have a list of doctors; every hospital has rules, a list of doctors that can't come in and operate, and naturally we have to go by that list. We can't let anyone in.

By Mr. Leahy:

Q.—Well, supposing that doctor's name who wants to come in is not on that list. What do you do? Do you let him in or do you tell him he can't come in because he hasn't courtesy privileges? A.—Well, we just tell him he hasn't courtesy privileges.

Q.—Now, in your statement the next day, on June the 20th when you made your report to the hospital, did you mention the fact that you had looked on this list which was just shown you, in Mrs. Mumford's handwriting. A.—Yes.

Mr. Lewin:—I don't think he need lead this witness in any such fashion as that.

THE COURT:—Yes, Don't lead the witness.

By Mr. Leahy:

Q.—Now, would you kindly point to your statement which you made to your hospital, a report as to what occurred that day, when you mention that? A.—Right here (indicating). As I reached for the phone it occurred to me to reach for the slip.

Q.—Now, at this time when you made out the admission record in that hospital was anything said to you that Mr. Hardin was a Group Health patient? A.—Not at that time.

Q.—Did you know when you admitted Mr. Hardin that he was a Group Health patient? A.—No, sir.

Q.—Did his wife tell you anything about it? A.—No, sir.

Q.—Who did she say would be responsible for the bill—

Mr. Lewin (interposing):—Now, wait a minute.

Q.—When she admitted him?

Mr. Lewin:—I object to this as improper redirect.

THE COURT:—Yes.

Mr. Lewin:—There is nothing in the cross that went into this at all.

THE COURT:—It is something of another examination.

Mr. Leahy:—Oh, if you Honor please, I want to bring out that fact because of the connection which is made, as they say, with Dr. Selders.

Mr. Lewin:—Well, that hasn't anything to do with it.

THE COURT:—Well, if it is something you overlooked that you want to bring out, that is another thing.

Mr. Leahy:—Well, that is what I do, because it's on the record, and I wasn't—

THE COURT:—Wait.

Mr. Leahy:—I am sorry, your Honor.

THE COURT:—I say it is not proper redirect if you have overlooked something.

Mr. Leahy:—This I was about to introduce into evidence, the record, and also her statement at the time. If we can get it from the record it's all right. I will introduce as Exhibits 6 and 7 at this time the statement of Miss Realini, being 6, the record being 7.

(Documents were marked Defendants' Exhibits 6 and 7 for identification.)

Mr. Leahy:—This has already been introduced in evidence (indicating).

Mr. Lewin:—It certainly has. These I have seen, and I object to it.

Mr. Leahy:—Shall I pass them to your Honor?

(Exhibits were passed to the Court.)

Mr. Lewin:—If your Honor is tempted to admit that, I wish you would hear me at the bench, because I don't see any possible theory of admissibility.

THE COURT:—Are you through with the witness, Mr. Leahy?

Mr. Leahy:—I think so, if your Honor please.

THE COURT:—Very well. The witness may be excused, and I will excuse the jury for a few minutes.

(There was a brief informal recess, at the conclusion of which the proceedings were resumed as follows, in the absence of the jury.)

THE COURT:—Will you gentlemen step up here now?

(Counsel for both sides approached the bench. The discussion concerned rules of the Court on admissibility of evidence.)

Mr. Leahy:—If your Honor please, I will take a moment to read to the jury the paper which Miss Realini said she filled out in her own handwriting when Mr. Charles Hardin came to the hospital.

I will not read it all to you:

DEFENDANTS' EXHIBIT 7

"In case of emergency call Mrs. Helen Hardin.

"Physician. Dr. Bachrach, Surg.

"Nature of the case.

"Responsibility for the account. Charles G. Hardin Jr.

"Relationship to the patient. Wife."

Giving the address as 215 North Piedmont Street, Arlington, Virginia, the telephone number, or 1419 E Street N.W., and the telephone number there; with Miss Realini's name on the back.

TESTIMONY OF DR. LEE SOLET

DIRECT EXAMINATION

By Mr. Leahy:

Lee Solet said his office is in Arlington, Virginia, and has been for a little over three years. He graduated from Middlesex College of Medicine and Surgery, in Boston, in 1933; took internship at Unity Hospital in Brooklyn, New York, and a residency at Women's and Children's Hospital, Toledo, Ohio.

Q.—Are you acquainted with Mr. Charles Hardin? A.—Yes, sir.

Q.—How long have you known him? A.—I have known him from the day that I went to visit him. He called me.

Q.—Do you recall that date now? A.—It was June 19, 1938.

Q.—Do you recall how you came to see him that evening? A.—I got a call about quarter to 10, and I went over to see him at that time.

Q.—Who was there when you saw him? A.—Just his wife and himself.

Q.—What was his condition when you saw him? A.—He looked quite well, except for the fact that he complained of having had a pain the day before, and he had had a pain that day and he was a little disturbed about that, although he said he felt quite well. On examination he did not have any temperature and he did not have any nausea or vomiting. He had a pain right over the right side of his abdomen, and it looked suspicious. I said, "You might have a possible appendix. I think the best thing to do is to call someone in to verify that." I asked him if he had any particular physician, and he said, No; you are the doctor." So I called in a doctor from Washington.

Q.—What was his name? A.—Dr. Bachrach.

Q.—Had you known Dr. Bachrach? A.—Yes, sir.

Q.—Did he have any specialty? A.—He is a surgeon.
Q.—Did you call Dr. Bachrach? A.—Yes, sir.
Q.—Did Dr. Bachrach come over? A.—Yes, sir.
Q.—And do you recall now where Mr. Hardin was living at that time? A.—At 215 North Piedmont Street—I think that is right—Arlington, Virginia.

Q.—Do you recall now about what time Dr. Bachrach got to Mr. Hardin's home? A.—Well, approximately 10:35 or 10:40.

Q.—When he got to the home were you still there waiting? A.—Yes, sir.

Q.—What occurred? A.—He asked the patient a number of questions, and then he proceeded to examine the patient, and then he was of the opinion that he had appendicitis.

Q.—Then what occurred? A.—He suggested that he go to the hospital, and then we called up Sibley Hospital to make arrangements for his admittance.

Q.—Who called Sibley? A.—I don't recall whether it was myself or Dr. Bachrach.

Q.—As a result of that telephone conversation were arrangements made to operate on Mr. Hardin? A.—Yes, sir.

Q.—Did you go to Sibley that night? A.—Yes, sir.

Q.—With whom did you go? A.—Mr. and Mrs. Hardin, in my car. Dr. Bachrach followed.

Q.—He followed you? A.—Yes, because he was not acquainted with Arlington. He lived in Washington, and it had taken approximately 25 or 30 minutes to come from the time I called him.

Q.—He followed you in your car? A.—He followed in his own car, while I had the patient and his wife in my car; and we arrived at Sibley approximately the same time.

Q.—Do you recall about what time it was that you arrived at Sibley? A.—Possibly 11:15 or 11:20.

Q.—What occurred when you arrived at Sibley? A.—When we arrived at Sibley Mrs. Hardin—I think Mrs. Hardin's brother—I had never met him before—was there, and Mrs. Hardin and the brother went into the admitting office to make arrangements for admission, while I remained outside. The patient was on the wheel chair and I was talking to him.

Q.—Are you familiar with Sibley Hospital and its rules and regulations? A.—To a certain extent; as far as I am concerned.

Q.—Are you able to recognize records of Sibley Hospital? A.—Yes, sir.

Q.—Do you know whether Sibley Hospital maintained an admission record, as it is called? A.—Yes, sir.

Q.—I now show you what has been identified and received as Defendant's Exhibit No. 7 and ask you whether or not you can identify that record? A.—Yes, sir.

Q.—That is the usual admission record which is filled out when a patient comes in to Sibley? A.—Yes, sir.

Q.—While that record was being filled out what did you and Dr. Bachrach and Mrs. Hardin do? A.—Mr. Hardin—I was just speaking with Mr. Hardin, and Dr. Bachrach was speaking with him for a while. When he moved toward the admitting room I am not sure whether he went in with the patient's wife and brother or not; but I did not go into the admitting room at all.

Q.—How long were they in the admitting room at that time? A.—Oh, about ten minutes, I should say.

Q.—Do you recall whether Mr. Hardin went into the admitting room or not? A.—No.

Q.—Did there come a time when Mr. Hardin was assigned to a room? A.—Yes.

Q.—Did you go up there with him? A.—I let him go to the room and I went up to the operating room with Dr. Bachrach while he prepared for the operation.

Q.—Do you recall how long it was after Mr. Hardin got to the hospital that the operation was performed? A.—Approximately 12:25 a. m.

Q.—Is there a time required to prepare a patient for an operation? A.—Yes.

Q.—And also, do you doctors have to prepare yourselves for an operation? A.—Yes, sir.

Q.—From the time that you went upstairs—I assume you went into the operating room, Doctor? A.—I watched; I did not assist. I observed the operation. The resident and the interns of the hospital get the advantage of assisting the surgeon. But I just observed.

Q.—From the time that you went upstairs until the operation was performed what were you doing? A.—Just in the doctor's dressing room while Dr. Bachrach was changing from his clothes and while I put a gown on and went out to scrub up.

Q.—Did there come a time when Dr. Bachrach—

Mr. Lewin:—Do not let us have any leading questions, please. All the answers have been practically yes or no to your own statements.

THE COURT:—Do not lead.

By Mr. Leahy:

Q.—Did there come a time when anything occurred, so far as Dr. Bachrach was concerned?

Mr. Lewin:—Objected as leading.

Mr. Leahy:—I could not make it less leading.

THE COURT:—I think the question is all right.

The Witness:—May I have the question again?

By Mr. Leahy:

Q.—Did there come a time when anything occurred in so far as Dr. Bachrach was concerned? A.—No, sir. He just operated on the patient.

Q.—Did there come a time when anything occurred so far as you were concerned?

Mr. Lewin:—Objected to as immaterial.

THE COURT:—I do not know what he has in mind. Objection overruled.

A.—Well, Dr. Bachrach operated on the patient and I saw the patient after that until the patient left the hospital, about five days later. He had a gangrenous appendix.

By Mr. Leahy:

Q.—And it was removed? A.—Yes.

Q.—Did you hear at any time that night the name of Dr. Selders? A.—Yes, sir.

Q.—When was the first time you heard that name—Dr. Selders? A.—At the hospital.

Q.—What time after you had gotten to the hospital did you first hear it? A.—I heard it after Mrs. Hardin and her brother came out of the admitting room.

Q.—Do you recall who it was that spoke to you, if anybody? A.—No, because I didn't speak with anyone. I just happened to hear that conversation—heard the mention of the name. But I didn't speak with any one regarding Dr. Selders.

Q.—Do you recall whether the name of Dr. Selders had been suggested at any time prior to your coming to the hospital? A.—No, sir.

Q.—Had the name Group Health Association been mentioned before you got to the hospital? A.—No, sir.

Q.—What occurred with reference to suggestions of surgeons or doctors when you were at the home of Mr. Hardin? A.—I asked Mr. Hardin who he preferred—I asked him which surgeon he preferred, and he said, "You are the doctor." So immediately I called Dr. Bachrach.

Q.—Do you recall who it was that was doing the talking at Sibley Hospital about Dr. Selders when you first heard the name? A.—No, sir; I do not.

Mr. Leahy:—I think that is all.

CROSS EXAMINATION

By Mr. Kelleher:

Q.—Dr. Solet, you do not want this jury to believe, do you, from your testimony that Mr. Hardin was not a sick man when you saw him? A.—Yes; he was sick.

Q.—Seriously, was he not? A.—Well, as it turned out to be, he had a gangrenous appendix.

Q.—That is a pretty serious matter, is it not? A.—Yes; it is.

Q.—Did not Dr. Bachrach diagnose it as acute appendicitis? A.—Yes, sir.

Q.—He did? A.—Yes, sir.

Q.—In your presence? A.—Yes, sir.

Q.—Was it not necessary, in your opinion and in Dr. Bachrach's opinion, that the patient be operated on that night? A.—Yes.

Q.—And is it customary except in acute cases to operate at night? A.—Is it customary? I beg your pardon.

Q.—Is it customary except in acute emergency appendicitis cases to operate at night? A.—The operation takes place when the patient decides to go to the hospital.

Q.—You mean that the patient decided to have the operation that night? A.—He said, "Well, let's go."

Q.—Who recommended that he be operated on that night? A.—Dr. Bachrach.

Q.—He did? A.—Yes.

Q.—Is it customary for a doctor to recommend an operation late at night unless the case is a serious case? A.—Any case that warrants it, they operate on it.

Q.—Did this case warrant it? A.—Yes, sir.

Q.—In your opinion and in Dr. Bachrach's opinion? A.—Dr. Bachrach verified the tentative diagnosis that I made.

Q.—You also diagnosed it as acute appendicitis? A.—I thought it was a possible appendix, but I was not sure, because he seemed perfectly all right as far as temperature was concerned, and there were not outward symptoms, and he had continued his regular activities.

Q.—Did you diagnose it as acute? A.—No.

Q.—But Dr. Bachrach did? A.—Yes; he diagnosed it as acute appendicitis.

Q.—What did you do, so far as the patient was concerned, at Sibley Hospital? A.—The following day I saw the patient. I saw him every day and removed the sutures when the wound was healed.

Q.—Do you have privileges at Sibley Hospital? A.—Yes, sir.

Q.—When were those privileges granted? A.—In 1938.

Q.—I show you Exhibit 492 which has been identified as a list of doctors having courtesy privileges at Sibley Memorial Hospital, and ask you if your name appears on that list. It is arranged alphabetically. Just look under the S's and tell us that. A.—Yes, sir.

Q.—When were those privileges granted? A.—In 1938.

Q.—How long did you say you had been in practice in Alexandria, Doctor? A.—In Arlington.

Q.—In Arlington? A.—Yes.

Q.—How long? A.—A little over three years.

Q.—As I understand it, this Hardin case occurred in June of 1938? A.—Yes, sir.

Q.—How long before that had you been in practice? A.—Approximately six months, or five months.

Q.—Do you know how it happened that Mrs. Hardin called you? A.—No, sir.

Q.—You do not know? A.—Yes, sir.

Q.—You never discussed that with her? A.—No, sir.

By Mr. Kelleher:

Q.—Did you know any of the family before? A.—No, sir.

Q.—Did you ever treat any member of the family since? A.—No, sir.

Q.—Were not the arrangements for a surgeon made with Mrs. Hardin instead of Mr. Hardin? A.—No, sir.

Q.—Don't you recall that Mrs. Hardin requested you to name certain surgeons and that you named Dr. Cox, Dr. Cafritz and Dr. Bachrach? A.—I named several doctors, but she didn't request me to name them.

Q.—You volunteered the names of several doctors? A.—Yes.

Q.—Why did you volunteer them? A.—So she would have her own choice.

Q.—Don't you recall that she said, "I don't know any surgeons in Washington"? A.—I can't be sure of that.

Q.—What is your best recollection? A.—It might have been possible.

Q.—But you suggested Dr. Bachrach? A.—After Mr. Hardin mentioned the fact, "You are the doctor."

Q.—What did you do after he mentioned the fact, "You are the doctor"? A.—I called Dr. Bachrach.

Q.—Did you suggest Dr. Bachrach to the patient, too? A.—After mentioning several other doctors.

Q.—Who selected Dr. Bachrach out of the list? A.—I selected Dr. Bachrach.

Q.—You did. I want you to think very carefully and tell us whether at some time during the course of that evening either Mrs. Hardin or Mr. Hardin told you that she was a member of G. H. A. and that Mr. Hardin was entitled to privileges in that organization. A.—No, sir; I can't recall.

Q.—Do you deny that she said that? A.—Yes, sir.

Q.—On your oath you deny that?

Mr. Leahy:—Yes; he is under oath. What do you mean by that?

THE COURT:—Please, Mr. Kelleher—that is a question that I do not permit to be used in this court.

Mr. Kelleher:—I am sorry, your Honor. I certainly intended no offense by it.

By Mr. Kelleher:

Q.—Will you tell us whether you did not state to either Mr. Hardin or Mrs. Hardin at that time that G. H. A. doctors were not entitled to operate in the local hospitals? A.—No, sir. The question didn't come up in that case.

Q.—Did you mention G. H. A. in the presence of Dr. Bachrach? No, sir.

Q.—Did you discuss it with Dr. Bachrach? A.—No, sir.

Q.—Is it your testimony now that no mention was made of G. H. A. at the house? A.—Not at the house.

Q.—Did you hear Mrs. Hardin call her brother? A.—I don't recall her calling, but I know the brother was at the hospital.

Q.—Don't you recall that she telephoned from the house? A.—She must have telephoned from the house.

Q.—Do you recall that she did? A.—No; I don't recall that.

Q.—Did you have any discussion with Mrs. Hardin? A.—About what?

Q.—At all, at the house? A.—Yes; in reference to his case.

Q.—Did you help take the patient out to the car? A.—Yes, sir.

Q.—Did she go with you? A.—Yes, sir.

Q.—Do you recall where the telephone was in the house?

A.—It was on one side of the room.

Q.—Of the bedroom? A.—Yes, I believe.

Q.—Where the patient was? A.—Yes. The patient was in the bedroom.

Q.—Don't you recall that she made a telephone call—

THE COURT:—You have asked that question twice before.

Mr. Kelleher:—I know, your Honor; but I am trying to help the witness out on the matter to refresh his recollection on it. I think I am entitled to probe this man's knowledge of what occurred.

THE COURT:—I think you have done it. The court has to exercise some discretion about the limits of cross examination.

Mr. Kelleher:—Yes, I understand, your Honor.

THE COURT:—He has stated that there was a telephone in the house. There is no issue about that.

Mr. Kelleher:—There is an issue about whether he heard her call.

THE COURT:—He has denied it twice. You have asked him that. He does not deny that he was called, but he says he does not recall hearing it. That is the substance of his testimony.

Mr. Kelleher:—All right, your Honor.

By Mr. Kelleher:

Q.—When you went up to the operating room with Dr. Bachrach did Mr. Booth come up there about 45 minutes after the patient was admitted to the hospital and talk with you or Dr. Bachrach? A.—Who is Mr. Booth?

Q.—The brother-in-law? A.—No. He never spoke with me.

Q.—Did he speak with Dr. Bachrach in your presence? A.—

Not that I recall.

Q.—Do you recall whether he told you or Dr. Bachrach that Dr. Selders would not be permitted to come in, and that therefore Dr. Bachrach might go ahead with the operation? A.—Whether I heard him say that?

Q.—Yes. A.—I didn't hear him say that, but I heard a reference to Dr. Selders, in the admitting room—in the lobby of the admitting room where the patient was. I mean, when Mrs. Hardin and Mr. Booth—I think Dr. Bachrach was around there. That is the only mention I heard of Dr. Selders at that time.

Q.—What was said in your presence at that time concerning Dr. Selders? A.—I didn't hear any conversation in reference to the fact that Dr. Selders was not—that is, the conversation itself; I just heard this mentioned between Mrs. Hardin, Mr. Booth and Dr. Bachrach. I didn't enter into any discussion or anything like that.

Q.—I am asking you what that conversation was concerning Dr. Selders? A.—In reference to the fact that he didn't have privileges.

Q.—Tell us what was said. What did you overhear? A.—All I heard was that Dr. Bachrach was competent and to go on with the operation.

Q.—And that Dr. Selders could not operate? A.—Whether he could operate or not—that I don't recall.

Q.—What did you hear about Dr. Selders? A.—I heard Dr. Selders's name mentioned.

Q.—How was it mentioned? A.—The fact that Dr. Selders could not operate at the hospital.

Q.—And that was in your presence and in Dr. Bachrach's presence? A.—Yes. It was in my presence, if you consider the fact that I was close by and could hear it.

Q.—And it was in Dr. Bachrach's presence? A.—Yes.

Q.—And it was said by Mrs. Hardin or Mr. Booth? A.—I don't know who said it.

Q.—Was anybody else in the conversation besides you, Dr. Bachrach, Mrs. Hardin and Booth? A.—I was not in the conversation.

Q.—Who was in the conversation? A.—The conversation was between Mrs. Hardin, Mr. Booth and Dr. Bachrach. I was with the patient in the lobby by the elevator.

Q.—Did you hear either Booth or Mrs. Hardin tell Dr. Bachrach what you have already testified to? A.—Yes.

Q.—Are you a member of the American Medical Association? A.—Yes, sir.

TESTIMONY OF ISABELLE M. KANFOUSH

DIRECT EXAMINATION

By Mr. Leahy:

Isabelle M. Kanfoush said she is employed at Walter Reed General Hospital. This is the beginning of the third month. She was employed at Emergency Hospital from January 1938 until June 1939 as a general duty nurse.

Mr. Lewin:—Would you mind asking what that is?

Mr. Leahy:—I am going to ask her.

By Mr. Leahy:

Q.—Will you tell us, please, what a general duty nurse does, what her duties are? *A.*—It depends in what part of the hospital you are assigned. It is usually bedside nursing. I did that for about two months, but I worked in the emergency room after that. That just deals with emergencies that come in from outside.

Q.—What do you mean by emergencies that come in from outside? *A.*—Anything such as accidents or acute abdominal cases or anything of that kind.

Q.—When you were assigned to the emergency room what were your duties there? *A.*—Well, there were quite a few of them, but the chief duties of an emergency nurse are to take care of patients coming in from the outside that have been in automobile accidents or that have been cut or injured in any way.

The witness identified the record in the case of Harriet A. Austin.

Q.—Do you recall Mrs. Austin's coming into the emergency room that day? *A.*—Yes; I do, very definitely.

Q.—I notice at the top of the card the word, in printing, "Ambulance." What does that mean? *A.*—That the patient was brought in by the Emergency Hospital ambulance. This (indicating) is the ambulance record right there.

Q.—Does the emergency record indicate what time the patient came in? *A.*—Yes.

Q.—What time did she come in? *A.*—5:28 p. m.

Q.—Does it indicate the time when there was received at Emergency Hospital a call for the ambulance? *A.*—Yes.

Q.—What time was that? *A.*—5:19 p. m.

Q.—Does it also indicate where the patient was received? *A.*—You mean, from where?

Q.—Yes; from where. *A.*—Yes; we got the call from Peoples Drug Store, 11th and Pennsylvania Avenue.

Q.—It is marked, against the word "by," in printing, your name. What does that mean? *A.*—That I took the ambulance call.

Q.—In other words, at 19 minutes past 5 o'clock on the evening of Sept. 7, 1938 you took an ambulance call on a telephone message from Peoples Drug Store? *A.*—That is right.

Q.—Did you answer it at that same time? *A.*—Immediately.

Q.—Now, I find the name of a doctor, and I will have to ask you to pronounce it for me. *A.*—Mackowiak—M-a-c-k-o-w-i-a-k.

Q.—What does that indicate? *A.*—It means that that was the doctor that went out on the ambulance call.

Q.—And the driver I presume is the driver of the ambulance; is that right? *A.*—Yes—Curtis.

Q.—The time it returned—does that mean the time the ambulance returned? *A.*—Yes.

Q.—That was 5:38? *A.*—5:28.

Q.—And will you explain what is meant by "Disposition of the case"? *A.*—Disposition of the case. The patient was brought in. Usually when the ambulance goes out on a call we like to tell how the patient was taken care of, whether at the scene, assisted, or brought in. In this case the patient was brought in; and that is the disposition.

Q.—From whom did you get the information contained on the card. *A.*—I got the information from the patient herself.

Q.—For instance, did you get her name? *A.*—Yes.

Q.—Harriet A. Austin? *A.*—Yes. She gave it to me.

Q.—Did she give you her address? *A.*—Yes.

Q.—1543 44th Street Northwest? *A.*—Yes; that is right.

Q.—It says "Brought in," and then there is certain writing under that. What is that? *A.*—"E. H. Ambulance."

Q.—And the date and the time and the doctors. Following that line over, there are several names—Mackowiak, Gerber and Fry. *A.*—Dr. Mackowiak was the one who brought the patient in, and Dr. Gerber and Dr. Fry were the two on consultations. Both were residents at the time.

Q.—Did you know them personally? *A.*—I knew them professionally, not personally.

Q.—You were present, were you, in the emergency room when Mrs. Austin was brought in to the emergency room? *A.*—Yes; I was.

Q.—Does that card indicate anything with reference to what was done for the patient?

Mr. Lewin:—Just answer that yes or no, please.

A.—Yes.

By Mr. Leahy:

Q.—What was done for Mrs. Austin? *A.*—Well, she had no external injuries that were—

Mr. Lewin:—I object to that as not responsive.

Mr. Leahy:—Maybe that is true, too.

By Mr. Leahy:

Q.—What was Mrs. Austin's condition when she was brought in to the hospital? *A.*—The general condition was good.

Q.—What was there on her which showed cuts or bruises? *A.*—We saw no cuts or bruises except on the hip, the right hip; and she had a bruise on the right elbow. That is the only thing we saw.

Q.—What was the condition of her clothing? Was it torn or disheveled? *A.*—I am sorry, but I can't remember; it is too far back.

Q.—Can you tell us whether anything was done for her when she was brought in? *A.*—Yes. She was undressed and examined thoroughly from head to foot and was given a medication known as 2-2-10.

Q.—Now, will you explain that? *A.*—Two drams of bisodol, 2 drams of lactopepsin and 10 minims of tincture of belladonna.

Q.—When she was brought into the emergency room was she taken to any bed or anything of that sort? *A.*—The emergency room is a compartment of rather a large room where we have beds, and there is a rest room. We put the patients into this rest room before we admit them to any other part of the hospital, for complete examination.

Q.—Do you recall whether or not Mrs. Austin was admitted in that fashion? *A.*—Yes; she was. She was taken to the rest room, undressed, and put to bed.

Q.—Do you recall now a lady coming into the emergency room at any time and the name of Dr. Selders being mentioned by anybody? *A.*—I recall somebody being in the emergency room, but I can't remember whether it was a daughter or sister or who it was. I can remember her talking of a doctor, but I don't recall the doctor's name.

Q.—Were you there when the request was made for a doctor for Mrs. Austin? *A.*—Yes; I was.

Q.—Did you personally have a conversation with that person, whoever she may have been? *A.*—I did.

Q.—Will you tell us what it was?

Mr. Lewin:—Objected to.

THE COURT:—Objection overruled. I suppose you refer to the daughter of this lady who testified?

Mr. Leahy:—Yes, your Honor.

THE COURT:—She went very thoroughly into the incident.

Mr. Lewin:—She did not go into a lot of hearsay talk, because your Honor did not permit it.

THE COURT:—She went into what she said to everybody in the hospital, and she repeated it several times.

Mr. Lewin:—No, your Honor; I beg your pardon. She told about what she said to McKeever and to the intern but not to any nurse. If your Honor permits this, you are permitting hearsay testimony from a person who is not a party to this case; and you have said time and time again—

THE COURT:—Please be a little more careful how you argue.

Mr. Lewin:—I meant the utmost respect to your Honor, but I meant to be extremely emphatic.

THE COURT:—Perhaps so; but your attitude does not indicate it.

Mr. Lewin:—I am sorry if it does not, because I have no desire—

THE COURT:—I am very sorry too. I hope that it does not occur again.

Mr. Lewin:—I think that I am entitled, as a representative of the United States—

THE COURT:—I don't want to hear that. Just a minute. You have no more rights as a representative of the United States than any other attorney here.

Mr. Lewin:—I do not claim any more rights.

THE COURT:—And I do not want that argued to me. All I say is that when you present your objections or argument you do it without an attitude of reproaching me for what I may have done in the past. I have ruled as I thought I should.

Mr. Lewin:—I am sure you have, your Honor; but I thought there was no rule that forbade my calling your Honor's attention to a previous ruling.

THE COURT:—Not at all; but it depends on the way you do it.

Mr. Lewin:—I did not mean to call it to your attention in any discourteous way at all. I assure you of that.

THE COURT:—If I am mistaken about this I want to be corrected; but my recollection of the lady's testimony is that she went in great detail into all that she did and said there.

Whether it specifically applied to any conversation with this lady or not I do not know.

Mr. Lewin:—Your Honor, I am sure that there is nothing in the record that speaks about any conversation with this lady.

By Mr. Leahy:

Q.—Were you present when this lady talked with the interns and the doctors you said were there? *A.*—The doctor was examining the patient.

Q.—Was the lady present at that time who asked for the doctor? *A.*—Yes; she was.

Q.—And you overheard the conversation between the doctor and the lady? *A.*—I didn't hear her asking for a doctor, but she did personally ask me if she could have a certain doctor for her mother, or to take care of her mother, or sister; I don't remember which it was.

Mr. Lewin:—I move that that be stricken out.

Mr. Leahy:—We offer that for this reason, your Honor. The lady in her testimony talked, as she said, with McKeever; she talked with the intern, and so forth, and left the impression that nothing was done for her mother at Emergency Hospital, and that when she asked for this doctor they would not permit Dr. Selders to come in. Now, if she asked anybody in responsibility for permission for Dr. Selders to come in there, I have a right, on the same theory and on the same rule on which your Honor permitted interns' conversation to be testified to, because an intern was in the same official position. Here is a nurse who represented Emergency Hospital with reference to the mother in that room at that time, and if this lady had a right to bring Dr. Selders in there, we have a right to know it, and not to have the jury left with the impression that this lady refused or anybody refused a doctor for her that night.

THE COURT:—I am inclined to think that that is so. The testimony of the Government tended to show that the hospital's attitude was of a certain kind—I do not care to describe it or characterize it. That was certainly the purpose of the testimony revolving around that incident, as to the attitude of the hospital itself, and it was brought out as to the attitude of those with whom the lady came in contact. I will permit it.

Mr. Lewin:—Will your Honor hear me a moment?

THE COURT:—Yes.

Mr. Lewin:—I suggest that the hearsay rule has some application. Admissions from the hospitals, once your Honor has determined that they are co-conspirators, which was your Honor's ruling, of course come in against all the defendants. Statements from Mrs. Avery, however, do not come in against all parties or against the Government or anybody else. She has certainly not been tied up with any activities of the defendants. This witness is being asked for what Mrs. Avery said.

THE COURT:—What was the purpose of the testimony?

Mr. Lewin:—The purpose of this testimony is to get some hearsay statement in—

THE COURT:—I mean, the purpose of your testimony.

Mr. Lewin:—As to the facts and as to the statements of the hospital.

THE COURT:—What facts?

Mr. Lewin:—The things that transpired there that night in regard to Mrs. Austin.

THE COURT:—For what purpose?

Mr. Lewin:—To have the jury understand what the facts were.

THE COURT:—For what purpose? For the purpose of showing that the hospital refused treatment to this woman because she was a G. H. A. patient; was it not?

Mr. Lewin:—No; it was for the purpose of showing that the hospital forbade this woman to have her own doctor, Dr. Selders.

THE COURT:—I understand it includes that, the two combined.

Mr. Lewin:—No; not the two combined; simply that.

THE COURT:—It revolves around the fact that she was a G. H. A. member and entitled to this privilege, and called a G. H. A. physician, who was refused by the hospital. Is not that true?

Mr. Lewin:—It revolves around the fact that she called Selders and could not have Selders because he was a G. H. A. doctor. That is perfectly clear. Mrs. Avery is not a party to the cause nor any co-conspirator or anything of that sort. Her hearsay statements to this witness certainly cannot come into this case whatever the subject matter might be.

THE COURT:—I do not get that at all. If you can offer Mrs. Avery's statement to various agents and officers of the hospital concerning this incident in order to prove a certain attitude on the part of the hospital, certainly the defendants

have a right to reveal all the circumstances that would indicate the attitude or the acts of the hospital with reference to that episode.

I rule that it is admissible.

By Mr. Leahy:

Q.—Miss Kanfoush, will you kindly tell us, then, what the lady said with reference to wanting Dr. Selders to see her mother, and what you said about it? *A.*—The lady asked me if she could have Dr. Selders come in to see her mother, and I told her that Dr. Selders was not on the courtesy list of the hospital, but that we would call him and have him come in to the hospital and talk to her and the patient and see if they could arrange between them to have one of the staff men take care of the patient. But the patient herself refused to have us call Dr. — whoever he was; I can't remember—refused to have us call him, and, as a result, decided that she was going to go somewhere else.

Q.—It was the patient who made that statement? *A.*—Yes; the patient herself refused to have us call the doctor.

Q.—At that time were arrangements made for her to be removed from the hospital? *A.*—She wanted to leave the hospital. She asked to leave, but the rule of the hospital is that no patient who we think should stay in the hospital is permitted to leave unless he or she sign a release; and that is what we asked her to do. She signed a release.

Q.—Did she sign it? *A.*—Yes; she did.

Q.—And you recognize that as her signature (indicating)? *A.*—Yes; I do.

Q.—There is another name there—Dr. J. H. Harris. Do you know who he is? *A.*—Dr. Harris was the intern in the emergency room.

Q.—Do you know where he is now? *A.*—No; I do not.

Q.—I will ask you, Miss Kanfoush, if everything was done for Mrs. Austin in the emergency room that night that could be done under the circumstances? *A.*—Yes; everything was done.

Mr. Leahy:—We offer in evidence Defendants' Exhibit 4, which is the emergency card; that is, the card which is made out in Emergency ambulance cases and also the release attached thereto.

Mr. Lewin:—We have no objection.

THE COURT:—It will be admitted.

By Mr. Leahy:

Q.—Were you there when she left the hospital? *A.*—Yes; I was.

Q.—How did she go out? *A.*—She walked out.

DEFENDANTS' EXHIBIT 4

Mr. Leahy:—I will just read to you this card relating to Harriet A. Austin:

"Call received 5:15 p. m. By Kanfoush. How received: People's Drug Store.

"Call answered 5:19 p. m. By Dr. Mackowiak. Driver Curtis.

"Time returned 5:28 p. m. Disposition of case: Bro. in.

"Name Harriet A. Austin. Address 1543 44th St. N.W.

"Brought in E. H. Amb. Date 9-7-38. Time 5:28 p. m.

"Dr. Mackowiak-Gerber-Fry. Nurse I. Kanfoush.

"Diagnosis, Pos. fract. lt. hip.

"Disposition of case. Refused hospit. Signed release.

"Remarks: Pt. states a few min. ago at 11th and Pa. Ave N.W. she was crossing the street & was hit by a car driven by unknown party. Injury to left hip and right elbow."

The treatment is that "2-2-10." I will not try to repeat it because I cannot.

By Mr. Leahy:

Q.—Would you tell us what this "P. N." on the bottom is? *A.*—Yes. In all accident cases we notify the police. It just so happened that this case was in the First Precinct. That means Police Notified.

Mr. Leahy:—Attached to the card is a signed release which she signed when she left the hospital Sept. 17, 1938. It reads as follows:

"In leaving the Emergency Hospital against the advice of Dr. J. H. Harris I assume all responsibility for the results that may follow.

"Mrs. H. A. Austin.

"Witnessed:

"J. H. Harris

"Isabelle M. Kanfoush, R. N."

By Mr. Leahy:

Q.—"R. N." means Registered Nurse? *A.*—Yes, sir.

MARCH 7—AFTERNOON
TESTIMONY OF THOMAS J. DUGAN JR.

DIRECT EXAMINATION

By Mr. Leahy:

Dr. Thomas J. Dugan Jr., Laurel, Maryland, said he had been employed at the District Training School as physician since the 15th of June. He graduated from George Washington University School of Medicine, 1936.

Q.—Did you intern in any hospital in Washington? A.—I did, at Emergency.

Q.—Did you take a residency anywhere? A.—I took an assistant residency at Garfield in surgery, and a residency in surgery at Garfield the following year.

Q.—What year were you in Emergency? A.—I began July 1, 1936 and completed my internship June 30, 1937.

Q.—And your assistant residency at Garfield began when? A.—July 1, 1937 and completed June 30, 1938.

Q.—Then, did you follow the assistant with a full residency? A.—I did; I followed from July 1, 1938 to June 30, 1939.

Q.—Will you tell us what duties you performed there as assistant resident at Garfield? A.—As assistant resident in surgery, primarily my duty was to assist the resident in surgery helping with operations; on nights the resident was off, or any time he might be off, I was the resident in charge.

Q.—Was there any difference between the duties you were called upon to perform as an assistant from those you were called upon to perform as a resident? A.—Yes, somewhat, in that there were more responsibilities as resident. You have to do more work as resident. There are more cases you are allowed to operate on under the supervision of the staff doctors.

Q.—Did you have any hours of duty as assistant resident at Garfield? A.—Not specific, except there were twenty-four hours, and we managed generally to be off every other night from 7 until 7 the next morning.

Q.—And while you were a full resident at Garfield did you observe the same hours? A.—Practically the same.

Q.—At Emergency as an intern what were your hours? A.—I would say they were fully that much; the same. We had practically every other night off.

THE COURT:—What is the materiality of that?

Mr. Leahy:—It may come in on something I wish to ask about in connection with Emergency.

By Mr. Leahy:

Q.—Now, were you at Garfield at any time, or a particular time when Miss Elizabeth Tew arrived at Garfield? A.—I was.

Q.—Do you recall the incident now of her coming into the hospital, Doctor? A.—Yes, I believe I do.

Q.—Do you recall the date now independently? A.—No, I don't believe I do remember the date. I did write a report the night the incident happened, or the day following—it was one of the two. I couldn't be absolutely certain. On that report the date will be given.

Q.—Was it any part of the rules and regulations at Garfield to make a report such as you refer to? A.—I don't believe I ever saw it in writing as a rule or regulation, but it was certainly understood that in case anything unusual happened that we would make a report to the superintendent. Several times I have been asked to write a report about something that happened in the hospital while I was on duty.

Q.—And in what file would that report be made? A.—It would be made to the superintendent. Now, where that would be filed, I wouldn't know.

Q.—I will ask you if you can identify a paper which I hand you here. I think it has been identified—no, I guess that is carrying a separate exhibit number, U. S. 488. Can you identify that exhibit? A.—That is my signature.

Q.—And do you recall the exhibit 488 itself, so that you can describe what it is, without going into the details? A.—I believe I can.

Q.—What is it? A.—It is merely a report of what happened on February 26, from 7 o'clock to, oh, probably around midnight.

Q.—I now show you what has been marked as Defendants' Exhibit 2 for identification. Can you describe that document? A.—Yes, this is the hospital chart, because here is a mark I made on it.

Q.—Hospital chart of which case? A.—Miss Elizabeth Tew.

Q.—And are the accompanying papers attached to the chart? A.—Yes.

Q.—Just generally: Are they the papers in connection with Miss Tew's case? A.—Yes.

Q.—Do you recall at what time you first saw Miss Tew that evening? A.—I would say it was approximately some time between 7:30 and probably 8:30.

Q.—Where was she when you first saw her? A.—Ward B in Garfield, coming up in company with a nurse and one or two other persons. I couldn't be sure how many were with her, but there were some. I happened to see her as I walked down the corridor.

Q.—Did you later ascertain whether she had been assigned to a room? A.—I did, later.

Q.—Was the room in Ward B? A.—Yes.

Q.—When, if at all, was your attention next directed to Miss Tew being in the hospital? A.—I believe the next time was when Dr. Harry Kerr asked me to make an examination of Miss Tew.

Q.—Did you make an examination of Miss Tew in accordance with that request? A.—I did.

Q.—Who is Dr. Harry Kerr? A.—He was senior surgical staff man on duty at the time. His service extended, I believe, from the first of January to the 30th or 31st of March.

Q.—Did you, in pursuance of a telephone call, make an examination of Miss Tew? A.—I did.

Q.—Do you recall about when it was you made that examination? A.—It was somewhere around 9 o'clock.

Q.—In the evening, of course? A.—Yes.

Mr. Kelleher:—I think we ought to have this man testify without the use of that record.

By Mr. Leahy:

Q.—Doctor, is your recollection of those incidents clear in your mind now, so that you can testify without referring to the paper? A.—No, but my memory is a lot better since I have looked at this within the past two or three days and, in addition, having seen it at the grand jury. I don't know whether I can give you the details without looking at it; I will try.

Mr. Lewin:—Can you add anything to what is on it? The Witness:—Possibly; it depends on what comes up; I don't know.

By Mr. Leahy:

Q.—If you can answer without looking at the paper, let's do the best we can that way, and if we cannot, we will ask for the privilege of looking at it.

Now, do you recall when it was you made the examination of Miss Tew? A.—Somewhere around 9 o'clock.

Q.—Where? A.—In the room assigned to Miss Tew in Ward B.

Q.—What was the result of that examination? A.—At that time I remember my feeling was that the case was not acute enough that it had to be operated on that night.

Q.—At any time did you see Dr. Selders in the hospital? A.—I did.

Q.—At any time did you communicate the information which you have just given to us as a result of your examination to Dr. Selders? A.—That, I don't believe I did; I think that I told Dr. Kerr over the phone the results of my examination. I don't believe I discussed my findings with Dr. Selders.

Q.—I show you, Doctor, what purports to be an original and a copy of the original, and ask you if you can identify those? A.—Yes, I do identify those.

Q.—And you identify them as what? A.—A paper that Dr. Selders requested that I sign, which I refused to sign until Dr. Kerr dictated what I was to sign, and it was signed as per Dr. Kerr's telephone order to me. Then I dictated this out and signed it and gave a copy to Dr. Selders.

Q.—What was the occasion of Dr. Selders asking you to sign such a paper as is before you? A.—On the advice of Dr. Kerr, because the case was not considered an acute emergency. Dr. Kerr asked me to tell Dr. Selders that he would not be allowed to operate in this case.

Q.—And you followed the instructions of Dr. Kerr? A.—That is correct.

Mr. Leahy:—I offer the two papers in evidence, if your Honor please.

Mr. Lewin:—No objection.

THE COURT:—Admitted.

Mr. Leahy:—The two papers which have just been identified are the original and a copy on the letterhead of Garfield Memorial Hospital, School of Nurses, Washington, D. C., dated Feb. 26, 1938.

"Dr. Selders,

"On the advice of H. H. Kerr, the case of Miss Elizabeth Tew is not considered an acute surgical emergency.

"T. J. Dugan,
"Assistant Surgical Resident."

By Mr. Leahy:

Q.—Now, did you tell us why it was Dr. Selders asked you to sign that paper? A.—Because after my examination of Miss Tew I talked to Dr. Kerr and he told me that it was not an acute emergency sufficient for a man who didn't have surgical

privileges at Garfield Hospital to allow him to operate, and that was the reason I gave him that paper.

Q.—At that time did you know whether Dr. Selders had surgical privileges at Garfield? A.—Only in case of a surgical emergency.

Q.—At any time did you see a Miss Peggy O'Connor or Miss Davis at the hospital that evening? A.—I saw a person who was introduced to me. It may have been Peggy O'Connor or anybody, for that matter, because I frankly wouldn't remember her name, or her face.

Q.—Do you remember whether there was a young gentleman in company with Miss Tew that evening? A.—Yes.

Q.—You met him on that occasion? A.—Yes.

Q.—Now, did there come a time when you talked with Dr. Selders with reference to his right to perform an operation there that evening on Miss Tew? A.—There was such a time when I talked to him, yes.

Q.—What was that conversation? A.—Well, essentially, that I was very sorry, but he would not be allowed to operate.

Q.—Did there come a time when you conveyed information to that effect to Miss Tew? A.—Yes, there did. I did convey that information to Miss Tew.

Q.—Do you recall when it was that you conveyed that to her? A.—Within probably twenty to thirty minutes after I conveyed it to Dr. Selders.

Q.—Do you recall whether the young lady and the young gentleman were in the room at the time you talked to Miss Tew about that matter? A.—They were, as was Dr. Bolton, and the nurse, Miss Marsh.

Q.—Give us to the best of your recollection what was said by you? A.—This was after Dr. Selders had been refused permission to operate: Is that what you mean?

Q.—Yes. When you told Miss Tew about it. A.—I went to Miss Tew's room because I felt it was only right that the hospital—

THE COURT:—Just what you said.

THE WITNESS:—I don't remember the conversation but as far as—

Mr. Leahy:—The substance.

THE WITNESS:—The substance was that since Dr. Selders was not on the courtesy staff of Garfield Hospital he would not be allowed to operate on Miss Tew, but that we would be very glad to have any member of the staff of Garfield or, for that matter, any member of the courtesy staff of Garfield Hospital, who she would want, or would name, we would have that doctor come down and examine her, and she could then follow his advice. After that she said, "No," she wanted Dr. Selders. I said, "I am sorry, Dr. Selders cannot operate on you." Then she said that she would leave the hospital. I said, "Well, if you leave Garfield, will you sign this hospital release," which I believe is here. She said, "Yes, I will be glad to sign it." Immediately Dr. Selders, or one of the other two witnesses said, "No, you can't," because she is under morphine, and then Miss Tew said, "No," she would not sign it. I said, "that is perfectly all right with me. Are you going to leave the hospital?" She said, "Yes." Then I said, "You are going to leave against the advice of the hospital and I will read this release to you."

Q.—Have you it here, that release? A.—It should be on this chart. Well, anyway, I read the hospital release to her and she still refused to sign it; then my recollection is that I said, "Well, I am awfully sorry," and left the room. In other words, no further discussion was entered into. Some time after that, oh, it must have been an hour, possibly two hours later, I went to Miss Tew's room by myself and said, "Miss Tew, this is a very unfortunate circumstance; I am sorry it has had to happen to you, and I am sorry we are both in this mix-up. Dr. Selders isn't able to operate in this hospital and, if I may suggest, and if I were in your place, when you go home I would go to bed, put an ice pack on my abdomen, take nothing by mouth except a few sips of water and stay in bed, and call another separate physician who is not mixed up, not connected with either Garfield or Group Health, or any organization, except a physician of your own choosing." And at that time Miss Tew was very, very pleasant; she was dressed and on the bed, and it was over two or three hours after she had her morphine, but then I told her not to leave until she got good and ready to leave; that there was no hurry.

Q.—Does the chart show how much morphine she had? A.—It should, yes: "Morphine, grains, a quarter, at 8:15 p. m."

Q.—Do you recognize among the papers of Miss Tew's record here the history which she gave on entrance? A.—This history was given to Dr. Kreutzburg and I read this history.

Q.—And did you read the history before you made the examination which you have just told us about? A.—I did.

Q.—What does that history disclose?

Mr. Kelleher:—Objected to; it speaks for itself.

Mr. Leahy:—Well, I can read it, or I can ask him to.

THE COURT:—He can read it.

Mr. Kelleher:—It is not in evidence.

Mr. Leahy:—Well, I will offer it in evidence, if your Honor please.

THE COURT:—Any objection to it?

Mr. Lewin:—Well, we will have to look at it.

THE COURT:—I thought it was admitted.

Mr. Kelleher:—Mr. Leahy, you are just offering the Kreutzburg at this time?

Mr. Leahy:—No.

Mr. Kelleher:—Are you offering it all?

Mr. Leahy:—Yes, that is all that history there.

Mr. Kelleher:—No objection.

THE COURT:—Admitted.

By Mr. Leahy:

Q.—Now, Doctor, I think you can read that more intelligently than I can? A.—"Blood pressure was 120 over 80."

This is Feb. 26, 1938:

"Nutrition, good; well developed and well nourished; not acutely ill. Head and neck—not remarkable. Chest—resonant throughout. Vesicular breathing—no rales. Heart—within normal limits; regular; no murmurs. Abdomen—right rectus rigidity tenderness to pressure in entire R. L. Q."—that is right lower quadrant; "No palpable masses; Pelvic—not done; Extremities—negative. Sub-acute appendicitis."

That is Dr. Kreutzburg's examination.

Q.—Now, did you have any other history before you as to what the lady was suffering from when you made the examination? A.—None, except what I got from her?

Q.—What history did you get from her? A.—May I refer to my notes? My impression is she had this trouble two or three days before she came to the hospital. I would like to refer to my notes if I may.

THE COURT:—You may refer to them if necessary.

THE WITNESS:—I have here, "Having been ill for about a week with some R. L. Q. pain and nausea, temperature around 99.4 degrees." At the same time, though there was some very slight rigidity my impression was that it certainly was not acute enough to be operated in the middle of the night; at least, I wouldn't be inconsiderate enough to operate on a staff case—say a staff case came in with the same symptoms, I would wait until the next morning.

Q.—I will now show you what has been identified as Government's Exhibit U. S. 584, and I show it to you with the request that you identify it, if you can? A.—Oh, this is the release slip which I read to Miss Elizabeth Tew that evening. Do you want me to read it?

Q.—And when you read that to Miss Tew, what was her condition? A.—Well, this was 9:55 and I believe it is 8:15 she had this morphine, so it was a little over an hour and a half since she had it. I would say she was moderately groggy, no more than anybody else would be under the same circumstances.

Q.—What evidence did she give that she knew what the release was and that you wanted her to sign it? A.—Well, she refused to sign it. She said she would not sign it; she was going to leave the hospital.

Q.—Did she assign any reason why she wouldn't sign it?

Mr. Kelleher:—I thought we had been all over this.

THE COURT:—Yes.

By Mr. Leahy:

Q.—Will you just read what you asked Miss Tew to sign? A.—"I hereby acknowledge," this is Feb. 26, 1938, Washington, D. C.:

"I hereby acknowledge that Miss Elizabeth Tew is leaving the Garfield Memorial Hospital against the advice of the attending physicians, and that I assume all responsibility for the risk in so doing."

That is what we asked Miss Tew to sign if she insisted on leaving the hospital, but she didn't sign—

Mr. Kelleher:—Just a second.

By Mr. Leahy:

Q.—Yes. Now, are the names of any witnesses on there? A.—Yes, "Also present but not signing—Miss O'Connor, Mr. Adams, Dr. Selders, Miss Tew."

Q.—Doctor, was there anything unusual about a hospital, in your experience, not permitting operations by doctors who were not on the staff of the hospital?

Mr. Lewin:—Objected to. I don't know what his experience could be. I think he was the assistant resident at Garfield.

THE WITNESS:—I was at Emergency.

Mr. Lewin:—Let us have Emergency, then; not all the hospitals in the country.

Mr. Leahy:—Nobody said anything about all hospitals in the country.

Mr. Kelleher:—I don't think he is qualified.

By Mr. Leahy:

Q.—I will ask you have you had experiences where other doctors were denied permission to operate on patients in hospitals because they were not a member of the staff of that hospital? *A.*—Oh, yes.

Mr. Lewin:—Wait a minute.

THE COURT:—I think it is competent. If the Government contends this was an unusual situation which related only to Dr. Selders, I think it is competent to show that it was not, if they can.

Mr. Lewin:—The Government contention is that this is the usual treatment Dr. Selders got from all the Washington hospitals.

THE COURT:—If you have a right to show that such treatment was out of the ordinary, I think they have the right to offer evidence to the contrary.

Mr. Kelleher:—Yes, if this witness is so qualified to testify.

THE COURT:—Well, he is a doctor. They cannot prove it by any other way than by those employed in hospitals. It seems to me that is the best proof.

By Mr. Leahy:

Q.—While you were at Emergency, for instance, did you know of doctors who were not on the staff of Emergency, other than Dr. Selders, who had been refused privileges to treat patients there and operate? *A.*—Certainly. I have transferred a patient from Emergency by way of their ambulance to Providence purely because the doctor did not have privileges at Emergency.

Q.—And he was not a Group Health Doctor? *A.*—Certainly not. This was long before I ever heard of Group Health. This was a year before this Tew incident.

Q.—Now, Doctor, did you know Dr. Selders before you met him that evening at Garfield? *A.*—I scrubbed with him a few times before, yes.

Q.—Where did you scrub with him?

THE COURT:—Now, what is scrubbing?

The Witness:—Well, as far as this scrubbing is concerned, it is nothing more than just that. You have your scrub suit and go up to a basin, turn on the water and you scrub and scrub, and you keep that up until you get disgusted. Then you clean your nails. Of course, there is a technic about it.

THE COURT:—Well, anyway, it is a cleansing process?

The Witness:—It is purely a cleansing process to be sure your hands are clean.

By Mr. Leahy:

Q.—Have you scrubbed in that fashion before with Dr. Selders at Garfield? *A.*—I have.

Q.—How many operations have you assisted Dr. Selders in? *A.*—I am not certain but I would say anywhere from three, to five or six operations.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Do you mind telling us how old you were at the time of this Tew incident? *A.*—That was in 1938; this is '41. Now I am 31 tomorrow, so I was in the neighborhood of 26 to 30. It happened in '38; this is '41. I am 31 tomorrow, so you can figure it out.

THE COURT:—Let us stop this laughter. I have already spoken concerning it. I want it stopped. If it doesn't, I am going to clear the courtroom.

By Mr. Lewin:

Q.—Doctor, you were 28 years old at that time? *A.*—I was.

Q.—When did you finish your internship? *A.*—About eight months prior to the time of this Tew incident.

Q.—So you had been a full-fledged doctor for eight months at that time? *A.*—Yes.

Q.—Are you the only one of Garfield who made an examination of Miss Tew that night? *A.*—No, Dr. Kreutzburg.

Q.—Is he an intern? *A.*—He was.

Q.—Did he rank above or below you? *A.*—Below.

Q.—And he is a younger man than you? *A.*—That I wouldn't know; he is about my age.

Q.—About 28 years old? *A.*—I would say 28; maybe 32; approximately that age group.

Q.—Do you know when he received his degree? *A.*—The year following me, from Georgetown.

Q.—So that would be about what year? *A.*—1937.

Q.—He had been a doctor since 1937? *A.*—Yes.

Q.—But he had still to do his internship? *A.*—Yes.

Q.—And did anybody else at Garfield make this examination of Miss Tew except you two gentlemen? *A.*—Not that I know of.

Q.—When you made the examination of Miss Tew you had heard she was a Group Health patient? *A.*—I believe I had, yes.

Q.—You had heard that Dr. Selders had posted the operation? *A.*—That is correct, yes.

Q.—You knew that he was down in the room scrubbing for the operation? *A.*—Oh, no; of course not.

Q.—Didn't you know that? *A.*—No, of course not. Dr. Selders never did scrub that night. His hands were just as dirty when I saw him last as they were when he first came in.

Q.—He came in to go down to scrub, did he not? *A.*—Yes, he came in and was going to scrub. I tried to get him. I would have stopped him before, if I had been able to get him. If I had reached him I would have said, "You haven't surgical privileges in this hospital, so you can't operate," but I couldn't get him.

Q.—The point is he had called the hospital, had posted the case; had sent the case there, and Miss Tew had been taken to her room, and this doctor had on his scrubbing suit and was ready to go to work. *A.*—Yes.

Q.—And then you stopped him? *A.*—Yes, I did.

Q.—You knew that he was down there ready to scrub at the time you made this examination? *A.*—May I say something further?

Q.—Certainly, but I wish you would answer my question. *A.*—This is all fine if we didn't have anything else to do, except sit there and take care of Dr. Selders, but it so happened that on that particular night it was awfully busy, if I may say so, because I was scrubbing with one other case posted five minutes before Dr. Selders came, an appendix that Dr. Smiler did; I was tied up there. At the same time there were one or two cauterizations to be done; and I had to take care of this other work in addition to trying to get hold of Dr. Selders, and when he did get in I was in the operating room working on another case.

Q.—But you knew that Dr. Selders was ready to proceed with the operation? *A.*—Yes.

Q.—And you knew that she was a Group Health patient? *A.*—Yes.

Q.—You also knew that some doctor objected to Dr. Selders performing the operation? *A.*—What doctor?

Q.—Didn't you know that a member of the staff there objected to Dr. Selders' presence in the hospital? *A.*—Oh, Miss Patton, who was assistant superintendent of nurses, a fuss budget, came up to me and said, "Dr. Dugan, Dr. Edgar Davis is all upset because Dr. Selders is going to operate."

Q.—Who is Dr. Davis? *A.*—A surgeon in town.

Q.—A member of the Medical Society? *A.*—Yes.

Q.—Was the statement that Miss Patton made to you, was that what put you in motion that caused you to examine Miss Tew? *A.*—No, indeed. Miss Patton had nothing to do with it. She was saying how awful it was, what a terrible thing it was that Dr. Selders, who had no courtesy privilege, was going to operate; this and that; it amounted purely to nothing, so far as what she said.

Q.—You hadn't told Dr. Kerr at the time you made this first examination? *A.*—I think I had talked with Dr. Kerr. Of course, it was my right and privilege to examine any patient in the hospital I wanted to, particularly, on surgical service. In other words, I could have examined her as soon as she got in bed, but if I felt there wasn't reason to examine the case I didn't have to.

Q.—The point is you examined her as the result of Miss Patton's having told you Dr. Davis had said something about it, and how he felt. *A.*—No, I examined her as the result of my own desire, before I talked with Dr. Kerr.

Q.—You just told us this was a very busy night. *A.*—Yes.

Q.—Dr. Selders hadn't asked you to examine his patient? *A.*—No.

Q.—Dr. Kerr hadn't asked you to examine the patient? *A.*—No. Here is the reason why—

Q.—Just answer the question. I will give you a chance to explain. No one had told you to examine that patient? *A.*—That is correct.

Q.—You wouldn't ordinarily examine that patient on that busy night without somebody telling you to do it? *A.*—Might I put in something there?

Q.—Yes. *A.*—Yes, I would have on that busy night whether anybody told me to examine her or not.

Q.—Didn't you examine that patient as the result of what Miss Patton had told you Dr. Davis had stated? *A.*—No, absolutely not. Do you think—

THE COURT:—Don't ask questions. Just answer them. Let the lawyers do that.

The Witness:—I am sorry, your Honor.

By Mr. Lewin:

Q.—Isn't this a correct statement of what happened? At 7:10 a Dr. Smiler had called and posted an acute appendix in the ward there? A.—May I read this?

Q.—About 7:15 Miss LaFevre called and said that Dr. Selders had posted a case for 8:30, and did he have surgical privileges. That you then went to Mr. Macatee's office and found him off duty. Now who is Mr. Macatee? A.—He was the night superintendent of the hospital or, I think his title is, probably, treasurer of the hospital. He was the business manager who generally was on duty to 10:30 or 11 at night.

Q.—You tried to call Dr. Selders but were unable to reach him? A.—Yes, that is correct.

Q.—And Dr. Davis, that is this Edgar Davis, had heard that Dr. Selders had posted a case. Now how did he know that? A.—Through Miss Patton.

Q.—"I called Dr. Eisenman immediately and was told Dr. Selders did not have surgical privileges unless it was an acute emergency." Who told you that? A.—I was told by Dr. Eisenman.

Q.—You called Dr. Eisenman and he told you Dr. Selders didn't have surgical privileges unless it was an acute emergency, "a ruptured appendix"? A.—Yes.

Q.—Didn't you say before the grand jury that "Unless the appendix is ruptured or very warm"? A.—It is essentially the same.

Q.—Yes? A.—It would have to be an awfully acute condition.

Q.—And Dr. Selders, then, would not be permitted to operate in that hospital unless it was an acute emergency, in which case he would be entitled to do so; is that true? A.—I think probably anybody could get privileges if somebody was going to die.

Q.—Even a man like Dr. Selders could get privileges for an emergency?

Mr. Leahy:—That is argumentative.

Mr. Lewin:—I submit the witness started the argument.

THE COURT:—Just answer the questions.

By Mr. Lewin:

Q.—Now then, Miss Patton came up to you, and she was the assistant superintendent of nurses, was she not? A.—That is correct.

Q.—And she told you that Dr. Edgar Davis had been in to see her and that Dr. Davis had said that if Dr. Selders was to operate he would have to take his patients elsewhere? A.—That was second-hand, though, from her.

Q.—You believed it, though, coming from her, did you not? A.—It didn't make any difference to me one way or the other what she said.

Q.—Why did you put it in this report then? A.—I tried to put in everything that happened that night so that if anything came up in the future I would have a record of what transpired.

Q.—It was after those talks with Dr. Eisenman and Miss Patton that you decided to examine Miss Tew? A.—I decided to examine her, yes.

Q.—Wasn't it the result of Eisenman and Miss Patton's conversation with you, the latter having related what Dr. Davis said? A.—May I ask a question? It is purely this: If I called up Dr. Kerr what was I to tell him about the patient? In other words, when I called him it would be relative to Miss Tew and, as a result, I had to at least be able to tell him something; whether she was white or colored; was she tender? In other words, something about the case. That is the only reason I examined her.

Q.—The first thing you told Dr. Kerr about was the G. H. A. connection and that Dr. Selders wanted to operate; isn't that true? A.—No, I don't think so, as far as I remember. It was all wrapped up in the same thing. I didn't have to say G. H. A. to Dr. Kerr because he knew Dr. Selders by name.

Q.—Dr. Kerr knew about Dr. Selders in Group Health? A.—I suppose he did, because he was on the surgical staff that refused him the privileges.

Q.—And when you called Dr. Kerr, you called attention to the fact that here was a G. H. A. patient, did you not? A.—Not that I know of.

Q.—Didn't you say on your memorandum that you told him about the circumstances of the patient? A.—Circumstances of the patient coming in, having a more or less tender abdomen. I didn't mention G. H. A. It wasn't necessary for me to mention it to Dr. Kerr that she was a Group Health case. He knew; after all, he was a staff man.

Q.—Why was it necessary to call Dr. Kerr? A.—Because Dr. Selders, like a lot of other men, didn't have surgical privileges at Garfield.

Q.—Therefore you called Dr. Kerr to see whether or not an exception might be made in his case? A.—That is it.

Q.—And you didn't tell him it was Dr. Selders with a G. H. A. case? A.—No, I didn't.

Q.—Didn't you say you called to see whether an exception might be made? A.—I don't think I said "an exception." I called to explain the situation to him and to tell him that Dr. Selders wanted to operate.

Q.—Do you call Dr. Kerr every time you make an examination of a patient? A.—I would if there was any question in my mind about it.

Q.—And you called Dr. Kerr on that occasion because there was a question in your mind? A.—Yes.

Q.—And you must have told him that it was Dr. Selders who wanted to operate and that the patient was a G. H. A. case, didn't you? A.—I may have mentioned it.

Q.—Aren't you sure that you did mention it? You just told us that the reason you called Dr. Kerr was because you had a question in your mind; the question was whether Dr. Selders could operate. A.—Yes.

Q.—Now do you mean to say that you didn't explain those circumstances to Dr. Kerr? A.—I may have; not that I remember.

Q.—What did Dr. Kerr tell you? He told you to call Dr. Eisenman, did he not? A.—I don't know whether he did or not.

Q.—Why would he have told you to call Dr. Eisenman if he didn't understand this was a question of hospital privileges so far as Dr. Selders was concerned?

Mr. Leahy:—Objected to as argumentative.

THE COURT:—Yes.

By Mr. Lewin:

Q.—Is it usual for you to call Dr. Kerr and for him to tell you to call Dr. Eisenman when you make an examination? A.—I don't think he did tell me to call Dr. Eisenman. He called Dr. Eisenman.

Q.—Did he tell you the purpose of calling Dr. Eisenman? A.—No.

Q.—Just told you he would call Dr. Eisenman? A.—I don't know that he did that. I have it down here. "He then called Dr. Eisenman."

Q.—Did he tell you why he did that? A.—No.

Q.—How do you know that he called Dr. Eisenman? A.—I have it here: "He then called Dr. Eisenman by phone and Dr. Eisenman immediately called me back and told me that under the circumstances, having no surgical privileges, he could not operate."

Q.—What is your testimony now? How do you know Dr. Kerr had called Dr. Eisenman? A.—How did Dr. Eisenman get into this picture at all? How would he know anything about calling me? Telepathy? Eisenman has to get in the picture in some place. I called Dr. Kerr, and he called me.

Q.—But you didn't say anything about Group Health to Dr. Kerr? A.—I told him about this case that Dr. Selders had.

Q.—Did you tell him it was a Group Health case? A.—I don't think so.

Q.—At any rate, after Kerr called Eisenman, Eisenman called you and told you there could not be any operation by Dr. Selders? A.—He told me that under the circumstances, having no surgical privileges, Dr. Selders could not operate.

Q.—And the circumstances were that he didn't have privileges? A.—Didn't have privileges, surgical privileges.

Q.—And that action was based solely on your report—that decision that it was not an emergency—that you didn't regard the case as acute? A.—I don't know what effect my report had.

Q.—If it had been acute he would have had the privilege of operating on Miss Tew that night? A.—I don't know; I couldn't give him the privilege.

Q.—Didn't you say that if it was acute he would have that privilege? A.—No, I said that if they told me for him to go ahead and operate it was all right with me.

Q.—Didn't you testify that if it was an acute surgical emergency anybody could operate? A.—I didn't want to decide what an acute surgical emergency was and passed it to Kerr to let him stick his neck out as to what was an acute surgical emergency.

Q.—And Dr. Kerr at no time did act on anything except what you reported? A.—I suppose so.

Q.—And that was, first, that she was a Group Health patient; second, that Dr. Selders was going to perform the operation; third, that she had morphine, and that you had examined her after the morphine was given and you found some R. L. Q.

pain and tenderness, but that you didn't think it was acute to require immediate operative treatment. A.—May I say something?

Q.—Yes. A.—Let's take a picture of a poor Negro.

Mr. Lewin (interposing):—Oh, let's not take a poor Negro; let us take this case.

THE COURT:—You have been all over this: Now you (to witness) answer the questions; let counsel ask them.

By Mr. Lewin:

Q.—Now you read Dr. Kreutzburg's history? A.—Yes.

Q.—And in that history didn't you find this statement:

"When this acute illness first began the pain was in the R. L. Q. and has remained there."

Did you have that statement in her history? A.—I don't have her history.

Q.—Will you refer to it? A.—Now what was that again?

Q.—Didn't you find in that history this statement:

"When this acute illness first was experienced the pain began in the R. L. Q. and has remained there?"

Not word for word? A.—You mean is that what I read?

Q.—Yes. A.—Well, here it is:

"Present illness. Attack began just one week ago. The pain at onset was in the R. L. Q. and has remained so. She had several episodes of nausea and vomiting the day following the onset but has had none since."

That is correct.

Q.—Would you say that type of history would fit in with an acute appendix? A.—It fits in but, my goodness, anything can give you that.

Q.—Wouldn't it be consistent with acute appendicitis? A.—It could be, but it is not diagnostic.

Q.—Didn't you see on the history; examination, I should say, "Subacute appendicitis"? A.—Yes.

Q.—Didn't you know her temperature was 99.4? A.—Yes.

Q.—Did you know her white blood count was 14,400? A.—Not until after.

Q.—Isn't it usual to take a white blood count wherever symptoms of appendicitis are present? A.—It is.

Q.—And you wouldn't like to pass on whether an appendix was acute without a blood count, would you? A.—I would love it. It is only worth what you can fit into the picture.

Q.—Doesn't a white blood count of 14,400, considered with these other symptoms— Isn't that important in determining whether an appendix condition is acute? A.—It could but it could fit into so many other things.

Q.—Isn't a high white blood count an indication of infection in the system? A.—Yes.

Q.—Was this 14,400 blood count a high blood count or not? A.—Moderately high.

Q.—What is normal? A.—About 7,000 to 8,000.

Q.—And here you had double that and you say that is—

Mr. Leahy (interposing):—That is argumentative.

THE COURT:—I think it is.

By Mr. Lewin:

Q.—I ask whether the statement on the Kreutzburg history; the statement of her illness that you obtained from the patient herself; the tenderness that you found in the R. L. Q. region; the temperature of 99.4 degrees, and the white blood count of 14,400 did not fit in very well with a diagnosis of an acute appendicitis? A.—I didn't think it was acute, sufficiently so to be operated on that night.

Q.—And Dr. Selders did think so? A.—Yes.

Q.—So it was your judgment against his? A.—Dr. Selders made a statement that any time you can diagnose an appendix it should be operated immediately. I didn't entirely agree with his statement.

Q.—And you weren't so sure of your diagnosis, and you called Dr. Kerr? A.—May I say something first? Relative to my duties as resident at the hospital—

Q.—Well, if you would like to. A.—(Continuing) I would like to. Supposing a patient came into the hospital; separate and distinct, a ward case that couldn't pay a thing. The intern in the emergency room would examine the girl. I would examine her. If I thought it was an acute case I would pick up the phone, call the staff man on service, Dr. Kerr, and he would either say "Go ahead and operate the case" or "I will come down" or "We will leave it until tomorrow."

Q.—Is that the usual procedure when a patient comes there with her own physician, who has diagnosed the case as acute and is ready to operate? A.—It is not the usual thing, no.

Q.—It is a very unusual procedure to go over the diagnosis made by a patient's own doctor, is it not? A.—I won't say that, because I recall two specific cases in which it was a good thing that the intern did it.

Q.—Were these cases like this? When Dr. Selders had already diagnosed the case as acute, and when all these symptoms were present as have been described? A.—Well, it is not a run of the mill; I would not have called Dr. Kerr if the man had surgical privileges. He could have taken the hospital, so far as I was concerned.

Q.—When you made this examination of Miss Tew, she had this morphine in her? A.—Yes.

Q.—Recently? A.—Eight-fifteen; and I examined her shortly after 9.

Q.—And you say that she was at that time still groggy? A.—Yes, she would remain groggy for four or five hours.

Q.—And so at that time you made your examination there must have been a marked effect produced by this morphine? A.—I wouldn't say "marked."

Q.—Hasn't it a tendency to relax the patient? A.—Relax, quiet, soothe.

Q.—And alleviate the pain which the patient is suffering? A.—Yes.

Q.—She wouldn't be experiencing anything like as sharp a pain after you gave her this morphine as she would without it, would she? A.—That is true, but it is a good diagnostic practice to help localize pain in the lower right quadrant.

Q.—And it diminishes the pain? A.—Yes, and it helps localize it.

Q.—So when you made the examination after the morphine was administered you didn't have the benefit of the normal amount of pain she had at the time that Dr. Selders examined her? A.—I realized that at the time of examining her.

Q.—Would the morphine have a tendency to relax the patient's muscles?

THE COURT:—I am suggesting there ought to be some limit to cross examination. Are we going to go into all the effects of morphine? Is there any connection between this morphine and the issue here?

Mr. Lewin:—I think there is, very definitely.

THE COURT:—Well, proceed, but there ought to be some limit to it.

Mr. Lewin:—Here was a case in which this young bright doctor—

THE COURT:—I don't want to argue; I am merely suggesting. Can't you limit the examination within reasonable bounds?

Mr. Lewin:—I subside: if I have been unreasonable, I withdraw.

THE COURT:—That remark, you know as a lawyer, is not proper, and I am not going to sit here and take offensive remarks from counsel. Let that be understood.

Mr. Lewin:—I repeat that—

THE COURT (interposing):—I repeat when I make a ruling that counsel—and this is irrespective—it is not to be followed by offensive remarks to the Court. Now, Mr. Lewin, you have got to conform to that. There is no other counsel here in this courtroom that won't respect my rulings without comments after they have been made. Your own associates do it; other counsel representing defendants do it. I make rulings with respect to you and frequently there are comments which follow. That is not lawyer-like.

Mr. Lewin:—I think, your Honor, that your reprimanding me is very unfair to me and very unfair to the case: I really do.

THE COURT:—If it is unfair to the case, you brought it on yourself.

Mr. Lewin:—I am sorry for it.

THE COURT:—I am very sorry for it. It is altogether beyond my desire to have instances like this arise in the case but I cannot sit here and permit you to indulge in continual comments on my rulings after they are made. Are you through with the witness?

Mr. Lewin:—Your Honor, with your ruling, I have to be.

THE COURT:—You don't have to be. I have suggested that your cross examination as to morphine has gone far enough. If you have any further pertinent matters to go into, you may proceed.

Mr. Kelleher:—Your Honor, may we approach the bench?

THE COURT:—Yes.

(Thereupon Court and counsel conferred at the bench in a low tone of voice, which was no part of the record.)

TESTIMONY OF DR. HARVEY FRANKLIN KREUZBURG

DIRECT EXAMINATION

By Mr. Leahy:

Harvey Franklin Kreuzburg, 7852 Sixteenth Street, said he has been practicing medicine not quite two years. He graduated from Georgetown in 1937, served his internship at Garfield Hospital June 1937 to July 1939.

Q.—Do you recall an occasion when Miss Elizabeth Tew came into Garfield, Doctor? A.—I do.

Q.—Have you an independent recollection about it now, so that we don't need to refer to any papers? A.—I believe so.

Q.—Well, were you on duty the night that she came to the hospital? A.—Yes, I was.

Q.—In what capacity? A.—I was the intern on surgery.

Q.—Did you see Miss Tew there? A.—I did.

Q.—Do you recall about what time you first saw her? A.—Oh, I think it was around 8 or 9 o'clock at night.

Q.—Did you at any time make an examination of Miss Tew? A.—I did.

Q.—And at that time did you take a history from her before the examination? A.—Yes, sir.

Q.—Would you tell us what history you received? A.—Why, apparently she had been having some discomfort in her pelvis, moderate pain in her right lower quadrant, some backache, I believe, and she told me that she had been examined by a Dr. Selders who told her that he thought she had something wrong with her appendix and that her uterus was misplaced, retroverted, and that surgery was indicated, at which time he would remove the appendix and suspend the uterus or any other pelvic pathology that needed correcting.

Q.—Did you examine her following the history she gave you? A.—Yes.

Q.—What did you conclude from your examination as to the acuteness or otherwise of the illness? A.—Well, I thought she might possibly call it a subacute appendix, or not an acute one; I couldn't say about the pelvic pathology because I didn't do a bimanual examination.

Q.—Was there anything about the condition at that time which indicated an immediate operation? A.—No, sir.

Q.—Was this examination before or after morphine was administered to Miss Tew? A.—I examined her before she had anything.

Q.—Did you check with Dr. Selders at all about her that evening? A.—No, sir.

Q.—Were you there when she left the hospital? A.—I didn't see her leave, no.

Q.—Did you have any further conversation with her at all after you made the examination you have just told us about? A.—No, I did not.

Q.—That is your entire connection with the case, is it? A.—Yes, sir.

Q.—And you never had any conversation with Dr. Selders that evening at all? A.—No, sir.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Kreuzburg, you mean to tell this jury that Miss Tew told you all this business about the inverted uterus and that Dr. Selders would take out her appendix casually when he happened to operate on her for the other trouble? A.—That's what he did tell her; that's what she told me, anyway. I took her history and asked the patient those questions.

Q.—Look at your history and see if—did you write the history down as you took it from her? A.—I don't remember as I took the history and went outside and wrote it down.

Q.—Is it your custom to write up a history of the patient as she gives it to you? A.—Well, yes.

Q.—Is that right? Did you write in your history that this lady was there for this inverted uterus situation? A.—No.

Q.—And that this— A.—I just wrote down her symptoms.

Q.—Did you? A.—Past history.

Q.—All right. Let us see your history.

Mr. Kellcher:—The reporter has it.

Mr. Lewin:—Where is the history?

(There was colloquy outside the record.)

Mr. Lewin:—The history is gone.

THE COURT:—Gentlemen, I have to be in my office at 3 o'clock on some other matters today. Suppose we take this opportunity to adjourn. We can only save a few minutes.

MARCH 10—MORNING

TESTIMONY OF DR. HARVEY F. KREUZBURG

CROSS EXAMINATION (RESUMED)

By Mr. Lewin:

Q.—Dr. Kreuzburg, when we suspended examination last week you had told us some things which Miss Tew told you and which you said you put into her history. A.—No; I don't believe so. She told them to me. I did not necessarily put them into the history.

Q.—Did you not say that you did put those things that she told you into her history when you wrote it up? A.—No; I did not. I put her symptoms and her physical examination into the history.

Q.—Let us read to the jury, if you will, what it was you put into the history. Is this (indicating) the history? A.—Yes.

Q.—Is this (indicating) your signature? A.—That is right.

Q.—First, you put down her description and her occupation? A.—That was put in by the nurse.

Q.—You put in this part which is in handwriting? A.—That is right.

Q.—What is this word (indicating) at the top? Q.—"Chief complaint."

Q.—You wrote "Chief complaint, pain in R. L. Q."? A.—Right lower quadrant.

Q.—"Present illness: attack began just week ago. The pain at onset was in the R. L. Q. and has remained so. She has had several episodes of nausea and vomiting the day following the onset but has had none since. No previous attacks. Past history: no serious illnesses." A.—No operations.

Q.—No operations. "Respiration negative"? A.—Respiratory system negative.

Q.—"Cardiovascular negative?" What is that—the heart? A.—Yes.

Q.—"Genitourinary"—what is this (indicating)? A.—Menstrual.

Q.—"Severe dysmenorrhea. Nothing unusual about the last period." And it is signed "Kreuzburg"? A.—Yes.

Q.—Did you have occasion to diagnose her? A.—Yes.

Q.—After the physical examination, the items of which you recorded, you recorded this diagnosis, did you not: "Sub-acute appendicitis"? A.—That is right.

Q.—And you did not diagnose it as any feminine complaint? A.—I did not do a pelvic examination. I was not allowed to.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—What was that last answer? A.—I did not do a pelvic examination on the woman, because interns are not allowed to, except with the permission of the attending physician. So I could not diagnose any pelvic disorder.

Q.—May I show you these records once more, please, Doctor? Would you kindly look at this portion of the record to which I am drawing your attention now? Did you have a chat with Dr. Selders? A.—No, sir.

Q.—Did you overhear Dr. Selders make any statement, such as I am drawing your attention to? A.—No, sir.

Q.—On an acute appendicitis or sub-acute appendicitis is a median line made? A.—No, sir.

Q.—What is meant by "median line"? A.—Well, the common incision for appendicitis would be the McBurney incision if you are certain that the patient has nothing but an appendix. But if you suspect pelvic pathology you would make an incision where you could do more than just to take out the appendix.

Q.—Where would that incision be? A.—In the midline.

Q.—And that means the center of the abdomen? A.—Yes.

Q.—The opening for an appendix is over to the right? A.—Yes. You cannot handle a McBurney incision to do a pelvic surgery.

Q.—If a pelvic incision is made you can then remove the appendix also? A.—Yes, sir.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—In other words, Doctor, the midline incision is proper surgical technic if the surgeon wishes to remove an acute appendix, and if he also suspects that there may be other conditions in the pelvic cavity? A.—That is right.

TESTIMONY OF DR. ROBERT M. BOLTON

DIRECT EXAMINATION

By Mr. Leahy:

Robert M. Bolton said he is a practicing physician in Washington. He graduated from George Washington University School of Medicine in 1931 and had an internship at Garfield Hospital in 1931-1932.

Q.—Were you in the hospital on the evening that Miss Tew was brought into Garfield? A.—I was. I was called in.

Q.—What was the occasion of your being there? A.—I would have been the anesthetist in the case.

Q.—Do you know Dr. Dugan? A.—Yes; I do.

Q.—Do you know Dr. Kreuzburg? A.—I do.
Q.—Did you know Miss Tew? A.—Not personally; no.
Q.—Did you see her there that evening? A.—I did.
Q.—When did you see her there? A.—I saw her at the time that Dr. Dugan and myself went up with a release statement for her to sign. I simply accompanied Dr. Dugan out of courtesy to him; he had asked me to go up with him.
Q.—Did you go into Miss Tew's room on that occasion? A.—I did.
Q.—Who was in there when you got in there? A.—Miss Tew was in bed, and there were a man and a woman and, I believe, at the time I went in, Dr. Selders was there. He either was there when I went into the room or he followed us in.
Q.—Do you recall the conversation now? A.—Not in detail; no.
Q.—Can you give us the substance of it? A.—Well, the doctor had this release statement which he asked Miss Tew to sign releasing the hospital—the usual form for those things—releasing the hospital of obligation, and my recollection is that she was at first willing to sign the statement; in fact, I think she either had a pen or pencil in her hand, ready to sign it, and these two friends, this man and woman, urged her not to sign it, and Dr. Selders also urged her not to sign it.
Q.—Did they give any reason for that? A.—I don't recall any definite reason; no—except that she had had—I believe they said she had had morphine, a hypnotic, and that she was not in her right mind and should not sign it.
Q.—Do you recall anything which Dr. Dugan then said when Miss Tew was advised not to sign it? A.—No; I don't recall any statement except "All right." And we left the room.
Q.—Did you return at all after that? A.—I don't believe I did. I am sure I did not.

CROSS EXAMINATION

By Mr. Lewin:

Q.—You do not know whether Miss Tew was in proper condition to sign a legal paper or not, do you? A.—Well, under ordinary circumstances she should have been able to sign a paper like that, I would say. That would be my opinion.
Q.—Would it depend to some extent on how sick she was and the quantity of morphine that had been given her? A.—You could give her enough morphine, certainly, so she would not be in condition.
Q.—You would not advise a patient in a hospital to sign a release if she were in a groggy condition from morphine? A.—No, sir; not if she was in a groggy condition.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Is there anything on the chart to indicate how much morphine she had, Doctor? A.—There should be.
THE COURT:—I thought it was testified that she was given a quarter of a grain.
Mr. Leahy:—I thought it was, but I do not recall.
The Witness:—Yes.
By Mr. Leahy:
Q.—How much? A.—One-quarter grain.
Q.—Does that make a person very groggy? A.—Not under ordinary circumstances.
Q.—Did she appear to you to be groggy, Doctor, if she had a pencil ready to sign that statement? A.—I didn't think so.
Q.—Was anything said there to the effect that she might remain in the hospital if she wished, as long as she desired to? A.—Yes.
Q.—Who made that statement? A.—Dr. Dugan made it.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—You did not examine the patient, did you? A.—No, sir.
Q.—You do not know how much pain she was suffering? A.—No, sir.
Q.—Have you any reason to quarrel with Dr. Dugan's statement that he considered her in a groggy condition? A.—No; I would not quarrel with it.

TESTIMONY OF MRS. MARGARET JONES

DIRECT EXAMINATION

By Mr. Leahy:

Mrs. Margaret Jones is a registered nurse employed at Emergency Hospital. This position she said she has had since November 1934. She identified the record of Sarah Abbott.
Q.—When was she brought in? A.—Jan. 26, 1938.
Q.—Were you on duty that day? A.—Yes; I was on duty.

Q.—Do you recall Miss Abbott? A.—Yes; I do.
Q.—Did you personally have anything to do at all with the case of Miss Abbott? A.—Yes; I did.
Q.—What did you do in connection with it? A.—When she was brought into the emergency room by the ambulance I took the record on her, her name and address and what she was in there for; and she stated that she had been struck by an automobile an hour previous to coming into the emergency room, and she complained of injury to her leg.
Q.—Were there doctors in the emergency room at the time? A.—Yes.
Q.—Do you recall their names? A.—Dr. Phillip Smith was the doctor who took care of Miss Abbott.
Q.—Were you present to see what was done? A.—Yes.
Q.—What was done on that occasion? A.—The doctor ordered that a pillow splint be put onto the injured leg because of the possibility of fracture of the small bone, and he also ordered an ice-cap to the leg to take care of swelling and relieve pain; and I put that on. He also ordered a medication for the relief of pain, which the patient refused.
Q.—Was there any discussion there at the time about any other doctor coming in? A.—Not in my presence.
Q.—Did you see Miss Abbott at all after she was in the emergency room? A.—Yes. I helped to give her first aid.
Q.—After first aid was given, was any other treatment given Miss Abbott in the hospital? A.—No—well, she was admitted to the hospital proper.
Q.—When you say "she was admitted to the hospital proper," will you just tell us what the custom of that hospital is in admitting patients from the emergency room to the hospital? A.—A patient brought in to the emergency room is examined and administered any first aid that seems necessary, and if the condition of the patient seems to warrant hospitalization over a period longer than a few hours, arrangements are made through the admitting office for the admission of that patient into the hospital.
Q.—And was Miss Abbott admitted, through the admitting office, to another part of the hospital? A.—Yes; she was admitted to a semiprivate room.
Q.—Did you see her at all while she was in the semiprivate room? A.—No; I did not see her after she left the emergency room.
Q.—Are there any entries upon any of those papers which you have before you in your own handwriting? A.—Yes; the emergency record.
Q.—That shows she came in at what time? A.—At eleven minutes past 10. The ambulance received the call to go to the All-States Hotel at 9:56 p. m. At eleven minutes past 10, which was fifteen minutes later, she was brought in.
Q.—After "Disposition of case" you have some abbreviations. What do those refer to? A.—This (indicating) is merely the ambulance record, up here. That means that the patient was brought in.
Q.—Are these entries under the heading "Emergency Department" in your handwriting? A.—Yes, sir.
Q.—Her name and address and the date, the time she was brought in, the doctor and the nurse. Who was Miss Patterson? A.—That is I.
Q.—Will you translate for us, so that we will understand, just what the diagnosis was at that time? A.—The diagnosis given to me by Dr. Smith was hematoma, the left leg.
Q.—What does that mean? A.—A bruise with a collection of blood under the skin, which causes discoloration and swelling.
Q.—Now there are some more abbreviations. What are they? A.—Possible fracture of the left fibula.
Q.—What is the fibula? A.—The small bone in the lower leg.
Q.—Now, the treatment? A.—Ice cap to left leg. Refused codeine. A pillow splint was applied.
Q.—What is a pillow splint? A.—A pillow splint is a pillow which is put around the leg and tied securely with bandage to immobilize the part.
Q.—Now, are any entries on the reverse of the card in your handwriting? A.—The patient's name and address; and the date, and the doctor whose service she was to be admitted on.
Q.—Who was the doctor in whose service she was to be admitted? A.—Dr. William Marbury.
Q.—Do you know Dr. Marbury? A.—Yes.
Q.—Was he on the staff of Emergency Hospital? A.—Yes.
Q.—Now, would you identify these other papers for us which are in this file, and tell us what they are? A.—This is the hospital chart which is taken on the patient after admission into the hospital; these are the doctor's orders.
Q.—As I turn these papers will you kindly look at them, Mrs. Jones, and tell me if they are all parts of the official records of the hospital (turning pages). A.—Yes, they are.

Q.—Are there any of the entries on any of the folder documents you see in your handwriting? A.—No, sir.

Q.—Do you know any of the doctors who took care of Miss Abbott at the hospital that night, if there were any? A.—Well, merely Dr. Smith, and according to her chart she was seen after admission by another of the interns.

Q.—Who was that? A.—Dr. Otis Snyder, who apparently took her history.

Q.—Do you know where he is now? A.—In the Army.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Phillip Smith was an intern? A.—Yes.

Q.—He told you to administer first aid to this patient? A.—Yes.

Q.—And you did it in the way you described? A.—Yes.

Q.—And then you say she was seen by another intern after she was admitted to another room? A.—According to the chart.

Q.—Do the records show whether that doctor gave her any treatment? A.—Nothing further than leaving orders; for further orders.

Q.—What does the record show as to whether she received further treatment; these further orders. A.—That she was put on "Dr. Marbury's service. Remove the pillow splints; elevate leg; apply continuous cold compresses. Regular diet."

Q.—Then does the record show when Dr. Marbury saw her first? A.—No, it doesn't, but obviously it was the next morning because there was a written order by Dr. Marbury for an x-ray on the 27th, which is the following day.

Q.—There is no record that he saw her until the following day? A.—No.

Q.—And as far as you know, no doctor saw her from the time she was admitted to the hospital until the next day, except these two interns? A.—Yes, according to the record.

TESTIMONY OF SAUL HOLTZMAN

DIRECT EXAMINATION

By Mr. Leahy:

Saul Holtzman said he is a practicing physician in Washington. He graduated at George Washington University School of Medicine in 1937 and was an intern at the Garfield Hospital. He identified the records in the case of Miss Sarah Abbott.

Q.—Did you see Miss Abbott in the hospital when she came in? A.—Yes.

Q.—Did you examine her personally? A.—Yes.

Q.—Did you make any order with reference to an x-ray? A.—She was x-rayed before I saw her.

Q.—Is there any record here showing the x-ray? A.—"Report of x-ray?"

Q.—Was there any evidence of any fracture of any of the bones of Miss Abbott? A.—By x-ray?

Q.—Yes. A.—No. It shows there is no evidence of fracture of bones of the upper two thirds of the right leg.

Q.—Did you attend her while she was in the hospital? A.—Yes, I did.

Q.—And were certain entries made upon certain of the records? Will you kindly just tell us what those entries are. I am pointing now to a series of papers. They seem to be identified as the nurses' record. What is that? A.—What is the nurses' record?

Q.—Yes. A.—They are the records a nurse keeps concerning what she does for a patient; the history of a patient while she is in the ward under the supervision of a nurse.

Q.—Did you make a diagnosis of Miss Abbott's case, Doctor? A.—I didn't make a definite diagnosis.

Q.—Did you mark down what you found on examination? A.—Yes.

Q.—Will you kindly tell us and the jury what condition she was in when she came into the Garfield Hospital? A.—From the note it appears she was comfortable; not acutely ill. From what I see on the chart she was able to give me a coherent detail of the fact that she had been admitted to the hospital because—

Mr. Lewin:—(Interposing). I object to that on the ground it is hearsay.

THE COURT:—I don't know whether it is part of the case history.

By Mr. Leahy:

Q.—Is that part of the case history? A.—Yes.

Mr. Lewin:—May we show your Honor what it is, the history he is now about to give us?

THE COURT:—I understood your question to be, to state what he found with reference to the patient's condition.

Mr. Leahy:—That is right.

THE COURT:—Isn't that your question?

Mr. Leahy:—That is right.

THE COURT:—There is nothing in the question that calls for hearsay; that is, if he answers the question, it would exclude anything of hearsay.

Mr. Leahy:—I don't know what the objection is. I will ask this question:

By Mr. Leahy:

Q.—Will you look at the second page here for us, and I will ask you now, if you can refresh your recollection as to just what condition you found her in when she came in the hospital?

Mr. Kelleher:—It has all been covered.

THE COURT:—Possibly so. If there is something he has overlooked, however, he may refresh his recollection.

The Witness:—Well, from the physical examination there wasn't any evidence of a fracture; there was some tenderness of the outer portion of her right leg, but no symptoms of any fracture whatsoever, so far as the physical examination went. The rest of her examination showed it was essentially negative.

By Mr. Leahy:

Q.—When you say "negative," what do you mean? A.—No abnormal findings.

Q.—Now, when a patient comes into the hospital, do you take a history from such patient? A.—Yes.

Q.—Do you make notes of the history as you get it from the patient? A.—We always do.

Q.—And did you make a record of that for the hospital in this case. A.—Yes.

Q.—Is that in accordance with your line of duty? A.—Yes.

Q.—In accordance with the regulations of the hospital? A.—Yes.

Q.—That the records shall contain such a history of the patient? A.—Yes.

Q.—Is this the history? A.—Yes.

Q.—Now, would you tell us from the history of that patient what it was you learned?

Mr. Lewin:—Your Honor, may the witness be instructed to give only facts of medical and physical history, and not hearsay statements about transactions?

THE COURT:—I think perhaps that suggestion is proper.

Mr. Leahy:—That is all I want, the history as he got it to assist him in making a diagnosis.

THE COURT:—It is limited to statements of the patient with reference to her physical condition.

Mr. Leahy:—That is all I want. That is all I care for.

The Witness:—As I recorded it, she was struck by this automobile while crossing the street. She fell to the ground; did not lose consciousness. It is recorded that she was helped to her feet. At that time she complained of pain in her right leg; she was taken to Emergency Hospital. That was the story she told me.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Does the history show how long she remained in Garfield under treatment? A.—Well, she was in Garfield for 21 days, three weeks, from the date of admission to date of discharge.

Q.—And was she in the care of a physician while she was there all that time? A.—You mean a hospital physician?

Q.—Yes. A.—Every patient is.

Q.—Was she in bed most of the time? A.—I presume so.

Mr. Leahy:—Now, if the Court please, I want to offer in evidence the record of the patient at Garfield, hitherto identified as Exhibit No. 1.

Mr. Lewin:—We object to that portion of the record which goes outside any physical history. If that part may be stricken we have no objection.

THE COURT:—I suppose that is satisfactory?

Mr. Leahy:—That is all right.

Mr. Leahy:—I will just read to the jury the treatment which Miss Abbott received at the Garfield Hospital as recorded on the nurse's chart, or nurse's record. I am not going to try to translate some of these abbreviations, but starting in:

"Miss Sara Abbott, residence All States Hotel. She had a mark made by the nurse Miss Kemble of 98.4. Ice cap to right leg. Enema. Sodium luminal. Foot made comfortable by cotton pad. Medication given; slight pain in leg. Dozing at intervals; sleeping.

"Friday"—the next day—"refuses medication for discomfort. Quiet. Apparently sleeping. Quiet. A fairly good night."

Next day: "Good results. Apparently sleeping. Sleeping. Quiet."

Next day: "Fairly good day."

"Saturday: Bath given. Evening care. Summary: Appetite fair, good day."

"Sunday:" Same treatment down through. "Apparently sleeping, appetite good.

"Monday: Quiet. Sleeping. Good day.

"Tuesday: Sleeping, slept well; patient's condition seems good this morning. Appetite good. Reading. Appetite good. Comfortable." These entries are made at different times of the day. "Eight o'clock; resting quietly. Summary: Appetite good; good day.

"Tuesday:" the same. "Sleeping, sleeping, slept well."

Mr. Lewin:—Apparently she got what we all needed.

Mr. Leahy:—Yes; I think I will go there for twenty-one days.

"Comfortable; good day; slept good." Again on "Wednesday: Appetite good. Quiet." And then the final entries: "Quiet and hot water bottle to leg and knee. Sleeping." Summary on third day of February: "Good day. Sleeping, a good night.

"Friday: Sleeping; a good night. Patient's condition seems good this a. m. Reddened area on leg decreasing. Seems softer. Reading; quiet; no complaint." Summary of the day was: "Good day."

"Saturday: Sleeping, again, again, comfortable; appetite good; comfortable." Apparently sleeping continuously through the next day, in same manner. "Summary: Appetite good, sleeping, quiet; resting quietly, sleeping, good day. Sleeping, appetite very good. Patient has two blisters on leg, apparently from heating pad; patient is up in chair."

Mr. Lewin:—When was that?

Mr. Leahy:—That is Feb. 8, 1938.

"Cradle placed on bed and light bulbs inside. Patient comfortable in bed. Appetite good. Reading. Quiet. Appetite good. Transferred to another bed. Apparently comfortable." She is resting quietly at 8 o'clock. "Ten o'clock: Asleep. Patient's condition seems good. Appetite good. Comfortable. Reading. Comfortable" after reading. "Comfortable at 8 o'clock. Quiet at 10 o'clock. 10:45 unable to sleep due to heat from cradle but refused amytal. Good day." Same way Thursday, the 10th. "Appetite good. Quiet. Comfortable. Resting. Reading. A good day.

"Friday. Appetite very good. Reading. Comfortable.

"Saturday, the 12th: Appetite good. Quiet. Sleeping. Summary: Appetite good. Sleeping.

"Sunday, the 13th:" Same entries. "Appetite good; patient up in chair; good day.

"14th: Summary: Comfortable; apparently sleeping well. Sleeping. Good day.

"16th: Comfortable, sleeping; Summary: Appetite good; patient walking around room. Good day, and night.

"17th: Patient up in chair; reading; appetite very good.

"17th: Discharged."

TESTIMONY OF WILLIAM D. MARBURY

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Dr. William D. Marbury said that he had been a practicing physician here in Washington since a little before the last war. He graduated from the University of Virginia in 1909. He had internship first at New England Memorial at Baltimore, and resident two years at Providence in Washington, and then war experience for two years in the British army as an American officer lent to the British army.

Q.—You were across, were you? A.—Yes.

Q.—Do you have any specialty? A.—Surgery.

Q.—Are you on the staff of any hospital here in Washington? A.—Emergency.

Q.—How long have you been on the staff of Emergency? A.—Oh, that was, I guess since about 1922.

Q.—What service do you have on the staff? A.—I have a surgical service that runs four months, beginning December, and running through December, January, February and March.

Q.—When you say it runs four months, what do you mean? A.—That means I am attending surgeon for the inside. In other words, when a case is put on the ward particularly, and when I am notified of that, I make rounds the next day after the patient is brought in, and any time it is an emergency case I make rounds either with the intern or resident and advise as to the disposition of the case and treatment, if it is a surgical case.

Q.—And then you are on the regular staff? A.—Yes.

Q.—And is it part of your duties to render that service to any patient that comes to the hospital? A.—No, except ward patients, unattached; not if they have their own private doctor.

Q.—But if they are unattached, then it is your duty to do that? A.—Yes.

Q.—And that service is rendered gratuitously? A.—Not always; some of those cases might turn out to be compensation or liability cases. They are, however, all taken on the gratis status in the beginning.

Q.—Doctor, I am going to show you what hitherto has been identified as Defendants' Exhibit 3, and we want you to examine those papers and tell us whether you recognize them as any records of the hospital. A.—They are official records of Emergency Hospital.

Q.—Do you personally recall the name of the patient marked on those records? A.—I couldn't say I do; I mean from that time. I don't believe I would know this patient.

Q.—Will you kindly look through the records and tell us, Doctor, whether any treatment, as it is known from a medical standpoint, was rendered to that patient in the Emergency Hospital?

Mr. Lewin:—Are the records in evidence?

Mr. Leahy:—I think they are.

Mr. Lewin:—Then they speak for themselves.

THE COURT:—Yes, but the doctor can explain them better than we can. For that reason I think it is proper to have counsel ask the witness about them.

Mr. Kelleher:—He isn't the doctor that gave her the treatments.

THE COURT:—Well, I understand that was his service. He may answer.

The Witness:—This emergency card, what we call emergency, because made out in the emergency room, shows that the patient was gone over by one of the interns who generally first sees the case when brought in and a pillow splint was ordered, and some codeine was suggested or advised, but the patient did not get the codeine; and then she was sent up to a semi-private ward.

Q.—Does the record disclose whether any treatment was given or anything done to the patient in the semiprivate ward?

Mr. Kelleher:—I call your Honor's attention to the fact that Miss Jones covered this matter fully.

THE COURT:—She said she didn't see the patient after she left the Emergency.

The Witness:—Apparently she was admitted at 11:30, and at that time she had on a pillow splint which was removed and an ice cap or compress applied. Then the usual things were done. A specimen was taken and sent to the laboratory; she was given codeine grain 1 and aspirin grains 10 and then some luminal. The record shows next morning she had a fairly "good night," but slept rather poorly; compresses; 12 o'clock, fairly comfortable, a. m.

"Transferred to Garfield Hospital."

Q.—What time was she transferred? A.—It is here; 2 p. m.

Q.—Does the record disclose that you were called in any capacity with the case? A.—It doesn't show that I was called. I think what happened is I was making my rounds the next morning and saw her.

Q.—Do you recall whether you made any recommendation with reference to Miss Abbott? A.—I can't be specific on that; I am sure I did, but if you say, "Do you recall?" I can't say I do recall. I simply suggested an x-ray, which would be fairly routine.

Q.—But you did suggest an x-ray. A.—Yes.

Q.—Now, Doctor, having seen what the record discloses, as to what was done for Miss Abbott at Emergency after she arrived that evening, may I ask what else could or should have been done for her in your judgment? A.—The only thing you could do in a case like that would be to give rest, excluding the possibility of a fracture, and make the patient comfortable.

Q.—Assuming that the leg had been broken, when, with reference to the time of entrance, would the leg be set? A.—If that had been a fibula that was broken you probably wouldn't need a set because there are two bones there, and the fibula is the smaller of the two; it is on the outer side of the leg here (indicating). It is a little further back than the big bone and on the outer side. It is smaller, and unless you break the big bone it is not common to have much distress from fibulas.

Q.—Having looked over the record, was there anything withheld in the treatment of Miss Abbott which should have been given to her, in your judgment? A.—I don't think so.

Q.—And is it your opinion that the treatment which she received on that occasion was the treatment you would have prescribed for her? A.—Yes.

Q.—And was there anything not done for her which should have been done? A.—I think of nothing except to have that x-ray. I believe the x-ray was not taken; I am not sure why.

Q.—Will you kindly look at those records once more and see whether or not Miss Abbott left the hospital on your advice or against it? A.—I am sure I didn't come in as far as my advice is concerned, unless I have entirely overlooked it. I don't think I was advised as to her going. Well, apparently she signed a release slip, you see.

Q.—And on what date did she sign that release slip? A.—Jan. 27, 1938.

Q.—Does it recite whether she left on the advice or against the advice of the physicians there at the hospital? A.—She left against the advice of Dr. Marbury, and that looks like my writing, but I don't remember it.

Q.—But you do identify it as your handwriting? A.—Yes.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Marbury, you have no recollection that you were called to attend the person that night, the night she was admitted? A.—I was not called.

Q.—And you don't believe you were even called the next morning? A.—I don't believe I was called the next morning. They so frequently know I am coming that unless it is an emergency they wouldn't call me.

Q.—At any rate you didn't see her until the next morning? A.—No.

Q.—How late in the morning? A.—I couldn't tell; it would be around 10 o'clock ordinarily.

Q.—That would be when you were making your rounds? A.—Yes.

Q.—Now, the history shows, does it not, that she had not seen any surgeon between the time she was admitted the night before and the time you came around on your call the next morning? A.—Unless you could call a surgical intern a surgeon.

Q.—With the exception of the surgical intern? A.—Yes.

Q.—Was this a surgical intern? A.—He would be in the emergency room.

Q.—Now, the history shows she didn't sleep very well that night. A.—The chart says that, yes, sir.

Q.—It says she had a fairly good night. That is the way the doctors talk, not the way the patient feels. Now, it is usual in a case of this character for the patient to suffer from shock and distressed state of mind, is it not? A.—I think you have to separate those.

Q.—Will you, then: Isn't it usual to suffer from both, Doctor? A.—From the appearances and the history of this case I wouldn't say, if that leg was put at rest, there would be a great deal of suffering.

Q.—This patient was a fairly elderly lady? A.—She was 65 (examining document).

Q.—She had been knocked down on the street, brought to your hospital in an ambulance, and she was suffering somewhat, and she wasn't sleeping very well that night, as the history shows; and she remained in Garfield Hospital three weeks after that time, receiving daily treatment, as her history shows. Would you say that the chances are she was suffering from a great deal of mental distress on the night of her admission to the Emergency? A.—I wouldn't say necessarily. It would depend somewhat—you hitch it up with staying three weeks at Garfield, but apparently she didn't get much hospital treatment there.

Q.—You say that from hearing the history read this morning? A.—Yes, and knowing of the case.

Q.—Now, if a patient like that brought into a hospital late at night asked for her own surgeon, do you think that would be normal? A.—Yes.

Q.—And wouldn't the fact that she could have her own surgeon be conducive to giving her a more restful time in the hospital and to a more rapid recovery? A.—I can't answer that; it would with some people. Some people do not know their surgeons; they know their medical advisers much better; they do not know who their surgeons will be.

Q.—This lady didn't know how good you were, Doctor; didn't know anything about you? A.—She never did know anything about me.

Q.—You had never known her before? A.—No.

Q.—But suppose she asked for another doctor, one that she did know about and had confidence in. Don't you think that if she had been able to procure that doctor, such a doctor, she would have been relieved mentally and she would have been much more comfortable? Don't you think so? A.—I think she could have had any physician on the courtesy staff of the hospital.

Q.—But suppose she asked for one not on the courtesy staff, one she knew. Don't you think that might have helped her case? A.—Your guess is as good as mine; I don't know.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Was that patient what you call an emergency case from a medical standpoint? A.—Well, that depends on how you look at an emergency case. She was hit by an automobile, and until you find out something about that you have to consider that as emergency. As it turned out you certainly wouldn't call hers a very grave emergency case.

Q.—And was there anything unusual about her in calling for a doctor who was not on the staff and being told he could not practice in that hospital? A.—No, sir.

Q.—How long have you known of that rule to be in effect? A.—I couldn't tell you; it has been some years. It has been, I reckon, ten years, or thereabouts. Well, I say that, but actually that was true in Baltimore, that was in 1910; I thought at one time I would stay in Baltimore and practice there, and I made some connections toward getting on the courtesy staff of one of the hospitals, and I couldn't do anything until I could. That was twenty years ago.

Q.—And that is true, as far as you know, throughout the United States? A.—There are exceptions in the smaller towns: they have what they call "open hospitals," where anybody can come in and do anything.

Q.—But in the municipal centers or larger hospitals do they have courtesy staffs? A.—I think almost universally, and only those on one of the staffs may practice in such hospitals.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—Isn't it usual to make exceptions in urgent cases? A.—I couldn't tell you that because they have a lot of emergency hospitals, and in a good many hospitals so many are emergency cases; I think that is taken care of by the staff.

Q.—This wasn't the kind of a case that would have called for any extraordinary skill to treat it? A.—Oh, I don't think so.

Q.—The presumption would be, would it not, that it could have been satisfactorily treated by any graduate surgeon? A.—This particular case would have been all right if it hadn't been treated at all.

Q.—It really would not have been subjecting her to any great risk to permit her to have any doctor she desired, would it? A.—Not a bit.

Q.—And it wouldn't have hurt the hospital if the doctor she wanted had been allowed to come in and prescribe medicine for her? A.—"Hurt": How do you mean?

Q.—Would it have hurt it in any way, the hospital, to have permitted another doctor not on the staff to come in? A.—I think that is covered by a rule. I do not think it is a matter of having a doctor come in that is forbidden, but it is taking the patient as a patient and treating her. To do that you have to be on the courtesy staff.

Q.—Suppose her doctor had been permitted to come there and prescribe for her the ice bags and to buoy her up a little bit, that wouldn't have hurt the hospital, would it?

THE COURT:—That is going into psychology rather than medicine, isn't it?

Mr. Lewin:—Yes, but as to the effect on the patient I thought the doctor might be able to answer.

THE COURT:—I don't think this gentleman is holding himself out as a psychologist.

By Mr. Lewin:

Q.—Of course you are a member of the District Medical Society and the American Medical Association? A.—Yes.

Q.—And the Washington Academy of Surgery? A.—Yes.

Q.—I think you are president of it? A.—Yes.

TESTIMONY OF FREDERICK JOHN CARPENTER

DIRECT EXAMINATION

By Mr. Leahy:

Frederick John Carpenter said he is a practicing physician, associated with the District of Columbia Civil Service, assigned to the reformatory at Lorton, Virginia. He has held that position since July 1, 1938. He graduated from McGill University in 1936 and took an internship at Emergency Hospital from 1936 to 1938.

Q.—And as such intern what were your duties? A.—My duties were various, but in general as intern, which represented my duties the first year, we were to receive each patient; to write a history, do a physical examination, engage in the preparation of the hospital record and also to assist otherwise to equip us in being capable of gaining something from our consultations with the staff members who got into the case thereafter.

Q.—Do you recall the case of a patient whose name appears in the records here identified, Defendants' Exhibit No. 3? Will you kindly look those over and see if they refresh your recollection as to the case? A.—Yes, I have some memory of this case.

Q.—Were you on duty when that patient was brought in to the hospital? A.—I may have been on duty when she was brought in; I didn't see her on admission.

Q.—Did you see her at any time while she was in the hospital? A.—Yes.

Q.—Where did you see her? A.—On the fourth floor in the hospital, in the room to which she was assigned, just prior to her going to another hospital.

Q.—Will you tell us the name of the patient? A.—Miss Sara Abbott.

Q.—At that time did you prescribe any treatment for her at all? A.—No, sir.

Q.—Did you observe what treatment had been accorded to her there in the room? A.—I observed directly and through the records what treatment had been accorded.

Q.—And at that time you saw her, or was that just before she was transferred to Garfield? A.—Yes.

Q.—Do you know whether any x-ray had been suggested for her? A.—It is my belief that—incidentally, I recall now that I did see her for a brief moment before this last occasion, and that on the occasion when making rounds with Dr. Marbury, who was the staff surgeon on orthopedic duty at that time; I was assigned as assistant resident orthopedic intern.

Q.—What is that? A.—We were concerned mostly with diseases and injuries to bones and joints.

Q.—Do you recall what time it was that you made those rounds with Dr. Marbury? A.—My impression is it was something between 11 and 12 in the morning; that may be a little bit off one way or the other.

Q.—Do you recall whether at that time when you saw Miss Abbott with Dr. Marbury, whether you made any observation or diagnosis as to what she was suffering from? A.—My observation was purely that of an observer. I didn't examine her, but Dr. Marbury did look her over, and at that time I am almost sure he suggested an x-ray be taken in order to determine whether or not a fracture had occurred in the region of her left ankle.

Q.—Do you know whether the x-ray was taken? A.—I am certain it was not, because she left before it could be arranged.

Q.—You say you read over her chart of the treatment accorded to her? A.—Yes.

Q.—Will you refresh your recollection by looking over the chart again to see the treatment that was given to her, and tell us whether in your judgment the treatment which she received in the hospital that night was the proper treatment, considering what she was suffering from?

Mr. Lewin:—I have no serious objection to this question, but it has been covered. It has been covered; perhaps this is corroborative. I don't think there is any question about it; that she received this treatment.

Mr. Leahy:—Well, if it is admitted that everything was done which should have been done for her, that will be satisfactory.

Mr. Lewin:—I cannot concede that; I am not an expert.

THE COURT:—If you know the treatment which this woman received; and you saw her, I think they have the right to go into that. You may answer.

The Witness:—This could be easily taken in stages. First of all, the Emergency Hospital, emergency room note says that she was given an ice cap to her left leg; she was brought in with a pillow splint applied; and that she had refused codeine by hypo, that medication. Actually in these three things you find the only treatment that could be given to any one even if they had a true fracture of the ankle. She had been brought, transported there properly, properly splinted and treated, at least by offer of a sedative, a narcotic sedative, which she had refused, and ice had been applied in order to reduce any swelling present or which might later appear. Then she was transferred to the floor—Shall I read the order and note on it?

"I. First Dr. Marbury service." Which is entirely proper, since he was the orthopedic surgeon of that month.

"Remove the pillow splint—elevate leg on pillow—apply continuous cold compresses." That would be perfectly proper because it would be sure to get the ice to the leg that way and there would be no further need to transfer her because she was in bed; hence no further need to move the leg. No further damage could be done even if it were a fracture. "Apply continuous cold compresses." That would continue to keep down the pain and swelling, and prevent further bleeding, as indicated by the bruises, hematoma. An order was left for one grain of codeine for relief of pain "as necessary." That is absolutely all any one could offer any one with an injury such as she appeared to have. She was not in severe enough pain to require a hypodermic at that time. In fact she had refused a hypo already, and the doctor thought she might accept something by mouth. That was a consideration of her own choice to make. She was assigned to a regular diet; there was no evidence of shock or nausea or anything of that kind to require special diet. During that night it was discovered she could not sleep, apparently, and an order for a nembutal, which is a barbitol sedative, commonly used to induce sleep, was made; and an order was left on the 27th by Dr. Marbury so that an x-ray of the

left lower leg, upper one half, be taken. There is even an indication here that an attempt was made to spare expense—only the upper one half was to be taken. That was the only way we could definitely rule out a fracture.

In my opinion everything that could possibly be done was done for the patient.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Certain medicine was prescribed which she refused to take, you say? A.—Yes.

Q.—Isn't it true that a patient is more likely to refuse to take medication from a doctor in whom she has little or no confidence, because she does not know him, than she would from a doctor whom she has requested and whom she has confidence in? A.—That is likely.

Q.—So, in all probability, if that patient had been allowed to have her own doctor in whom she had confidence and he had prescribed that medication for her, she would have taken that medicine that you say was proper for her and been more comfortable?

Mr. Leahy:—Wait a minute. Isn't that a bit argumentative?

THE COURT:—I think so.

Counsel for both sides approached the bench and conferred with the Court.

Mr. Leahy:—I will just finish this hospital phase by reading this document, this notation here:

"Shortly after Miss Tew was admitted and while on the way into the operating room, about 7:45 a. m., Dr. Selders stopped me and said: 'I want to make a midline incision. I think there is something in the pelvis.' To this I replied, 'O. K.' and left immediately, as there was another operation."

TESTIMONY OF WILLIAM DICK CUTTER

DIRECT EXAMINATION

By Mr. Leahy:

William D. Cutter, Chicago, said he has been Secretary of the Council on Medical Education and Hospitals of the American Medical Association for more than nine years. He graduated from Yale in 1899 and from Johns Hopkins in 1905. Following graduation from Johns Hopkins he took an internship at the French Hospital in New York City from 1905 to 1906. He engaged in active practice in Bisbee, Ariz., 1906 to 1910. He taught at the University of Georgia, 1911 to 1919. He was secretary of the board of medical examiners in the New York Department of Education from 1919 to 1923. He was with New York Postgraduate School of Medicine from 1923 to 1928 as dean of the medical school. Also he was dean of the University of Southern California from 1928 to 1931.

Q.—And was it in the year 1931 that you assumed, took over your position as secretary of the medical association? A.—Yes.

Q.—And would you give us the official title of the bureau of which you are secretary? A.—The Council on Medical Education and Hospitals of the American Medical Association.

Q.—When was that council formed? A.—1904.

Q.—Do you recall in what manner it was formed? A.—It was formed by a resolution of the House of Delegates of our association as a standing committee of the House of Delegates, meaning that it was responsible to the House of Delegates and to no one else.

Q.—Then is your council responsible to the Board of Trustees of the American Medical Association? A.—No, sir, except with respect to its budget. We have to get our budget from the Board of Trustees, but in all other respects we report directly to the House of Delegates.

Q.—Without going into too much detail, what are the functions of this council, of which you are secretary? A.—The function of the council is to examine and study medical schools and hospitals in order to determine what are proper standards of performance in the field of medical education and hospital education, and having formulated reasonable standards of performance with respect to medical education these are submitted to the House of Delegates for ratification, and then when the standard is set up we again examine these institutions to see whether they fully conform to the standard. If so, their names are published on our list. These examinations are made only upon the request of the institution who wishes to be included in our list.

Q.—Now, you have mentioned the House of Delegates. Without going into it in great detail, who sits on or in this House of Delegates in the American Medical Association? A.—Each state medical society chooses a certain number of

delegates in proportion to the number of members, just exactly as members of the House of Congress are selected on the basis of population, and those delegates meet once a year, and they comprise the legislative force of the American Medical Association.

Q.—You say each state society. Is there a state society in each state? A.—Yes.

Q.—So that all forty-eight states of the Union are represented? A.—Yes, and also the District of Columbia.

Q.—You might tell us how many are on this council. A.—There are seven members of the council.

Q.—Who is chairman? A.—Dr. Ray Lyman Wilbur, President of Stanford University.

Q.—Is he the same Ray Lyman Wilbur whose name we heard mentioned in connection with this Committee on the Costs of Medical Care? A.—Yes.

Q.—How long has he been the chairman of that? A.—I am not exactly sure of the date because it was before I was connected with it. I think it was 1927, and he is still chairman.

Q.—With reference to the composition of the remaining members of the council, where do the members come from? A.—One lives in Boston, one in New York City, one in Syracuse, one in Lexington, Kentucky, one in New Orleans, and one in Des Moines, Iowa.

Q.—Are they all practicing physicians? A.—Dr. Wilbur is not a practicing physician, but all the others are.

Q.—And men of experience? A.—Yes.

Q.—Would you tell about the average age of the members of the council? A.—Well, I should think the average age was between 50 and 60, perhaps 55; perhaps a little nearer to 60.

Q.—Since you have been connected with this Council on Medical Education, so far as the medical schools are concerned and the standards of hospitals, what has been the principal work of the Council? A.—The visitation of the schools and hospitals in response to such inquiries of theirs for examination.

Q.—With what end in view? A.—To help them to qualify for inclusion in the list which we publish.

Q.—And you would prescribe standards, do you, to which you wish them to adhere? A.—Yes.

Q.—Do you recall how many medical schools there are now on the approved list? A.—Sixty-six medical schools in the United States that offer the whole of the four-year course; ten schools that give only the first two years, and one school that gives only the last two years of the medical course.

Q.—And do you recall how many hospitals have asked you to investigate and examine them which have received your approval? A.—There are something over 6,000 hospitals which are included in our directory of hospitals, which we call a register. Of those 6,000, there are 1,000 who have asked for specific approval of their educational pretraining; of the training of interns and residents.

Q.—Do you keep a separate register of the hospitals merely approved for registration and those approved for intern training? A.—Both groups of hospitals appear in the register, but we have a separate list for those where residency and training is provided for the use of doctors seeking opportunities of this sort.

Q.—Doctor, what is the distinction between the ordinary hospital which appears upon your register of private hospitals and the hospital which is approved for intern training? A.—The second type of training voluntarily undertakes a responsibility for teaching physicians; the other doesn't take that kind of responsibility and, therefore, it is not approved as having a satisfactory course of training, because it doesn't pretend to have it; doesn't seek to do that kind of work.

Q.—When you say it seeks to train interns, what method is approved in giving instruction to young interns? A.—The method of instructing interns and residents is essentially an apprenticeship. These young doctors work under the direction of older and more experienced physicians. They aid and assist them in the examination of patients, in the treatment of patients, especially in the discussion of the diagnosis, the examination of the patient by every possible means, and then the analysis of that evidence in order to determine what is really the cause of the patient's trouble; and then it is discussed with them and there is determined the best method of treatment. That is done with daily supervision of the attending staff and instruction given by the attending staff.

Q.—Is there any library prescribed by your council for those institutions which seek approval for intern and resident training? A.—Yes; one of the necessary things for approval of any institution is that the hospital should have a library in which these interns may have an opportunity to pursue their studies and to which they may have access to reference books.

Q.—Again, how many hospitals have sought the approval of your council for intern training and received it? A.—There

are 700 hospitals approved for intern training. There are perhaps something over 300 or 400 more which have approval for training of residents in specialties, but the total number of both groups is only about 1,000.

Q.—You have used the word "resident": What is the distinction between an intern and resident physician? A.—An intern is a man who has just completed his undergraduate course and goes from there into a hospital to gain this type of experience. After he has served an internship, which might be a year, year and a half, or two years, if he desires further training and experience then he is classified in the hospital as a resident, and those residents are usually assigned to specific departments of the hospital, such as medicine, orthopedics, obstetrics, and so on.

Q.—In the case of a hospital, Doctor, which is a specialty hospital, would that come within the prescribed purpose of intern training, or just for resident training? A.—Just for residency, if it is a special hospital.

Q.—Let us bring it down to the District of Columbia. How many hospitals in the District of Columbia have been approved for intern training? A.—For intern training? Do you mean, all of the hospitals, or just the private hospitals?

Q.—All of the hospitals. A.—Without looking at my notes I cannot speak exactly on that.

Q.—Have you any memorandum which shows that? A.—Yes, sir. There are 19 hospitals in the District of Columbia, and of those—may I speak now of the year 1937, or would you prefer the figures for the current year?

Q.—Make it 1937. A.—In 1937 there were twelve hospitals approved for intern training in the District of Columbia.

Q.—Were there some others which were approved only for resident training? A.—There were.

Q.—How many? A.—I think there were only two, the Columbia Hospital for Women, and the Episcopal Hospital for Eye, Ear and Throat Diseases.

Q.—Can you tell us why the Episcopal Eye, Ear and Throat Hospital could not be approved for general intern training? A.—Because they do not have a general service. They do not have any patients there except those who are suffering from diseases of the eye, ear, nose and throat.

Q.—Why would not the Columbia Hospital for Women be approved for general intern training? A.—Because they only render service to women either in obstetrical or gynecological cases.

Q.—Would either or both of those hospitals be approved for residencies? A.—Yes.

Q.—What type of residencies? A.—In the case of Columbia Hospital, they might have been approved either for residency in obstetrics or residency in gynecology, or for a combined residency covering both fields. At the Episcopal Eye, Ear, Nose and Throat Hospital they might have had approval for a residency in ophthalmology, that is, diseases of the eye; or they might have had approval for aurology, which means diseases of the ear and throat, or it may have been approved covering both fields, according to the way in which their service was set up.

Q.—You were stating that they might have. May I ask you if they did have approval for residencies? A (after referring to memoranda).—Episcopal Eye, Ear and Throat Hospital was approved for a residency in ophthalmology; and that was all.

Q.—You stated that approval was requested by the hospitals of the Council. What steps did your council or does your council take after receiving a request from a hospital for approval by the Council? A.—The first step is to send to the hospital a printed form calling for certain information about the size of the hospital, the ownership, the character of service which it renders, and its facilities, laboratory, x-ray, library, and so forth and so on; and that printed form which constitutes an application for approval is completed by the hospital and sent back to us and a card is made out indicating that such a hospital has requested approval for such and such services, and as soon as the doctors of our staff can get around to it they make a visit to that hospital and check up on all of the information which has been submitted, and they make further investigations about all matters which can only be determined by a personal visit, and when they return to the office they write a report concerning their observations in that hospital. A copy of this report is always sent to the hospital with a request for any comments or corrections. At the next meeting of the Council the report, together with the recommendation of the staff, is submitted to the Council and, after consideration of the facts, the Council acts to either give or withhold approval.

Q.—Does the Council maintain a staff of investigators to go around and make examinations of hospitals? A.—Yes, sir.

Q.—Also of medical schools? A.—Yes, sir.

Q.—Is there any difference between the method pursued in the examination of a hospital and of a medical school? A.—Well, there is some difference, because of the difference in the character of the institution. The program of a medical school is very complicated and covers a period of four years. The program of a hospital for intern training covers only one year, and it is relatively simple because it is, as I have told you, of the apprenticeship type; so that the examination of a medical school takes more time than the examination of a hospital.

Q.—How many investigators does the Council maintain? A.—We have three men who do nothing but visit hospitals, and I myself devote a good deal of time to the visitation of medical schools. A couple of years ago I had an assistant in that field, but at the present time I am alone.

Q.—How thorough an investigation is made before approval is granted? A.—We have these standards which have been formulated by the Council known as the "Essentials" and which have been ratified by our House of Delegates. The examination of the hospital is made to determine whether the hospital fulfils all of the standards which have been so expressed. In addition to that, to determine if there are any other factors which have a bearing upon the suitability of the educational program of the hospital, to find out whether they have a sufficient number of patients to give adequate instruction in the various fields which they assume to cover; to find out whether the records are properly kept, to see that the work is being thoroughly done, both with respect to the care of the patients and with respect to the education of the interns.

Q.—What has been the effect, Doctor, of the Council's promulgation of these standards with reference to medical schools and hospitals? A.—When the Council was created in 1904 we had a great many very poor medical schools. There was no kind of supervision over them; and the real reason for the formation of this Council was to exercise some sort of supervision over the medical schools by getting at the facts and making the facts known. And the same thing has been true with regard to hospitals. The examination of hospitals and the formulation of definite standards for internships and letting the prospective interns know which are the hospitals that conform to those standards, which has encouraged and stimulated the hospitals to improve the character of their services.

Q.—Has your Council any authority other than to collect data and information and publish the same for educational purposes? A.—None whatever.

Q.—And you as secretary perform what functions for the Council? A.—I direct the work of the office and I personally make the investigations of medical schools and, having collected the information, I submit it to the Council for their decision, and also prepare from time to time these various lists which are published showing the standing of such institutions.

Q.—Does the Council publish any factual data or any publications of any kind? A.—Yes, sir; it does.

Q.—What is the field in which they publish them? A.—It is related to medical education and hospitals. We publish once each year what we call the Educational number of THE JOURNAL, which is devoted very largely to a summary of the statistics and factual data with regard to the medical schools of the country. We publish also a little reprint known as the Essentials of Medical Schools, which constitutes the basis on which medical schools are judged, as to whether they should be included in this list or not.

Similarly, we publish once each year what is called the Hospital number of THE JOURNAL, which is devoted very largely to giving facts and figures with regard to hospital facilities throughout the United States; and we publish also these little leaflets (indicating) which give the standards applied to the registration of hospitals, to the approval for internships of hospitals and to the approval of hospitals for residencies in the medical specialties.

Q.—Do you publish at any time a register of hospitals? A.—Yes, sir. That is included in this Hospital number which appears annually.

Q.—Is that register which appears annually distinct from any publication of a list of hospitals approved for intern training and resident training? A.—Not distinct from them, because in the register the hospitals which are approved for intern training are included, and they are indicated by a star following the name of the hospital. Hospitals which are approved for the training of residents are indicated by a cross, like a plus mark, following the name of the hospital. Hospitals which are approved for both internships and residencies will have both the star and the cross following the name of the hospital.

Q.—For instance, in the District of Columbia, would the names of hospitals which have received approval of the character you just described appear on that register? A.—Yes, sir.

Q.—By the way, do you examine other hospitals in the District of Columbia than the private hospitals—Walter Reed, and the one on Wisconsin Avenue, the name of which has just slipped out of my mind? A.—Certainly, we examine any hospital that applies for approval for a program of training interns or residents.

Q.—Have Government hospitals also applied to you? A.—Exactly; the Naval Hospital, Walter Reed Hospital, Gallinger Hospital, Veterans' Hospital.

Q.—You stated that you also published Essentials of a Registered Hospital. I am going to show you three pamphlets and ask you if you can identify those, Doctor. A.—Yes. I identify this (indicating) as the Essentials of a Registered Hospital, prepared by the Council on Medical Education and Hospitals of the American Medical Association. The next is Essentials in a Hospital approved for Training Interns, and the third, Essentials of Approved Residencies and Fellowships.

Mr. Leahy:—I offer them in evidence, but I shall not read them to the jury at this time.

THE COURT:—Unless there is objection, they are admitted.

Mr. Lewin:—We have no objection, your Honor.

By Mr. Leahy:

Q.—Do you recall a resolution called the Mundt Resolution?

A.—Yes, sir; I do.

Q.—Do you recall when that was passed? A.—In 1934.

Q.—We have it here in one of the exhibits which was introduced. You recall that, do you? A.—Yes, sir.

Q.—Following the passage of the Mundt Resolution was anything done by your Council with reference to it? A.—Yes, sir.

Q.—Why did your Council take any action in regard to the Mundt Resolution? A.—Because the resolution itself stated that the House of Delegates requested the Council on Medical Education and Hospitals to take this matter under advisement.

Q.—Did your Council so take the matter under advisement? A.—It did.

Q.—When I say "your Council" I refer to the various members whom you have mentioned. A.—Yes, sir.

Q.—How frequently does the Council meet? A.—Usually three times a year; sometimes four.

Q.—Where does it meet when it meets? A.—Well, in the spring of the year it meets wherever the American Medical Association is meeting, which is in different parts of the country. In February it always meets in Chicago, because they hold a Congress on Medical Education at that time. Other meetings are usually held in Chicago, but sometimes held in New York or Washington or Denver or some place that may for some special reason happen to be more convenient.

Q.—You spoke of the Congress on Medical Education. What did you refer to when you used that phrase? A.—Very early in the history of the Council it was felt desirable to give more information to the public and to the profession with regard to the problems of medical education; and so a meeting was held in Chicago to which all interested persons were invited, and at that meeting, or at that series of meetings, papers are read about various problems connected with medical education, and there is more or less discussion of those papers; and because the question of medical education is so closely related to the question of medical licensure, the various state licensing boards are invited to participate with us in the conduct of that congress; and the official title of it is the "Congress on Medical Education and Licensure."

Q.—How frequently does it meet? A.—Once a year.

Q.—How wide an invitation is sent out for attendance at the conference? A.—I think we send out 3,000 to 4,000 invitations. We send these to anybody that we think may be interested in having a copy of the program, even though we know that a great many of them will not be able to attend.

Q.—How large an attendance is there usually at the Congress? A.—It is hard to know exactly, because not all of the people who come to the Congress will register. We try to persuade them to register and give us their names; but we have had anywhere from 300 to 400 people register and there must have been at least a couple of hundred more in attendance who did not register.

Q.—Is that merely an approved educational program of your Council? A.—Exactly.

Q.—To return, now, to the Mundt Resolution, what action was first taken by your Council with reference to it? A.—The Council met in October of 1934. This resolution was presented, and the Council voted to send copies of this resolution to all hospitals approved for intern training, so that they might know what was the sentiment of the House of Delegates.

Q.—Did the Mundt Resolution relate only to hospitals for intern training? A.—I think that is what it says.

THE COURT:—May I make a suggestion? I think perhaps it would be well to refresh our minds about this Mundt Resolution; I mean, the terms of it.

Mr. Leahy:—It is in this paper, your Honor (indicating).

The Witness:—It refers only to intern hospitals.

By Mr. Leahy:

Q.—Immediately following the meeting of the Council which you have just told us was held in October of 1934, what did the Council request you as its secretary to do at that time, if it did request you to do anything? A.—It instructed me to send a copy of this resolution to all of the intern hospitals.

Q.—Did you do so? A.—I did.

Q.—I showed you a paper just now. I will ask you if that is one of the letters which was sent in pursuance of that action on the part of the Council? A.—It is.

Q.—And you so identify it, do you? A.—Yes.

Q.—It bears what date? A.—Dec. 31, 1934.

Mr. Leahy:—I offer it in evidence.

Mr. Kelleher:—You are offering this only for point 2 in this letter?

Mr. Leahy:—I am offering the entire letter to show how the matter was brought to the attention of the hospitals.

Mr. Kelleher:—The letter contains two points. The first point does not deal with this subject at all. We have no objection to point 2.

Mr. Leahy:—It is offered not merely for the fact that it contains the Mundt Resolution, but it is offered in order to show the manner in which the hospitals were notified about the Mundt Resolution.

THE COURT:—Are you formally objecting to it?

Mr. Kelleher:—To point 1, yes, your Honor, as being immaterial.

THE COURT:—I think it may be received. Objection overruled.

By Mr. Leahy:

Q.—How many hospitals were circulated or were advised of the Mundt Resolution on Dec. 31, 1934? A.—About 700.

Q.—Was any attempt made by your Council to send this letter to any other hospital than one which had been approved for intern training? A.—No, sir.

DEFENDANTS' EXHIBIT 14

Mr. Leahy:—Ladies and gentlemen, this is on the letterhead of the American Medical Association, 535 North Dearborn Street, Chicago, Council on Medical Education and Hospitals, and it shows the names of the following doctors:

"Ray Lyman Wilbur

"Reginald Fitz

"Merritte W. Ireland

"Charles H. Humiston

"Frederick A. Washburn

"J. H. Musser

"Fred Moore

"William D. Cutter"

The letter reads as follows:

"(1) Your attention is called to the fact that in recent years applicants who have been unsuccessful in gaining admission to American medical schools have migrated in large numbers to Europe. At the present time those who have graduated are returning to the United States and are seeking appointment as interns. The 'Essentials in a Hospital Approved for Interns,' ratified by the House of Delegates of the American Medical Association, require that interns be selected from among the graduates of schools approved by this Council. Since the Council has never inspected or classified schools outside of the United States and Canada, it is evident that European schools do not fall within this category.

"Furthermore, for economic reasons there is just now a shortage of internships, and some of the graduates of Class A schools have been unable to find positions. In order that our own students may not be deprived of an opportunity to complete their education by serving their fifth year as interns, it is necessary that hospitals approved by this Council limit their choice of interns to graduates of recognized American schools whenever such are available.

"However, should suitable graduates of Class A schools be unobtainable, the standing of a hospital will not be jeopardized by the appointment of a graduate of a European university, provided the hospital assumes full responsibility for determining the identity of the candidate, the authenticity of his credentials, and that his professional qualifications are not less than those of the graduates of our own schools. It is recommended that in order to protect themselves, such candidates be required to have passed the licensing examination in one or more states or Parts I and II of the National Board of Medical Examiners.

"(2) In hospitals approved for the training of interns the professional standing of the members of the staff is a matter of importance. For your information I submit a resolution dealing with this subject, adopted at Cleveland last June:

"Resolved, That it is the opinion of the House of Delegates of the American Medical Association that physicians on the staffs of hospitals approved for intern training by the Council on Medical Education and Hospitals be limited to members in good standing of their local county medical societies and that the House of Delegates request the Council on Medical Education and Hospitals to take this under advisement."

"Sincerely yours"———

And it is signed "William D. Cutter."

By Mr. Leahy:

Q.—That was the Mundt Resolution which I just read, was it not, Doctor? A.—Yes, sir.

Q.—Following the word "Resolved"? A.—Yes, sir.

Q.—You refer in your letter of December 31 to the "Essentials in a Hospital Approved for Interns, ratified by the House of Delegates of the American Medical Association." I show you three exhibits numbered 11, 12 and 13. Does that phrase in your letter which I have just mentioned refer to any one of those three pamphlets? A.—To Exhibit 12.

Q.—When you brought this resolution to the attention of the hospitals, Doctor, what was there on the point which you have identified as "1" in your letter, "Shortage of Internships"?

A.—The reason for that shortage was that during the years of the depression, 1934, for example, a great many men who had served an internship were reluctant to go out into practice, and they would ask the hospital if they could not stay on for a second year; and many of them did, maybe two or maybe three years. But that meant that there were not the normal number of vacancies to take care of the graduates of medical schools, and men graduating found it very difficult to secure internships; and in order that they might not be prevented from getting that opportunity to complete their education through the selection of these graduates of foreign schools, we sent this notice to the hospitals telling them that graduates of our own schools should be appointed wherever suitable candidates were available, and graduates of foreign schools should not be appointed unless they had found that suitable candidates from our own schools were not obtainable.

Q.—You mentioned in your letter Class A medical schools. To what do you refer? A.—When the Council made its first study of medical schools and published its first list of medical schools, the medical schools were divided into three groups designated as Classes A, B and C.

MARCH 10—AFTERNOON

TESTIMONY OF WILLIAM DICK CUTTER

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, I think just before luncheon I had asked you about the phrase which you used in the letter of December 31 notifying the hospitals: Now, what did you mean by "Class A medical schools"? A.—When the Council made its first classification of medical schools back in 1909 they were divided into three groups: Class A were considered acceptable; Class B those which were considered not acceptable but which might become so; and Class C which were hopeless and which we considered could not qualify. Now, those three—A, B and C—were continued until about 1928, and at that time all the schools which had been placed in Class B had either closed, merged with other schools, or raised their standards so as to become listed as Class A. There were no others in Class B. The number in Class C was very small and they were schools which were very, very bad; and the Council decided there was no use in giving further publicity to these bad schools, so they discontinued the classification as Class C and they frequently used, instead of Class A, the term "Approved School." That term is synonymous with Class A and they have been used since interchangeably.

Q.—Now, following the letter of Dec. 31, 1934, did you ever direct any other letter to the hospitals which were approved for intern training under the Mundt Resolution? A.—Not to all hospitals at any one time, but when we had occasion to inspect a hospital to determine its qualifications and sent them a report we made it a routine practice to refer to this resolution so that they might have it as a matter of information.

Q.—Did there come a time, Doctor, when the Council on Medical Education and Hospitals made an examination of hospitals in the District of Columbia? A.—Yes.

Q.—How many hospitals at that time were examined in the District of Columbia? A.—You refer to 1937?

Q.—1937. A.—Five hospitals were visited in Washington during that year.

Q.—Before that year had all the private hospitals in Washington been examined at some time? A.—Well, very nearly; I couldn't be certain every one had. Some might have been put on the approved list a long time before I was connected with the Council.

Q.—What was the practice with reference to examining hospitals as to the time intervening between the application and examination? A.—It is variable, because it depends on the

demands which are made upon us for immediate inspection with the view to approval. Now, reexaminations of hospitals from time to time have to be fitted in with the itineraries planned by our inspectors in order to cover the requests constantly received, so that if we are called upon to go to St. Louis to visit two or three hospitals we would make two or three others so that we would not have to double back on our tracks and go to St. Louis right away.

Q.—Do you recall the occasion which induced the investigations and examination of the five hospitals in Washington in 1937? A.—I do.

Q.—And what was that occasion? A.—A letter was received by me from one of the professors on the faculty of Georgetown University, a Dr. Cahill, and he said he wanted to secure the Council's approval for two residencies in surgery: one at Georgetown and one at Providence. That request was dated Feb. 3, 1937.

Q.—I now show you a letter dated Feb. 3, 1937, from Dr. Cahill, addressed to "Dr. Ray Lyman Wilbur, Chairman, Council on Medical Education and Hospitals, American Medical Association," and ask you if this is the letter. A.—That is the letter.

Mr. Leahy:—I ask that it be received in evidence.

(After discussion the letters were received in evidence.)

Mr. Leahy:—Exhibit 16 is a letter of Feb. 3, 1937, which is answered by a letter of Feb. 10, 1937, and Exhibit 15 is an original letter from Dr. Cahill to Dr. Carl M. Peterson, Council on Medical Education and Hospitals, to which is attached an application containing certain information, which application blank was supplied by the Council on Medical Education and Hospitals.

I will first read Defendants' Exhibit 16. It is on the letterhead of Dr. James A. Cahill Jr., 2607 Connecticut Avenue, Washington, D. C., and is dated Feb. 3, 1937. It is addressed to Dr. Ray Lyman Wilbur, Chairman, Council on Medical Education and Hospitals, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

"Dear Dr. Wilbur:

"As Director of the Department of Surgery at the Georgetown University School of Medicine, I am writing to make a formal application regarding the Residency in Surgery for two hospitals which are affiliated with the Georgetown University School of Medicine.

"The Surgical Department utilizes four hospitals, two of them, namely, Emergency and Gallinger, are on the approved list for a Residency in Surgery. However, I am most desirous of having the approval of the American Medical Association for the resident position in surgery at both the Georgetown University Hospital and Providence Hospital. At each of these hospitals, a resident surgeon is on duty and his appointment is for one year. However, we are anticipating prolonging this term to a two year one. At Georgetown the resident is under the direct supervision of the Staff and therefore receives adequate instruction. This is also true at Providence Hospital. There is also a large amount of clinical work which has increased considerably during the past few years. Would you be kind enough to place this before the Committee. If any further information is desired, I will be glad to furnish it upon your request.

"Very respectfully,

"James A. Cahill Jr.,

"Director of Department of Surgery, Georgetown University School of Medicine."

To which Dr. Peterson wrote a reply under date of Feb. 10, 1937.

By Mr. Leahy:

Q.—Doctor, I notice this carries the initials "C. M. P." Who these initials are they? A.—Dr. Peterson's.

Q.—Who is Dr. Peterson? A.—He was one of our inspectors, particularly charged with the work in connection with the intern hospitals.

Mr. Leahy:—I will read this letter. It is addressed to Dr. James A. Cahill Jr., Director of Department of Surgery, Georgetown University School of Medicine, Washington, D. C.:

"Dear Dr. Cahill:

"Your recent letter to Dr. Ray Lyman Wilbur has been referred to me for reply.

"Approval of residencies by the Council is based in regular application, convenient forms for which are enclosed. Since two institutions are involved, it will be necessary to submit application for each and it will be much preferred if you submit the information yourself as responsible for the type of training which these residents will receive.

"Ordinarily, upon receipt of satisfactory information, a visit is arranged by a member of the Council's staff in order that all details of the teaching program may be discussed.

"The duplicate copies also enclosed are meant for the files of the hospitals under consideration."

"Very truly yours,"

Then on March 18, 1937, and I am now reading from Defendants' Exhibit 15, there came another letter from James A. Cahill Jr., Director of the Department of Surgery, Georgetown

University School of Medicine, addressed to Dr. Carl M. Peterson, Council on Medical Education and Hospitals, American Medical Association, 535 North Dearborn Street, Chicago, Illinois:

"Dear Dr. Peterson:

"As you suggested, I am forwarding the applications for approval of the Surgical Residency for both the Georgetown University Hospital and Providence Hospital of Washington, D. C.

"I will be only too glad to meet a member of the Council Staff to discuss any details which they may request.

"Appreciating their consideration, I am

"Very sincerely yours,

"James A. Cahill Jr.,

"Director of the Department of Surgery, Georgetown University School of Medicine."

And enclosed therewith is the application blank filled out for Georgetown University, 35th and N streets N.W., Washington, D. C.: "Bed capacity, 210; Residencies required, Surgery, (1)" and the next information is as to what time of the year appointments are made: "On or about February for duty effective by July 1 of each year. Length of residency, one year but may extend to two; Salary \$35 per month." The applicant "must be a graduate of a Class A Medical School and have served at least one year's internship on a general rotary service." It is stated that the Georgetown University Hospital Staff is composed of members connected with the Surgical Department of the School of Medicine. "The Staff is amply qualified for instructing the resident, and in fact the resident surgeon is required to teach and serve as an instructor to various surgical groups assigned to the hospital." The names of the members of the staff were "Dr. James A. Cahill Jr., Professor of Surgery and Chief of Department of Surgery, Georgetown University School of Medicine. Dr. Fred R. Sanderson, Associate Professor of Surgery—Dr. Howard F. Strine—Dr. Robert E. Moran—Dr. Leon Martel—Dr. Frederick Fishback—Dr. Ralph M. LeComte—Dr. Waitman F. Zimm of Baltimore, Maryland."

Then follows other information which I won't take the time of the jury now to read.

The second application is for Providence, Second and D streets N.E., Washington, D. C.:

"Bed capacity, 241," and the application for residency shows "Beds, 160—Occupancy, 95%." It states about the same information as the other; that the appointment will be made "on or about January for duty effective July 1 of each year." He gets \$25 per month. Qualifications: "Must be graduate of a Class A Medical School and must have served at least one year's internship on a general rotary service." And "The Surgical Department at Providence Hospital is composed of four chiefs, and four associate surgeons. There is also a group of assistants in surgery who serve in the Out-Patient Department." The names of the staff are: "Dr. Charles S. White, Professor of Surgery, George Washington University, Washington, D. C.; Dr. James A. Cahill Jr., Professor of Surgery, Georgetown University, Washington, D. C.; Dr. Paul S. Putzki, Associate Professor of Surgery, George Washington University, Washington, D. C.; and Dr. Fred R. Sanderson, Georgetown University, Washington, D. C."

By Mr. Leahy:

Q.—Now, Doctor, when these applications were received by the council, when they are received by the council, what is done with them? A.—When such applications are received a notation is made on a card of the institution and its location, and what they have asked for it, and those cards are available to the hospital inspectors so that they may plan to make a trip to reach a number of or a group of these hospitals if close together. They take them up in order of the application, or the urgency of the application.

Q.—It is noted, Doctor, that the applications stated that the appointment of the resident surgeon or residency in surgery, for which the application is made by such hospital, is to be made for July 1. Would that indicate to your council as to the time the examination should be made? A.—Well, hardly, because most all of the internships and resident appointments are made from July 1.

Q.—Would your council make an effort to examine and investigate the hospitals before the date of the appointment?

A.—The Council would make an effort to reach the hospital as soon as it could, but the actual appointment are usually made quite a while in advance. I think he stated the appointment would be made in February, but the work of the inspectors was always laid out for a couple of months in advance, so that when they first come in we could hardly get to them for a couple of months. We always have a large waiting list.

Q.—As matter of fact, did you assign anybody to make an examination of Georgetown and Providence in accordance with the application? A.—That was made in our office by consultation among the staff members.

Q.—Who was the individual selected to make the examination? A.—Dr. Peterson.

Q.—Is that the same Dr. Peterson who wrote the letter we just read? A.—Yes.

Q.—Do you recall when he came to Washington to make his investigation? A.—In June, I believe, the 11th of June.

Q.—At that time were any other hospitals besides Georgetown and Providence examined? A.—Yes.

Q.—Why were the others examined at that time? A.—We felt they were due for an inspection. They were George Washington Sanitarium in Takoma Park and George Washington University Hospital, and Columbia Hospital.

Q.—Do you recall now the last time when any one of those three had been examined prior to June 1937? A.—Well, one of them had been examined—the Washington Sanitarium had been examined in 1933—either 1933 or 1934. The George Washington had last been seen in 1930 and the Columbia had, I believe, never been regularly inspected.

Q.—Was Columbia Hospital one that had been approved for intern training? A.—No, sir.

Q.—For what had it been approved? A.—Residency in gynecology.

Q.—And Washington Sanitarium: Had that been approved for intern training? A.—Yes.

Q.—And George Washington? A.—Yes.

Q.—Now, then, did you give any instructions to Dr. Peterson as to the number of hospitals that should be examined in Washington when he made his trip for the purpose of visiting Georgetown and Providence? A.—No, sir.

Q.—That was left to his discretion? A.—Yes, to his judgment and discretion.

Q.—How long had Dr. Peterson been with the Council? A.—Before I came, in 1931. I think in 1930 or 1929.

Q.—At this time I am going to show you what has hitherto been identified as Government Exhibit 259. I want you to look that over and tell us whether or not you received that letter. A.—Yes, I did.

Q.—It is dated what? —March 27, 1937.

Q.—At the time you received Dr. Cahill's request for an examination of the hospitals, looking toward the residencies in surgery at Providence and Georgetown, had you heard of G. H. A.? A.—No, sir.

Q.—Did you know that there was such an organization in the process of formation at that time? A.—No, sir.

Q.—Had you ever heard anything of, see any writing about, or heard discussed anything about G. H. A.? A.—No, sir.

Q.—Do you recall about when you received General Ireland's letter? A.—Well, it has a date stamped on it, a date stamp we use in our office, which says, "March 27, 1937." If both of those dates are correct it must have made a very rapid journey.

Q.—Do you know Major General Ireland? A.—Yes, I do.

Q.—Did he hold any position in the American Medical Association? A.—Not at this time.

Q.—Did he before? A.—Prior to that he had been a member of the Council on Education for a long time, I think nearly twenty years.

Q.—I notice on the bottom of this Exhibit 295 the handwriting "Copies sent to Woodward and Leland, 3/31/37." Whose handwriting is that, do you know? A.—I couldn't be sure.

Q.—Can you be sure of the fact that a copy was sent to Dr. Leland and Dr. Woodward? A.—I can be sure of the fact that I instructed a copy to be sent to them.

Q.—What was your purpose in sending a copy of the letter to Woodward and Leland? A.—Leland was responsible for the conduct of a bureau which studied those matters, and I thought he might be interested in finding out something about it.

Q.—And what was your purpose in sending a copy to Dr. Woodward? A.—He had lived in Washington most of his life, and I thought he would be interested in knowing what was going on.

Q.—After you received the Ireland letter what did you do with it? A.—I had it filed; I had no further use for it.

Q.—Was there anything in the Ireland letter of March 25 in any way directing your attention to G. H. A.? A.—The name of G. H. A. was not mentioned in that letter. There was some reference to H. O. L. C., but nothing to G. H. A..

Q.—Did you have any further communication from General Ireland or from any one else following the receipt of the Ireland letter about G. H. A.? A.—No.

Q.—Following your instruction to have it sent to the files, what else did you have to do about the Ireland letter? A.—Nothing.

Q.—From the time the Ireland letter was ordered by you to the files until it was produced at this trial, had you seen it? A.—No, sir.

Q.—When you instructed Dr. Peterson to come to Washington in order to make an examination of the hospitals, Georgetown and Providence, and such others as in his dis-

cretion had to be examined at that time, had you heard of G. H. A.? A.—No.

Q.—Did you know anything about it? A.—No, sir.

Q.—Had you read about it? A.—No, sir.

Q.—At your request had Dr. Peterson anything to do with G. H. A.? A.—Nothing whatsoever.

Q.—What instructions did you give Dr. Peterson, if any, in coming to Washington? A.—I gave him no special instructions.

Q.—Did you tell us how long he had been examining hospitals for the Council on medical schools? A.—Seven or eight years.

Q.—In connection with this particular trip, was this a routine examination? A.—Absolutely routine.

Q.—What was there to differentiate between this particular trip for these Washington hospitals on this occasion from examinations of other hospitals made in any other city in the country? A.—Nothing at all.

Q.—Was Dr. Peterson at that time, was he engaged solely in examination of hospitals? A.—Yes.

Q.—And your work was in the examination of what? A.—I was responsible for all of the work of the Council, but my particular activity was in the field of medical schools.

Q.—After Dr. Peterson was told to go to Washington, what did you do personally with reference to the examination of the hospitals in Washington? A.—Nothing at all.

Q.—Did there come a time when the reports of Dr. Peterson's examination came to your desk? A.—Yes.

Q.—Did you see those reports?

Mr. Timberlake:—Those reports were not introduced in evidence. They were marked for identification and returned to the files of the American Medical Association.

By Mr. Leahy:

Q.—I am going to show you now a series of reports, Doctor: Would you look them over, please, and tell us whether you can identify them or any of them. These are not the reports; they are rather thick. I think they were introduced.

Mr. Timberlake:—No, they were not introduced; they were marked for identification. They are in the files; I think the marshal has them; they are probably downstairs.

Mr. Burke:—I think Dr. Peterson has them.

By Mr. Leahy:

Q.—I think you stated, Doctor, that finally the result of the examinations of Washington hospitals came to your desk? A.—Yes.

Q.—And were they in the shape of formal reports? A.—Yes.

Q.—Do you recall having seen them? A.—Yes.

Q.—Gone over them? A.—I usually looked at the summary; I don't think I took the trouble to search the entire report, but I looked at the summary on the last page or two.

Q.—Do you recall whether the Council itself took any action on any of the reports? A.—They took action on the recommendations made by me to the Council, based on these reports. If they wanted to delve into any other feature of the reports they had access to them.

Q.—Following the receipt of the examination, or results of examinations of the Washington hospitals, was there any different procedure followed by the Council with respect to them than would have been followed with regard to a report of any other hospital in the United States? A.—No difference whatsoever.

Q.—Do you recall whether or not when you sent the report to the hospitals for inspection, if the Mundt Resolution was attached in any way to the report? A.—It was not attached in the report, but it was referred to in the letter of transmittal.

Q.—I forgot to ask you, Doctor, as a matter of fact when you received the result of the examinations of the Washington hospitals, did you follow the routine you earlier told us about this morning of sending a copy of the report to each hospital? A.—We did.

Q.—And was it on that copy of the report, together with the recommendation that you say was put the reference to the Mundt Resolution? A.—Yes.

Q.—Can you tell us what is the custom with respect to the Mundt Resolution with reference to the hospital examined throughout the country? A.—Whenever we made an examination of a hospital and sent them a report of our findings we sent also a letter calling attention to the high spots in the inspector's report and at the close of that letter we again cited the Mundt Resolution; that was the procedure followed in connection with these hospitals.

Q.—What was the result, if you know, of any action on the part of the hospitals with reference to the Mundt Resolution?

A.—Well, it would be difficult for me to remember, but I believe one of the hospitals adopted a rule that no one should be appointed to their staff who was not a member of a recognized medical society, and that if there were any members

already on the staff they would be given a year in which to become members.

Q.—I show you what purports to be a collection of correspondence, Dr. Cutter; I am calling your attention to this and ask if you can identify that correspondence in any way? A.—This is the correspondence we have had with the five hospitals visited by Dr. Peterson, after the visit had been completed and the report of the visit was submitted to them.

Q.—This Columbia Hospital file is all separated. Now, as I pick out each one will you tell us what each one is? The batch I have here, No. 153, relates to what hospital? A.—Georgetown University.

Q.—And this one? A.—Providence.

Q.—This one, Washington Sanitarium? A.—Yes.

Q.—This one? A.—George Washington University.

Q.—Number 223 is what? A.—Columbia.

Q.—Was the Mundt Resolution brought to the attention of the hospitals in any way, that is, except as is shown on the correspondence? A.—Only in that circular letter which was sent out in 1934 which we discussed this morning.

Q.—In this one to George Washington, under date of Aug. 27, 1937, after quoting the Mundt Resolution you say: "Analysis of the staff is included in the report. What possibility, if any, exists for the observance of this recommendation at George Washington Hospital?" That recommendation referred to was the Mundt Resolution, was it not? A.—Yes.

Q.—"What possibility, if any, exists for observance of this principle in your hospital?" was asked of Columbia. That is true? A.—Yes.

Q.—And "Analysis of the staff is included in the report. What possibility, if any, exists for the observance of this recommendation?" That was asked of this hospital? A.—Yes.

Q.—And at Providence Hospital, you say: "According to our analysis, there are six members of your staff who are not affiliated with any of the constituent societies of the American Medical Association"; that is after you had drawn attention to the Mundt Resolution? A.—Yes.

Q.—Now, on August 7 you asked of Georgetown: "Analysis of the staff is included in the report. What possibility, if any, exists for the observance of this regulation at Georgetown University Hospital?" A.—Yes.

Q.—Doctor, was there any letter or indication other than what is contained in what we have here which was sent to any one of those hospitals in connection with the Mundt Resolution? A.—No, sir.

Q.—What connection did your language to which I have referred have to G. H. A.? A.—None whatsoever.

Q.—At the time those letters were written had you then heard about G. H. A.? A.—No, sir.

Q.—Did you know anything of it by way of reading or anything that was told to you? A.—No, sir.

Q.—What purpose and intent, then, had you in the questions you asked of the hospitals in connection with the Mundt Resolution? A.—It was to follow the recommendations of the House of Delegates made in 1934.

Q.—What has been the policy of the American Medical Association through your council on medical schools and hospitals with respect to the Mundt Resolution, throughout the country? A.—The action taken by the Council was to recommend that the resolution be sent to the hospitals for the purposes of learning what their reaction to it would be.

Q.—Has the American Medical Association ever stricken a hospital off an approved list because it didn't put in force the Mundt Resolution? A.—No, sir.

Q.—Has it ever withdrawn such approval because of the failure of any hospital, because of its failure to adhere to the resolution? A.—No, sir.

Q.—Doctor, as a matter of fact, or what is the fact as to whether or not of the hospitals now on the approved list of the American Medical Association there are any who did not and have not complied with the Mundt Resolution? A.—There are very few who have exclusively members in such societies on their staffs.

Q.—The great majority has not observed the Mundt Resolution? A.—That is correct.

Q.—Do you recall now, Doctor, whether the American Medical Association maintains a list of every doctor in the United States with reference to his qualifications? A.—Yes.

Q.—So that you know whether the hospitals have pursued the recommendation as contained in the Mundt Resolution? A.—Yes.

Q.—And you state it to be a fact that the great majority have not complied with the Mundt Resolution? A.—Yes.

Q.—Did you, in anything you said or wrote with reference to the Mundt Resolution to any hospital in the city of Wash-

ington have in mind anything in connection with G. H. A.? A.—No, sir.

Q.—Did you in your instructions to or talks with Dr. Peterson after he had made an examination of these hospitals talk about G. H. A.? A.—No, sir.

Q.—Or did Dr. Peterson talk with you about it? A.—No, sir.

Q.—At any time following the examination of the Washington hospitals did you do anything looking toward the restraint of G. H. A., or in preventing G. H. A. members from becoming members of the staffs of the various Washington hospitals?

Mr. Lewin:—This is very leading all the way through. We have not objected but it is leading.

Mr. Leahy:—Yes; but it would be necessarily so on account of the charge. But I am all through, anyway.

Mr. Lewin:—Why not ask him what he did?

THE COURT:—I think that question may be answered. It is of a very general nature, although it does direct his attention to a particular subject. It is necessarily leading because of the negative answer which I assume he expects to receive. He may answer.

A.—No, sir.

By Mr. Leahy:

Q.—Do you know now what the hospitals in Washington which were examined actually did about the Mundt Resolution? A.—The only thing I know is, as I said a few minutes ago, Georgetown took some action with reference to their membership.

Q.—Do you know how long before the examination of Georgetown Hospital was made, with reference to this application for a residency in surgery, that the matter of the membership of the staff of Georgetown was considered by Georgetown University? A.—No, I have no knowledge about that.

Q.—I will show you a photostat of a letter. Have you seen that before? A.—I don't remember having seen it.

Q.—All right, don't bother about it any more. Doctor, as a matter of fact, when was it that for the first time you heard of G. H. A.? A.—When I read an article about it in THE JOURNAL in October.

Q.—And can you identify the article for us so that we will know to which article you refer? A.—It has been referred to here in court as the Woodward article.

Q.—And that is the first time your attention was directed to G. H. A. in Washington? A.—That was the first I knew of its existence.

Q.—Following the receipt of that knowledge by you through the manner you have indicated, did you then do anything to put pressure on a single hospital with reference to the Mundt Resolution?

Mr. Lewin:—I think that is leading.

THE COURT:—The defendant should have a right to answer definite questions as to whether or not the particular allegations of the indictment are true. The charge in the indictment is that these men did actually restrain. I think they have a right to ask whether or not he did any act that is charged against him.

Mr. Lewin:—I recognize the rule is pretty liberal when a defendant is on the stand, but I thought it was being overextended.

THE COURT:—No, I think he has a right to make a definite denial of these allegations of the indictment; to have the allegations of the charge put to him and answered. He may answer.

Mr. Leahy:—He has answered.

By Mr. Leahy:

Q.—Doctor, I want to ask you how many of these men named as defendants you know. Do you know Arthur Carlisle Christie? A.—Yes.

Q.—When did you first meet him? A.—It is hard for me to recall the exact date, but it was probably in 1933, '34, or '35.

Q.—Where did you first meet him? A.—In Chicago. We had a conference about something, perhaps concerning radiology.

Q.—Coursen Baxter Conklin? A.—No, sir.

Q.—When did you first see him? A.—Only in this court.

(The witness testified name by name as to his lack of acquaintanceship with defendants from the District of Columbia Medical Society.)

Q.—What discussion, if any, did you have at any time with a single one of these persons named as a defendant with reference to G. H. A.? A.—None whatever.

Q.—Did you ever talk to any one of them about G. H. A.? A.—No, sir.

Q.—Did any one of them ever talk with you or discuss G. H. A. with you? A.—No, sir.

Q.—I want to ask you, Doctor, if the various bureaus of the American Medical Association are separate and distinct, or are they all together? A.—They are quite separate.

Q.—And how is each one of the bureaus managed, administered or controlled? A.—Most of the bureaus are administered by a director who is responsible to the Board of Directors or Trustees. As I said this morning, our Council is not; it reports directly to the House of Delegates.

Q.—You have talked about this Council. How many clerks do you use in the work of inspecting the medical schools? A.—We have three doctors who carry on the work of inspecting the hospitals. I have one man who is not a physician who assists in the management of the department and, at the present time, fifteen stenographers.

Q.—And how busy is your office? A.—Pretty busy most of the time.

Q.—So far as mail for instance is concerned, how many letters come in in the course of a day? A.—I couldn't tell you the exact figure, but I know I have to sign every day twenty-five to fifty letters, sometimes more.

Q.—Is your Council one to which inquiries come from all over the country? A.—A great many are written to us and a great many more are written to the American Medical Association and referred to us.

Q.—Now, with reference—and I am going to make this one question—Now, with reference to all these matters and things testified to with reference to the District Medical Society, what, if any, knowledge had you about any of those matters before you heard them in this courtroom? A.—Well, after the notice was given in the summer of 1938 that an indictment against the Association would be sought, I heard a great deal about it, but until we knew that the grand jury was to be empaneled I scarcely ever heard it spoken of.

Q.—Did you ever meet with Drs. West, Leland and Fishbein and discuss G. H. A. or what the A. M. A. might do with G. H. A.? A.—No, sir.

Q.—To your knowledge did the American Medical Association ever do anything with reference to G. H. A. as an association? A.—Not through my organization.

Q.—Did you know of its having ever done anything other than the publication of this article mentioned in October 1937? A.—No, sir; that was the only thing.

Q.—I think, Doctor, your attention was called, or I am calling it—I don't think I did call it—to the fact that several letters were introduced here as having been written over your signature. I think one was to the Trinity Hospital in 1935 with reference to removing from the register the name of the Trinity Hospital. Do you remember that line of correspondence? A.—Yes.

Q.—Do you recall now what the Trinity Hospital was or is? A.—It is a hospital in Little Rock, Arkansas, which is operated by a group of doctors who sell not only hospital care but medical service.

Q.—Do you happen to have your numbers there so I could get that correspondence, and show it to you? A.—248, 249.

Q.—Next? A.—256, 250, 251, 252, 253.

Q.—Doctor, I am going to show you now what was hitherto introduced as a letter which passed between you and Trinity Hospital. Will you please look at Exhibit 248 for the Government, and I will ask you if you can identify that. The first letter, or copy of it, which you sent to Trinity Hospital. A.—That is it.

Q.—Was that written by you? A.—Yes.

Q.—What was the occasion of your writing that letter? A.—We were maintaining our register of hospitals and information had come to us that the doctors who constituted the staff of this hospital had all resigned from the Medical Association rather than face charges of misconduct, and we felt that if there was any question about the character of the work they were doing we would like to investigate it, and have some sort of an opinion upon whether the ground was sufficient to remove them from the register.

Q.—Had that hospital ever been approved as a hospital for intern training? A.—No, sir.

Q.—It was then on this yearly register which you stated before you published once in a year? A.—Yes.

Q.—You had received information from somebody which caused you to write this letter? A.—Yes.

Q.—What were you doing when you wrote that letter? Were you attempting to investigate, or what? A.—I was trying to get additional evidence; information which caused me to write that letter was a letter from the county society in Little Rock, and in order to get some affirmation, if possible, or lack of affirmation, I wrote this letter directly to Dr. Scarborough.

Q.—Did you know him personally? A.—He had been a student in the medical school when I was there, but I didn't really remember him.

Q.—Do you know where the original of that letter which I now show you is? A.—I presume it is one of those taken before the grand jury.

Q.—Have you seen it since it left your office? A.—No.

Q.—Is that a true copy of it? A.—It is a copy prepared from a photostat, prepared before the letter was sent away.

Q.—Do you know that is a true copy of the original? A.—Yes.

Q.—When did you last see the original? A.—I am not sure but it must have been in September 1936.

Q.—Does that number 1678 indicate anything to you? A.—I think that probably indicates the number of the photostat.

Mr. Leach:—Are you going to offer that in evidence? I have no objection.

Mr. Leahy:—We will give it No. 17. You said it was upon receipt of this letter which you wrote the letter of Sept. 9, 1935, No. 248. The Witness:—Yes.

Mr. Leahy:—It is offered without objection.

THE COURT:—Admitted.

Mr. Leahy:

"Memorandum Re Trinity Hospital, Little Rock.

"Dr. M. D. Ogden of Trinity Hospital, Little Rock, was in the office to talk about the hospital in reference to its registration. He said it was true that all of the members of the staff of Trinity Hospital resigned from the Pulaski County Medical Society a few years ago when the Medical Society was preparing to try them for participation in their plan of flat rate practice. He says that they later tried to appeal their case to the Council of the Arkansas Medical Association and the Judicial Council of the American Medical Association with the result that their appeal could not be heard because they were no longer members. He also said that they employed someone to travel around and introduce their plan and sell it both to groups such as banks and other concerns and also to individuals, and insisted this could not in any sense come under the head of soliciting.

"Dated September 3, 1936.

"P. S. Dr. Ogden did not appear to have very specific principles of medical ethics and was apparently not well informed on the House of Delegates. It was his impression that the delegates were told what to think. He was supplied the lacking information with regard to these matters.

"H. F. S."

By Mr. Leahy:

Q.—Who is H. F. S. A.—Mr. Sanger.

Q.—Who is Mr. Sanger? A.—He is a man in my office who looks after the general office management and keeps up this registration.

Q.—And I notice that this letter bears date Sept. 3, 1936, whereas the date here is September 1935. Can you explain that? A.—I think the date 1935 is correct, and 1936 is in error.

Q.—In fact you wrote to determine and get information,

"In order that we may have reliable information on this point, will you be good enough to explain just what is the form of service in which you are engaged? Could you send me samples of your announcements and agreements? Do you employ solicitors to procure clients?"

That was your inquiry of September 9th? A.—Yes.

Q.—Now, did you receive a reply to that inquiry? A.—I did.

Q.—Will you find it? Did he supply the information you requested? A.—No, sir.

Q.—Is the reply to your letter dated September 16 and numbered 249 for the prosecution? A.—Yes.

Q.—Did you have anything whatsoever to do, Doctor, in your official capacity or otherwise with the resignation of any of the doctors of Trinity Hospital from the Pulaski County Medical Society? A.—No, sir.

Q.—Prior to the receipt of this information, what knowledge did you have, if any, that this doctor had resigned from Pulaski County Medical Association? A.—None.

Q.—Did you have anything to do with any attempted appeal by these doctors to the Council, Judicial Council of the American Medical Association? A.—No, sir.

Q.—Did you have anything at all to do with the Council, Judicial Council of the American Medical Association, in connection with the appeal? A.—No, sir.

Q.—Have you knowledge now sufficient to tell us what jurisdiction the American Medical Association has over the action of county or state societies in the matter of disciplining members of state or county societies? A.—My understanding of it is that if any member of a county society takes exception to an action of a county society he may appeal to the State Medical Society, and that State Medical Society may confirm or overrule the decision of the local medical society; and if he is dissatisfied with the decision of the state body he may

then appeal to the Judicial Council of the American Medical Association for a final determination of the question.

Q.—Did you, Doctor, have any knowledge whatsoever that these doctors who had resigned from the county association had appealed to the Judicial Council? A.—No, sir.

Q.—Did you know anything about it at all? A.—No, sir; not a thing.

Q.—So that when you wrote your letter of September 9 for that information, were you honestly seeking information? A.—Yes.

Q.—When you received the reply from Dr. Scarborough did you know to what he referred in his second paragraph of his letter? A.—I don't know exactly. I had some idea that there had been a controversy, but I did not know what the controversy was or what it was about.

Q.—Did you learn what it was about? A.—Afterwards I did.

Q.—What was it about? A.—It was about this appeal that he had taken from the County Society to the State Society and from the State Society to the Judicial Council.

Q.—And Scarborough, when you asked him for information and for samples of his agreements, and so forth, wrote you that the attitude of the American Medical Association "has been so arbitrary, unreasonable and unfair that we feel disinclined to discuss the matter further." A.—Yes.

Q.—And that was with reference to an appeal which had been taken to the Judicial Council? A.—Yes, sir.

Q.—Had you had at any time before this had any correspondence with Dr. Scarborough? A.—No.

Q.—Or with Trinity Hospital. A.—No, sir.

Q.—Had you ever had anything to do whatsoever with the registration of that hospital on the register other than as you would have with other hospitals of the United States? A.—Simply the routine form of sending them a report blank every year.

Q.—When you received this letter from Dr. Scarborough did you again try to get the information? A.—Yes, sir.

Q.—How did you try to do that? A.—I wrote him another letter.

Q.—What letter is that? A.—It is Government's Exhibit 256.

Q.—I now show you Government's Exhibit 256 and ask you if that is the letter to which you have referred? A.—Yes; it is.

Q.—That is your letter dated Sept. 23, 1935? A.—Yes, sir.

Q.—In which you say:

"Thank you for your letter of September 16. One of the duties assigned to this Council on Medical Education and Hospitals is to make a register of hospitals accepted by the American Medical Association. I am pleased to send under separate cover a copy of the register with our compliments. I need not tell you the benefits that come to a hospital through recognition in that register and the favorable publicity it is given, since the register is published in every issue of the American Medical Directory and in the special Hospital number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Is that true, Doctor? A.—Yes.

Q.—Is the register published in every copy of the American Medical Directory? A.—Yes, sir.

Q.—Is it also published in a special hospital number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION? A.—Yes, sir.

Q.—To what were you referring when you were impressing upon Dr. Scarborough the benefits that come to hospitals through recognition in the register? A.—Most everybody that is interested in hospitals uses our directory as a source of information; and if a hospital is listed in there they can find out something about it. If it is not listed it is difficult to find it out without personal correspondence.

Q.—(Reading)

"Enclosed is a copy of the Essentials of a Registered Hospital and a copy of the Principles of Medical Ethics to which the Essentials makes reference."

Did you show us this morning a copy of the Essentials of a Registered Hospital? A.—Yes, sir; I did.

Q.—That was one of those three documents you showed us? A.—Yes.

Q.—Did you also enclose a copy of the Principles of Medical Ethics? A.—I did.

Q.—I ask you to identify this booklet which I now show you, and tell us what it is. A.—This is the booklet which contains the Principles of Medical Ethics of the American Medical Association.

Q.—So that with your letter to Dr. Scarborough of September 26 you enclosed a copy of the Principles of Medical Ethics?

Mr. Lewin:—The letter says so.

The Witness:—May I say that the copy which I enclosed to him was not identical with this one (indicating), because this was printed in 1939, and there may have been some revision or change in the meantime.

By Mr. Leahy:

Q.—Was it some booklet similar to that? A.—Essentially similar to that.

Q.—Containing the ethics in force in 1935? A.—Precisely.

Q.—(Reading further)

"Our object in writing to you was to extend to you the privilege of speaking for the hospital and particularly supplying information on those points against which some objections have been made and which practices, if they do exist and if persisted in, would jeopardize the registration of the hospital."

Did you ever receive a reply to that letter? A.—No, sir.

Q.—How long did you wait for a reply? A.—Well, the register was published in the following month.

Q.—Have you any reply from Dr. Scarborough supplying you with any explanation? A.—No, sir.

Q.—When was it, then, that that hospital no longer appeared upon the register? A.—In March of 1936.

Q.—Did you then have some correspondence with Trinity Hospital? A.—No, sir. It came later. The Directory appeared in June of 1936. Following the appearance of the Directory I had some further correspondence.

Q.—When was the next time after you wrote in September 1935 that you heard from Trinity Hospital? A.—On Aug. 8, 1936. At least that is the date of the letter which I received August 11.

Q.—Did that supply you with any information? A.—No, sir. That was a letter from Caroline P. Snyder, Superintendent, asking why it was that the name of the hospital did not appear in the Medical Directory.

Q.—When did you reply to that letter? A.—Aug. 28, 1936.

Q.—And this letter which is identified as Government Exhibit 253 is the reply which you made to Miss Snyder's request for information in U. S. Exhibit No. 252, under date of Aug. 8, 1936? A.—Yes, sir.

Mr. Leahy:—The letter is as follows:

"As stated before, it is my impression that the difficulty is between the physicians who practice in your hospital and organized medicine, particularly the County Medical Society. It is my understanding that the members of the staff of Trinity Hospital resigned from the Pulaski County Medical Society, later appealing to the Council of the Arkansas Medical Society and to the Judicial Council of the American Medical Association. It is my understanding also that both of these appeals were denied on the ground that the men had already resigned, and therefore, not being members, the Council referred to would not be in position to hear an appeal from them. In this situation it appears to me that the first step should be taken by the physicians referred to regarding other hospitals, including railroad hospitals. The situation is somewhat different, and while it is being dealt with as judiciously as possible, I do not know that a solution of their case would materially affect the situation in which Trinity Hospital finds itself."

By Mr. Leahy:

Q.—Doctor, in the letter dated Sept. 16, 1935, and numbered 249, from Trinity Hospital to you, Dr. Scarborough states:

"Replying to your inquiry of the 9th I wish to confirm the report that Trinity Hospital is engaged in contract practice."

Was it the fact that Trinity Hospital was engaged in contract practice that you were calling for information in connection with, from Dr. Scarborough? A.—No, sir.

Mr. Lewin:—I think this is not a subject for leading. He has already suggested the answer.

By Mr. Leahy:

Q.—What was the reason why you were seeking information if it was not in reference to contract practice? A.—It was to determine whether or not these men had violated the rules of conduct of the Medical Society.

Q.—With reference to what? A.—With reference to the house-to-house solicitation of patients and canvassing for business and other things that had been reported in the memorandum which we had.

Q.—Has the American Medical Association ever taken any attitude with reference to contract practice? A.—Not contract practice per se.

Q.—Has your Council ever taken any attitude or fixed any policy with reference to hospitals that conduct contract practice? A.—Not at all.

Q.—Is there any policy in force or was there any in force in 1935 which would cause the removal from the register of any hospital engaged in contract practice? A.—No, sir.

Q.—Or with reference to a physician who was practicing in contract practice? A.—No, sir.

Q.—Did you yourself engage in contract practice while you were practicing? A.—I did.

Q.—And you maintained your membership, did you, in the American Medical Association? A.—Yes, sir.

Q.—Doctor, I think there was also introduced a series of letters between your office and a hospital in Milwaukee, Mount Sinai Hospital. Do you happen to have a reference to the numbers of those letters with you so that we can quickly gather those letters from the exhibits? Here is No. 232. I show you a copy of a letter and ask you if you sent the original of that to the party to whom it is addressed? A.—Yes, sir.

Q.—What information did you have, Doctor, at the time you wrote that letter? A.—The letter says that:

"It has come to my attention through correspondence with the Medical Society of Milwaukee that certain physicians have been expelled from that Society through participation in an organization known as Milwaukee Medical Center. It is also reported that certain of these same individuals continue as members of your attending staff with hospital privileges."

I do not recall at this moment anything more than is stated in that letter.

Q.—Then you called attention to the Mundt Resolution? A.—Yes, sir.

Q.—And you asked the question, "What possibility, if any, exists for observance of the principle laid down in this resolution?" A.—Yes, sir.

Q.—Did you receive a reply to that letter; do you recall? A.—I think I did. We had rather a long correspondence.

Q.—That was a letter which you received dated July 30, and you received it on July 31? A.—Yes, sir.

Q.—(Reading)

"This letter will acknowledge with thanks your inquiry of July 17, 1936, in regard to the controversy between the Milwaukee County Medical Society and the members of the Milwaukee Medical Center. Mount Sinai Hospital has been forced, because of fear of itself being involved in legal complications, to take the stand that until this matter is adjudicated it is deemed advisable to take no drastic action.
"With kindest personal regards."

Did you wait until the matter was adjudicated before you took up further the question of these expelled members? A.—We had some further correspondence during the interim.

Q.—And you awaited information from them, did you, until you had further correspondence? A.—The next correspondence was on October 24.

Q.—From July 30 to October 24? A.—Yes, sir.

Q.—(Reading):

"In continuation of our previous correspondence about qualifications for staff membership in Mount Sinai Hospital, we have been informed that the Council of the Wisconsin State Medical Society has upheld the action of the Milwaukee County Medical Society in expelling certain physicians for unethical behavior. How does this action affect Mount Sinai Hospital? Are all members of the staff in good standing with the Milwaukee County Medical Society or eligible for membership in that society?"

Did you have any personal knowledge or engage in any way personally, Doctor, in any of the proceedings of the Milwaukee County Medical Society? A.—No, sir.

Q.—Or the Wisconsin State Medical Society? A.—No, sir.
Q.—When did you receive a reply, if any, to the letter of Oct. 24, 1936? A.—I think the reply was dated the 30th of October, and it is numbered 245.

Q.—I now show you No. 245 and ask you if that is the letter to which you refer? A.—It is.

Q.—And that says it acknowledges the "receipt of your letter of the 24th. I beg to inform you that the situation at Mount Sinai Hospital is still in status quo." A.—Yes.

Q.—Was there any further correspondence following the receipt of that letter? A.—Well, about a month later, that is, November 27, I wrote again. That is numbered 234.

Q.—Is this your letter, numbered 234 and dated November 27 (handing a letter to the witness)? A.—Yes, sir.

Q.—(Reading):

"We have now received word from all hospitals in Milwaukee concerning the status of certain physicians recently expelled from the Milwaukee County Medical Society. This matter will be reviewed by the Council at its next regular meeting in February, following which we will be in position to acquaint you with any further action or recommendation. However, if any changes occur in the situation of Mount Sinai Hospital we will be very glad to have you keep us advised."

Which Council are you referring to where in the second paragraph you say, "This matter will be reviewed by the Council"? A.—The Council on Medical Education of the American Medical Association.

Q.—Is it the Council on Medical Education or the Judicial Council? A.—I think that was the Council on Medical Education.

Q.—And that is the February meeting which you spoke about this morning? A.—Yes, sir.

Q.—Was any action taken by your Council in the interim while this matter was still in process of adjudication? A.—No, sir.

Q.—Do you recall when you next took it up or when you next heard from Mount Sinai? A.—The next letter, so far as I know, was in October of 1937.

Q.—And from whom did you receive that letter? A.—It was a letter from Thompson saying, in substance, that he had heard nothing.

Q.—I now show you No. 216 and ask you if that is the letter you refer to, dated Oct. 22, 1937? A.—Yes, sir.

Q.—(Reading):

"Considerable time has elapsed since I communicated with you in regard to the status of the men associated with the Milwaukee Health Center. These men were expelled over a year and a half ago and at that time you wrote me to ascertain the attitude to Mount Sinai Hospital, which letter I answered under date of July 30, 1936. We have heard nothing definite in regard to this matter since that date, and we are anxious to know where the matter stands at the present time. Has the action of our County Medical Society been upheld by the American Medical Association? If not, when will action be taken? Mount Sinai Hospital has always been and, I hope, will always be cooperative with organized medicine, and where we can be of assistance to the County Medical Society we do not hesitate to render such assistance. In fact, I have on my desk at the present time a letter from the secretary of the County Medical Society thanking the hospital for its participation in a pre-school round-up. As I explained in the previous correspondence we have withheld decision in regard to physicians from the Milwaukee Health Center pending action by the American Medical Association.

"I hope to be in Chicago on Tuesday, October 26, and would like to have the opportunity of discussing this matter with you."

Do you know whether Dr. Thompson came to Chicago on Oct. 26, 1937? A.—I do not know.

Q.—I show you No. 217 and ask you if that is your letter to Dr. Thompson? A.—That is correct.

Q.—That letter is dated Nov. 3, 1937, and states that:

"The matters about which you inquire are still under discussion by the Judicial Council of the American Medical Association. As soon as a decision has been reached we shall be sure to apprise you of the fact."

Do you recall whether you later did apprise Dr. Thompson of the fact of the decision of the Judicial Council of the American Medical Association? A.—We did.

Q.—Was that the next letter in the line of correspondence? A.—No. The next one was when Dr. Thompson wrote on the 6th of April, 1938, No. 206.

Q.—I now show you No. 206 and ask you if that is the next letter in the chain of correspondence? A.—Yes, sir.

Q.—It is directed to you and dated April 6, 1938:

"I am writing you to ascertain whether or not there has been any change in the situation concerning compulsory County Medical Society membership on approved voluntary hospital staffs. It has been several months since any correspondence has passed between us, and since we are vitally interested in this matter I would appreciate hearing from you in regard to it."

Do you recall to what Dr. Thompson refers when he says:

"I am writing you to ascertain whether or not there has been any change in the situation concerning compulsory County Medical Society membership?"

A.—I think he was awaiting the decision from the Judicial Council.

Q.—Do you know what the rule of the County Medical Society was, the Milwaukee County Medical Society, with reference to membership on staffs of hospitals of Milwaukee County? A.—No; I do not.

Q.—Were you concerned in any way about it? A.—No, sir.

Q.—This correspondence had now been going on for a long time? A.—Since the summer of 1936.

Q.—Is that your letter (handing a paper to the witness)? A.—Yes, sir.

Q.—It is dated April 13, 1938, and numbered 207:

"We have recently been informed that the Judicial Council of the American Medical Association has sustained the action of the Milwaukee County Medical Society in the matter of certain physicians recently expelled from Society membership. Accordingly we shall be anxious to know what action Mount Sinai Hospital is taking."

Was Mount Sinai a hospital which was approved for intern training? A.—It was.

Q.—Was it also approved for residencies? A.—I don't remember, but I doubt it.

Q.—Was there any further correspondence after April 1938? A.—Yes, sir. On the 15th of April Dr. Thompson replied with No. 208.

Q.—I now show you No. 208 on the stationery of Mount Sinai Hospital of Milwaukee, a letter dated April 15, 1938. Is that the letter you refer to? A.—Yes, sir.

Q.—(Reading):

"Thank you for your letter of April 13. I note that you referred to the resolution of the House of Delegates pertaining to staff appointments in hospitals approved for intern training. In checking our correspondence I note under date of July 17, 1936, you wrote as follows:

"May we call your attention to the recent resolution passed by the House of Delegates of the American Medical Association as follows:"—

Quoting the Mundt Resolution.

"I note particularly that this resolution, passed by the House of Delegates, was referred to the Council on Medical Education and Hospitals. We are wondering whether or not the Council on Medical Education and Hospitals has taken any definite stand regarding this matter. I would appreciate receiving this information as soon as possible in order that I may present the whole matter to the staff at its next regular meeting."

Doctor, had the Council on Medical Education and Hospitals ever taken any other stand than what you have already told us about with reference to the Mundt Resolution? A.—No other stand.

Q.—Did you reply to that letter or cause a letter to be sent? A.—The next letter in this series of correspondence was written by one of the members of my staff on May 5. It is numbered 211.

Q.—I now show you No. 211 and ask you if that is the letter you refer to? A.—Yes, sir.

Q.—You say that Dr. Arestad was then on your staff? A.—Yes.

Q.—How long had he been on your staff in May of 1938? A.—Altogether, he had been on the staff more than ten years. He was with the Council for two or three years, and then he developed an illness which caused him to leave the Council, and then after a couple of years he got better and he came back again and he has been continuously on the staff since.

Q.—I ask you if this letter which has just been identified by you truly expresses the attitude of the Council on medical schools and hospitals? A.—It does.

Q.—It is dated May 5, 1938, addressed to Dr. Thompson, Superintendent of Mount Sinai Hospital, and reads as follows:

"In the absence of Dr. William D. Cutter I have been requested to reply to your letter of April 15.

"May I say, first of all, that the American Medical Association does not have, nor does it assume, legal authority over any hospital, and consequently does not presume to dictate how hospitals should conduct their affairs. If, however, a hospital desires the endorsement of the Council it should be willing to comply with the principles which the American Medical Association considers necessary. One of the basic requirements is that the medical staff should be composed of regular physicians properly qualified as to training, licensure, and ethical standards. When a hospital, therefore, employs physicians expelled from County Medical Society membership on the basis of unethical conduct, it is obvious that the hospital's standing is involved not only from the point of view of intern training, but also as regards basic registration. We are anxious, therefore, to be notified of any action taken by your Executive Board."

Now, Doctor, did you receive any reply to that letter? A.—Not until after we had written to him again.

Q.—When did you write to them again about it? A.—On the 14th of July. The letter is numbered 205.

Q.—Do you recall who wrote that letter? A.—I think I wrote that, myself.

Q.—I now show you No. 205, dated July 14, 1938, and ask you if you wrote that? A.—Yes, sir.

Q.—(Reading):

"In view of the fact that we have received no reply to our letter of May 5 and no notification of any action taken with respect to employment of physicians expelled from the County Medical Society, we wish to inform you that we are recommending to the Council that Mount Sinai Hospital be removed from the approved intern list and also from the register of the American Medical Association."

Q.—Was there a further letter? A.—There was a further letter, but in the interval before I received that letter I had a telephone conversation with Dr. Thompson.

Q.—Then did you receive a letter from him following the telephone conversation? A.—Following the telephone conversation I wrote him a letter on the 20th, and he wrote me one on the 21st.

Q.—I will now show you, first, the letter you wrote him on the 20th, which is U. S. Exhibit 212. I will ask you if that is the letter you referred to when you said you wrote him on the 20th? A.—Yes, sir.

Q.—That letter says:

"With reference to your recent telephone inquiry, we wish to state that in our opinion the action taken by the County Medical Society in expelling physicians for unethical practice constitutes a censure of other doctors participating in the same enterprise."

Did you receive a reply to that? A.—Yes, sir.

Q.—I now show you No. 213. Is this the letter you referred to, which is dated July 21, 1938? A.—Yes, sir.

Q.—And that letter reads:

"This will inform you that on recommendation of the Executive Committee of the staff of Mount Sinai Hospital and ratification by the Board of Directors of the Mount Sinai Hospital, Drs. A. L. Curtin and H. F. Walters were removed from the active staff of Mount Sinai Hospital and courtesy privileges were withdrawn from these two men" as well as from two others, "in accord with your letter dated July 20 and the telephone conversation had with you on Friday, July 15, 1938."

Did that close the correspondence? A.—I think there was one more letter on the 31st of July, No. 214.

Q.—I now show you No. 214. Is that the letter you refer to? A.—Yes, sir.

Q.—(Reading):

"To supplement our letter of July 21 and to conform with your letter of July 20 we wish to inform you that Dr. B. B. Oberembt has been removed from the courtesy staff of Mount Sinai Hospital and courtesy privileges withdrawn."

In one of your letters which we have just read you stated to Dr. Thompson that you had heard from the other hospitals in Milwaukee. Do you know whether or not the other hospitals in Milwaukee had dropped these doctors from their staffs who were retained by Mount Sinai? A.—They had, because we received from each of them a list of their staff in connection with their information which they sent in for the maintenance of our register, and on looking over the lists we found that the names of these men no longer appeared.

Q.—Were those names dropped from the staffs of the other hospitals in Milwaukee in pursuance of anything which your Council had done? A.—No, sir.

Q.—So far as your information is concerned, it was the voluntary act of the hospitals themselves in Milwaukee? A.—So far as we knew.

Q.—What was the only hospital in Milwaukee which retained the five expelled members on its staff? A.—Mount Sinai.

Q.—Did you yourself have any personal knowledge with reference to the charges or anything of that sort upon which the doctors had been disciplined in their own Medical Society? A.—No, sir.

Q.—Did that have anything whatsoever to do, the action on your part or on the part of the Judicial Council, with the Mundt Resolution? A.—No, sir.

Q.—By the way: what authority have you alone to act with reference to registrations on the hospital register? A.—None at all.

Q.—In whom lies authority to that end? A.—With the Council.

Q.—And before any action could be taken with reference to Mount Sinai Hospital who must pass upon it? A.—The Council.

Q.—By what sort of a vote? A.—As a rule they did not take a ballot, but somebody would make a motion and the motion would be unanimously adopted. We rarely had divided decisions.

Q.—There is a question which I forgot to ask you with reference to the Mundt Resolution in the Washington hospitals. Was the Mundt Resolution drawn to the attention of the other hospitals in Washington which were not examined in 1937? A.—No, sir.

Q.—There was also, I think, a series of two or three letters which were introduced with reference to a doctor in Syracuse, was there not? A.—In Rochester.

Q.—Was his name Parnall? A.—It was.

Q.—Have you the numbers of those letters there now? A.—246, 254 and 255.

Q.—What was the occasion of the letters to Dr. Parnall? A.—It was the usual thing.

Q.—See if this is another one, Doctor, while I am looking for the others, please (handing a paper to the witness). Do you identify one of those? A.—Yes.

Q.—That is dated what? A.—Dec. 1, 1936.

Q.—At that time do you recall whether or not any examination had been made of a hospital in which Dr. Parnall was interested? A.—The examination had been made some time before, and the letter had been sent to him in September. This refers back to the letter of September to which we had had no reply.

Q.—Was this the letter which you wrote to Dr. Parnall following the letter which you had written to him earlier, as you stated? A.—Exactly.

Q.—Did that express the attitude of the Council toward the Mundt Resolution? A.—It did.

Q.—And its adoption by hospitals? A.—Yes, sir.

Q.—(Reading)

"We wrote you on September 8 calling your attention to a recent resolution passed by the House of Delegates of the American Medical Association, as follows:—"

Then follows the resolution. I will not take the time to read it.

"Our analysis of the recently submitted staff list was quoted in the inspection report which was sent to you at the same time. We are anxious to learn from approved hospitals as to whether they are in general agreement with the principle laid down in this resolution and would be pleased to have your comments in the matter."

Did he give you his comments about the Mundt Resolution?
A.—Yes, sir.

Q.—Is that identified as No. 254 and the date as December 17? A.—Yes, sir.

Q.—In reply to that Dr. Parnall wrote:

"Relative to the resolution of the House of Delegates favoring a rule by the Council on Medical Education and Hospitals limiting membership on a hospital staff to members in good standing in local county societies, I am in somewhat of a quandary as to just what to say. Personally I feel that members of hospital staffs should be members of their local County Societies. However, I do not believe in any inflexible rule setting up such a standard of eligibility. I suggested to our Board of Directors a change in the by-laws with respect to staff appointments requiring that unless otherwise voted by the Medical Board no physician would be eligible unless he is a member in good standing of the County Medical Society.

"When this proposal was referred to the Medical Board for an opinion I was rather surprised to find that its members, all members of the County Medical Society, were unanimously against it. Their feeling was that the County Medical Society should stand on its own merits and that it should offer enough of itself so that practically every member of a hospital staff should seek membership and that anything that savored of compulsion would subject medicine to the same thing that arouses the resentment of doctors to the actions and attitudes of nonmedical organizations. It was pointed out that only a small percentage of the staff were not members of the County Society and that most of this group were younger men most of whom will shortly join the Medical Society.

"I am sending you a list of staff members for the hospital year 1935-1936."

He says that there are 128 members, 118 of whom are members of the County Society, leaving 10 or 8 per cent who are not.

"Even of the honorary inactive staff of 7 members, all but one being over 75 years of age, there is only one who is not a member of the County Society. The only two who are not members of the County Society are the Professor of Bacteriology at the University and a bacteriologist who is not an M.D. Our staff represents practically one fourth of the active membership in the County Society. In this membership are the president of the New York State Medical Society, the president, the president-elect, and the secretary of the Medical Society of the County of Monroe. I personally have been a member of the American Medical Association continuously for over thirty years and two of my sons are members of County Societies. Under the circumstances, as far as control of organized medicine is concerned, could the House of Delegates very well hold that the Rochester General is an unfit place for the training of interns?"

Now, Doctor, when you and your Council were advised that there were ten members on the staff of the General Hospital of Rochester who were not members of the local medical society, what action, if any, did you take to compel the Rochester General Hospital to adopt the Mundt Resolution? A.—None at all.

Q.—Has your Council, or have you personally, ever taken any compulsory proceeding against any hospital in the United States on the Mundt Resolution? A.—No, sir.

Q.—Did you reply to that letter of December 1? A.—There was a reply sent from my office.

Q.—Is this the reply which was sent from your office (handing a paper to the witness)? A.—Yes.

Q.—It is dated Dec. 21, 1936, and says:

"In response to your letter of December 17 let me express my appreciation of your information and your comments on the affiliation of your staff members with your medical society.

"The intention behind the resolution was to smoke out from the staffs of some hospitals certain men who were regarded as objectionable and whom the hospitals felt a delicacy in removing. I notice that your staff enjoys a very favorable position in regard to the support of your professional organization, and that apparently any object which the Council might have had in view has already been anticipated."

Did that close the correspondence? A.—It did.

Q.—Has any action ever been taken by your Council with reference to the Rochester General Hospital because of the fact that they had nonmembers on the staff? A.—No, sir.

Mr. Leahy:—May we approach the bench for just a moment, your Honor?

THE COURT:—Yes.

(Mr. Leahy and Mr. Lewin approached the bench and conferred with the court in a low tone of voice.)

Mr. Leahy:—Doctor, I would like to put on a witness for just a few moments in order to identify some documents. (The witness left the stand and took a seat in the court room.)

TESTIMONY OF SENATOR PAT McCARRAN

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Senator McCarran, you are one witness whom we will not have to ask your full name. Were you subpoenaed to produce certain documents here? A.—I was.

Q.—Have you those documents here, Senator? A.—I have, in part. I was subpoenaed to produce a certain original letter, which original letter I did receive and have in my possession, but which, after a very thorough search of my files, I am unable to find. I can explain the absence of it if you wish the explanation.

Q.—You have made a thorough search for it and cannot find the original? A.—That is correct.

Q.—Do you have a copy which you know to be a true and correct copy? A.—I have.

Q.—Have you produced that, Senator? A.—I have it here. I have here a copy which I know to be a correct copy of a letter received by me as a member of the Committee on Appropriations of the United States Senate, signed by R. M. Elliott, Acting Comptroller General of the United States, of date Dec. 16, 1937, pursuant to my letter to him, a copy of which I also present here of date Dec. 1, 1937.

Q.—Does the letter of December 16, Senator, have with it the exhibits? A.—Yes, sir; following the letters of the alphabet from A to P, inclusive, as I recall it. (After examining documents) Yes; that is correct.

Q.—Do you identify, Senator, the exhibits A to P, inclusive, as correct copies of the exhibits which were attached to the original letter? A.—My recollection is that these are the exhibits that were attached to the letter. If they are not, then they are correct copies. The letter which I gave you from Mr. Elliott is a correct copy attached to my letter of Dec. 1, 1937.

Q.—So that if I place all of these within the elastic here that will constitute a correct copy of the letter and either the original exhibits attached thereto or correct copies thereof? A.—That is correct.

Q.—Were you asked also to produce any further letters, Senator? A.—I think I was asked to produce a letter from Mr. John H. Fahey, Chairman of the Federal Home Loan Bank Board, of date Dec. 3, 1937.

Q.—Do you so produce that? A.—I produce the original letter now.

Q.—Were you asked for any other letter also? A.—The letter to which I have just referred, as of date Dec. 3, 1937, was addressed to me and signed by Mr. Fahey; and I have here also a letter of Sept. 22, 1937, addressed to me on the stationery of the Federal Home Loan Bank Board in Washington signed by Howard Acton, Director of Public Relations.

Q.—Thank you, Senator. Now, could you also identify for us now, please, the two documents which I now show you?

A.—I identify this document (indicating) bound in a loose binding here. I have brought with me an identical document which is a copy of the hearings before the Subcommittee of the Committee on Appropriations of the United States Senate, 75th Congress, 3d Session, on H. R. 8837.

Q.—And you identify that, Senator, as the official copy? A.—I identify it as a copy of the hearings conducted before the subcommittee on the bill then under consideration, which was H. R. 8837, at which certain testimony was taken.

Q.—Could you now identify the document I hand you, Senator? A.—I identify this document, of date Jan. 6, 1938, as a copy of the report on H. R. 8837, which report was made by Congressman Woodrum of the House Committee on Appropriations, and a copy of which is always furnished to the Appropriations Committee of the Senate, to each member. And this is a correct copy of those hearings.

Mr. Leahy:—May these be given appropriate numbers for identification purposes?

By Mr. Leahy:

Q.—Senator, would you be kind enough to permit us to keep these in the custody of the Clerk of the Court? A.—Certainly.

Q.—Thank you. A.—When this matter is concluded, in order that my files may be complete, I would ask that the letters might be returned, and the copy of the hearings, so that I may keep my files complete.

Mr. Leahy:—They will be returned to you, Senator. Thank you very much.

Mr. Lewin:—No questions.

Mr. Leahy:—Thank you, Senator. I appreciate your coming.

TESTIMONY OF DR. WILLIAM DICK CUTTER

CROSS EXAMINATION

By Mr. Lewin:

Q.—Are you employed on a full time basis with the American Medical Association, Doctor? A.—Yes, sir.

Q.—How long did you say you had been employed on that basis? A.—Since the first of December, 1931.

Q.—And during that time how have you been compensated? A.—By a salary paid monthly.

Q.—I think you testified that before you made that association you had engaged at times in contract practice? A.—Yes, sir.

Q.—Who was the party with whom you contracted? A.—The Copper Queen Consolidated Mining Company.

Q.—How long were you associated with that company under a contract? A.—Four years, 1906 to 1910.

Q.—What were your duties? A.—To look after the employees of the mining company. Q.—How were you compensated there? A.—Partly by salary and partly by fees from private practice.

Q.—But you were actually rendering medical service to employees and being paid for it by salary? A.—Yes, sir.

Q.—Did you regard that connection or salary as unethical practice on your part? A.—No, sir.

Q.—Was it ever challenged as being unethical? A.—No, sir.

Q.—Did you have any other contract to practice during your career except that? A.—No, sir.

Q.—Were you ever a physician for a railroad? A.—I was a physician for New York Central railroad for about one year.

Q.—What was your arrangement with the New York Central? A.—I had no compensation except an annual pass.

Q.—Was the taking of that emolument for your service regarded as unethical practice? A.—No, sir.

Q.—Was it ever challenged on that ground? A.—No, sir.

Q.—When you worked for the mining company on a salary and rendered medical service to the employees, would it be fair to characterize that as selling your professional service for resale to those employees? A.—Well, I don't know whether it would be applicable or not.

Q.—You remember that characterization that your colleague, Dr. Woodward, put on Group Health Association doctors, do you not? A.—I can recall it now.

Q.—As a matter of fact, might not your employment with that mining company be so characterized? A.—I am not sure whether it could or not. The employees paid a certain fee which the company collected and paid us out of that. Whether they acted as a resale agent or not I could not tell you.

Q.—So your thought would be that that sale of medical services for resale is not unethical; is that right? A.—I would agree that all forms of contract practice are not necessarily unethical.

Q.—Would you say that the approval which the A. M. A. gives hospitals for the teaching of residents is a valuable thing to the hospital which gets such approval? A.—Yes.

Q.—Would you say it was extremely valuable to the hospital? A.—No.

Q.—Would you say that the approval of the A. M. A. for intern training was valuable to the hospital? A.—Yes.

Q.—Would you say that was extremely valuable? A.—No.

Q.—Not extremely valuable? A.—No.

Q.—Would you say that registration of hospitals was valuable to the hospitals? A.—Yes.

Q.—In what way is registration valuable to a hospital? A.—It simply means that people who want to get information about a hospital can get it by turning to our register.

Q.—People are more likely to go to a registered hospital than to an unregistered one? A.—Probably.

Q.—And therefore the hospital is likely to enjoy more business? A.—Yes.

Q.—And get more income from the patients who take its service? A.—Probably.

Q.—What is the value of the approval of a hospital for internship? A.—It is this, that if the hospital is known to render a good course of instruction to its interns by reason of its being on our list, it is easy to get interns. Good interns will apply; and they will accept internship in those hospitals without any compensation other than their maintenance. If they are not getting good instruction they would have to be paid in cash.

Q.—Any hospital has a substantial financial interest in getting approval for intern training from you and your council? A.—Well, it is a financial interest but not a very big one.

Q.—Well, it would mean without your approval it would have to employ house doctors on salary, wouldn't it? A.—Yes.

Q.—But with your approval it is able to attract bright medical students to work for very little? A.—Quite so.

Q.—And in return these interns would perform a valuable service to the hospital, would they not? A.—Yes.

Q.—Now, does the hospital get anything by way of prestige in obtaining approval for interns from you? A.—Well, that is a rather indefinite quality. It doesn't do them any harm.

Q.—No. And conversely, a hospital which loses your approval suffers substantially in prestige, doesn't it, wouldn't you say? A.—Not necessarily. There are too many good hospitals that don't have our approval to make that true.

Q.—Yes, but if a hospital once has your approval and then you withdraw it, doesn't that bring about a loss of prestige? A.—Not necessarily.

Q.—But wouldn't it give that hospital something of a black eye? A.—No. The hospitals of the United States Army have frequently been approved for the training of interns. Sometimes when they haven't appropriations for interns we have to withdraw our approval simply because they are not hiring interns, and that doesn't affect their prestige in any way, shape or manner.

Q.—It depends on the grounds for which the approval is withdrawn? A.—Yes.

Q.—But if the approval is withdrawn because the American Medical Association chooses to characterize some of the members of the hospital staffs as unethical, you would say that would give it a black eye, would it not? A.—No, I wouldn't say so.

Q.—Well, on what do you think the withdrawal of approval would affect the prestige of the hospital? A.—Well, if the hospital was not giving good service to its patients then it would affect the prestige of that institution, the withdrawal of the approval of the American Medical Association and its council, for if that has any validity at all, it is based on the confidence of the public, and that confidence is built on the fact that it is based on the public interest.

Q.—Well, don't you think the public might stop with the word "unethical," and not look behind it to see what you gentlemen meant by that term, and suppose there is some moral wrong? A.—Well, the reasons for withdrawal are not published, so the public wouldn't have any knowledge of that.

Q.—The medical profession would have knowledge, wouldn't it? A.—No, sir.

Q.—Wouldn't you say Mount Sinai Hospital would have received a loss of prestige because they had these doctors who were expelled from the Milwaukee County Medical Society? A.—Well, I don't think it would have.

Q.—You don't think it would have suffered any loss of prestige? A.—No, sir.

Q.—Didn't you have an article in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION entitled "Hospital Service in the United States," published March 11, 1939? A.—Yes, sir.

Q.—And in that article didn't you say "It is considered a disgrace among hospitals to be refused registration, and institutions that are rejected are frequently aroused." A.—I don't remember saying it, but if it is in that article—

Q.—Is it true? Is it true that loss of registration might well be regarded as a disgrace for the hospital? A.—That is a refusal of registration.

Q.—All right. Would the same thing apply to withdrawal? A.—Well, it would depend upon the grounds on which the withdrawal was based.

Q.—Suppose the grounds are not known. You see, the public doesn't usually know the grounds. Might it not assume there was really some valid moral grounds for withdrawing this approval? A.—Well, I think that the public would probably assume that there was some reason.

Q.—As a matter of fact don't you know, Dr. Cutter, that most of the hospitals desire your registration and your approval for intern training and for residencies very much indeed? A.—I think that is true.

Q.—Do you remember the letter you got from Sister Rodriguez here in Washington saying that withdrawal of the approval for intern training school would be a dire catastrophe? A.—I think she overstated the case.

Q.—Well, you have, in general, in the minds of hospital superintendents, that thought, don't you? A.—Well, I don't think it is as strong as that.

Q.—By reason of your power—and I am speaking now of the power of your Council to withdraw this registration, these approvals, you are able to get the hospitals to do certain things, are you not? A.—Well, as long as the things we ask them to do are reasonable.

Q.—For instance, you were able, were you not, to get the Mount Sinai Hospital to deny courtesy staff privileges to a group of doctors. Is that right? A.—That is what they did.

Q.—And you got that easily by invoking the Mundt Resolution, did you not? A.—No, not by the Mundt Resolution.

Q.—Didn't your first letter to Mount Sinai Hospital approach the problem on that basis? A.—The first letter did. But the final letter which told them they would be recommended for withdrawal was based on the essentials for a registered hospital.

Q.—Isn't it true that your Council had a meeting on Feb. 13, 1937, at which you were present, and at which this Mount Sinai approval was discussed, and isn't it true that at that meeting the following occurred:

"Members of the staff expelled from Medical Society of Milwaukee County on charge of running an unethical clinic. Order expelling applicants from membership confirmed by the Wisconsin State Medical Society."

"If an appeal has been made to the Judicial Council, it was recommended that action regarding the removal of Mt. Sinai Hospital from the list of hospitals approved for intern training be withheld pending decision by Judicial Council."

"If no appeal has been made, the Secretary was instructed to write the hospital advising approval would be withdrawn unless they conform to the requirement regarding staff membership."

Is that what transpired? A.—It is.

Q.—And didn't you have in mind the requirements of the Mundt Resolution? A.—No, we had in mind the requirements for registered hospitals.

Q.—Well, this is approval for intern training, is it? A.—Approval for intern training is automatically removed if a hospital is off the register.

Q.—But didn't the Mundt Resolution lay down as an approval for intern training that very thing? A.—No. It did not. It stated it should take it under advisement.

Q.—And didn't you so construe that? A.—We construed it meant we should encourage hospitals to follow that spirit of the resolution.

Q.—And you did embark on a practice of trying to get the hospitals to conform to that resolution? A.—We embarked on a practice of sending that to the hospitals for their approval.

Q.—And if they didn't answer if you followed it up and still demanded to know what they were going to do about it? A.—We followed it up and asked them what they were going to do about it.

Q.—And when they denied it, you followed it up with withdrawal of approval, didn't you? A.—No, sir.

Q.—That is what you did in the Milwaukee case, wasn't it? A.—There was a different factor involved there.

Q.—You followed the proceedings of the local Council in that Curtin case, didn't you? A.—I didn't follow the proceedings of the local Council at all.

Q.—Wasn't this your letter of October 1938 to Mt. Sinai Hospital:

"We have been informed of the action of the Milwaukee Society in the matter of certain physicians recently expelled from Society Membership."

"Accordingly we shall be anxious to know what action Mt. Sinai Hospital is taking in respect to the resolution of the House of Delegates pertaining to staff appointments for hospitals approved for intern training."

A.—Yes, sir.

Q.—Did you mean the Mundt Resolution in that second paragraph? A.—That referred to the resolution, but the action wasn't taken on that basis.

Q.—The action was taken two months later, wasn't it, and was to withdraw the approval for intern training? A.—Yes, sir.

Q.—Didn't you know this, didn't you know that those Mt. Sinai doctors had been expelled solely because they were associated with this Milwaukee Medical Center? A.—I knew it was some such reason as that.

Q.—Well, now, you must have followed the proceedings. Haven't you? A.—No.

Q.—Haven't you seen this appeal to the Judicial Council on the grounds on which those doctors have been expelled? A.—No, I never saw that.

Q.—In other words, it didn't make any difference to you on what grounds? A.—It didn't make any difference to me if the Judicial Council affirmed the decision. That is all we were interested in.

Q.—No matter what grounds were used or what findings, if the A. M. A. expelled them, then it was your duty to smoke them out of the hospitals? A.—We weren't in position to make investigations and we had to accept the decisions of our own Judicial Council as true.

Q.—Isn't my statement true, no matter what the grounds were, once they were expelled by the local societies and that had been affirmed on appeal or no appeal had been taken, then it was your practice to invoke the Mundt Resolution and smoke them out of the hospital staffs? A.—It was our prac-

tice to invoke the essentials of a registered hospital, to inform the hospitals that they wouldn't be registered if those men continued on the staff.

Q.—Didn't you tell Dr. Parnall the purpose of the Mundt Resolution was to smoke out from the staffs certain men who were objectionable? A.—That letter went out from my office, but I didn't write it.

Q.—Aren't those your initials? A.—Those are my initials, but a good many letters were written there that I didn't see.

Q.—Don't you understand by that letter that that was the purpose? A.—Well, yes.

Q.—Your Council stated it was the purpose? A.—No.

Q.—You repudiate the statements then, do you? A.—Yes. As the principle of the Council, I would.

Q.—Who was it that wrote that letter, do you know? A.—Well, I can't say.

Q.—But you were certainly given responsibility for it. Do you permit them to put your initials on it when you don't dictate the letter? A.—We did that regularly.

Q.—Somebody was authorized to write that letter, weren't they? A.—Somebody wrote it.

Q.—Did you ever countermand that statement? A.—No, sir.

Q.—Did you ever write to Dr. Parnall and say you were wrong in that second paragraph? A.—No, because I had no knowledge of the letter.

Q.—This copy was retained in your files, wasn't it? A.—Yes, sir.

Q.—Let me show you Exhibit 207 and call your attention to the dictation initials.

You see on the bottom of that "W. D. C.," which are your initials, are they not? A.—Yes.

Q.—"K. H." are the initials of the stenographer. And "F. H. A." below that, those are the initials of the writer, are they not? And wasn't it the custom in your office for the writer to put his initials on below yours? A.—No, it wasn't the custom. One or two of the girls did it that way.

Q.—There is another one with "C. M. P." below yours. I am referring to 217. A.—Yes, sir.

Q.—But on this one that was sent to Dr. Parnall which is written in the first person, no such designation appears. A.—Well, it still remains true that I didn't dictate that letter.

Q.—You signed it, though, didn't you? A.—I am not sure of that. I may have.

Q.—And if you signed it, no doubt you read it over? A.—Well, not always.

Q.—Well as a matter of fact you did employ the Mundt Resolution in the Mount Sinai Hospital instance to smoke out Dr. Curtin and those other doctors who had been expelled from the Milwaukee Society because they were connected with a prepayment clinic, and only because of that, off of the courtesy staff of the Mount Sinai Hospital. Is that right? A.—No, sir. We relied upon the essentials of the registered hospitals when we recommended the action on that case.

Q.—And doesn't this correspondence with Mount Sinai Hospital show very clearly that you succeeded finally after that long correspondence in getting them to let Dr. Curtin and Dr. Ruth and these other doctors go? A.—Well it shows they did let them go.

Q.—And don't you think you had something to do with it? A.—Possibly.

Q.—And don't you think you were carrying out the Mundt Resolution when you did it? A.—I don't think we were basing it on the Mundt Resolution.

Q.—Now, was there any other agency that rated hospitals for intern training? A.—Not for intern training; no, sir.

Q.—The A. M. A. is the sole agency that does that in this country? A.—Yes.

Q.—Now isn't it true that you gave instructions to Dr. Peterson to inspect the five Washington hospitals after you received the letter from Major General Ireland calling attention to the H. O. L. C. medical service plan? A.—No, sir.

Q.—When did you first give Dr. Peterson his instructions? A.—I didn't give Dr. Peterson any instructions at all. I simply filed with him the applications we had received.

Q.—Doesn't Dr. Peterson work subject to your general directions? A.—Subject to my general directions he does, but he had practical control with respect to intern training in hospitals, and residencies.

Q.—Isn't it true that you wrote him to inspect these five hospitals after you got a letter from General Ireland? A.—No.

Q.—Didn't you testify that you first embarked on this program June 11, 1937? A.—No.

Q.—When did you first embark on this program? A.—I think the first was October 10 concerning these cases in which approval was wanted.

Q.—When did he first come to Washington that year to inspect these four hospitals? A.—The 11th of June, 1937.

Q.—And that was a few months after you received the Ireland letter? A.—It was.

Q.—And although the Ireland letter did not call specific attention to name Group Health Association, there was no doubt what the gentleman meant, from reading it? A.—Well, his letter was so brief and vague it didn't make clear what he was talking about.

Q.—Is this vague:

"The early part of the week a couple of men from the Home Owners' Loan Corporation visited the Surgeon General of the Army to say that they wanted to obtain the services of a doctor to look out for the health of their personnel, which incidentally is quite large. After the consultation, the Surgeon General asked Colonel Glenn Jones, a retired medical officer, to visit these people. After this visit which lasted for a period of two or three hours, Jones telephoned to the Surgeon General to the effect that this was nothing but an entering wedge to the establishment of state medicine and so far as he could make out the Twentieth Century Finance Corporation of New York City was going to pay the expenses of this so-called medical care for the personnel of the H. O. L. C. Needless to say, Jones and the Surgeon General are dropping it like a hot cake."

Now, you had all that information when Peterson came to Washington to inspect these five hospitals? A.—Yes.

Q.—And you thought enough of it to send copies of it to your colleague Dr. Woodward who was head of one Bureau and Dr. Leland who was the head of another Bureau? A.—Yes.

Q.—And you read the letter and knew the facts contained therein? A.—Yes, sir.

Q.—And isn't it true also that Peterson reported with regard to these five hospitals that these hospitals had on their staffs members who were not members of the A. M. A.? A.—That is true.

Q.—And so far as his report is concerned, it had been their practice to have doctors on their staffs who were not members of the District Medical Society, the local Society, of the A. M. A.? A.—Yes.

Q.—And you had read the reports and noted that fact because it was on that fact you called the attention of those hospitals to the Mundt Resolution. Isn't that so? A.—Well, those letters calling attention to the Mundt Resolution were letters that were written in a routine manner by Dr. Peterson, and he always tacked on that reference to the Mundt Resolution.

Q.—You always called attention to the Mundt Resolution when you found as a matter of fact that a hospital was not complying with the policy of the Mundt Resolution? A.—Yes, sir.

Q.—And your purpose of tacking it on was to call the hospital's attention to it, wasn't it? A.—Certainly.

Q.—In the hope you could get the hospital to comply with the Mundt Resolution? A.—To whatever extent it might be practicable.

Q.—And if it didn't comply then it would mean—it would deny courtesy staff privileges to any doctor, no matter how good a doctor he was, unless he joined up with your Society. Isn't that right? A.—No, sir, because the resolution does not anywhere state that every single member on the staff should be a member of the Society.

Q.—Well, doesn't it say that it is the opinion of the House of Delegates that physicians, plural, on the staffs of hospitals approved for intern training by the Council of Medical Education in Hospitals should be limited to members in good standing of their local county Medical Societies? It says that, doesn't it? A.—Yes, but it goes on and says something else.

Q.—And that House of Delegates likewise requests the Council on Medical Education to take this under advisement? A.—Yes.

Q.—Well it was the policy then? A.—It was merely a statement of opinion.

Q.—All right. It was a statement of opinion then, if you want to call it that, that the entire staff, the active staff and the courtesy staff of all these hospitals should be limited to members of your Society. Isn't that right? A.—That is what the opinion of the House of Delegates was.

Q.—And when you tried to get compliance with that opinion, it meant you were trying to get the hospitals to limit their entire staffs to members of your Society, and to kick off those staffs perfectly good, sound, ethical, upstanding, skilful doctors who didn't want to join your Society. Isn't that right? A.—No, sir.

Q.—And as a matter of fact isn't it true that as a result of your letters to those five hospitals in the summer of 1937 you did get those five hospitals substantially to promise you compliance with that restriction? A.—No, sir.

Q.—All right. Let us see if you didn't.

MARCH 11—MORNING

TESTIMONY OF WILLIAM DICK CUTTER

CROSS EXAMINATION (RESUMED)

By Mr. Lewin:

Q.—Dr. Cutter, I have had the opportunity of looking at the record of yesterday's proceedings, and I find that in response to questions from Mr. Leahy you testified as follows concerning the action which you or your council took with regard to the other hospitals in Milwaukee after you learned that those doctors headed by Dr. Curtin had been expelled from the local A. M. A. society in Milwaukee because of their connection with a prepayment clinic. Now, you were asked these questions—

Mr. Leahy (interposing):—I object to that. There is no evidence in this case of any prepayment clinic.

Mr. Lewin:—O, yes, there is, Mr. Leahy.

Mr. Kelleher:—The opinion of the Judicial Council which describes this plan in detail is in evidence.

THE COURT:—Regardless of that, put your question, Mr. Lewin.

By Mr. Lewin:

Q.—With regard to those doctors you were asked: "Were those names dropped from the staffs of the other hospitals in Milwaukee in pursuance of anything which your council had done?" And you answered: "No, sir."

Did you mean by that to say that you did nothing with regard to those other hospitals calculated to bring about their being dropped by these other hospitals? A.—No, sir.

Q.—That is your testimony? A.—Yes.

Q.—And you were asked: "So far as your information is concerned, it was the voluntary act of the hospitals themselves in Milwaukee?" And your answer: "So far as we knew." Did you mean by that to testify that you knew of nothing which you did which might have influenced the governing bodies of those other hospitals in dropping those expelled doctors? A.—Yes.

Q.—And you were asked: "What was the only hospital in Milwaukee which retained the five expelled members on its staff?" And you answered: "Mount Sinai." And: "Did you yourself have any personal knowledge with reference to the charges or anything of that sort upon which the doctors had been disciplined in their own medical society?" And you answered: "No, sir." Did you mean by that answer to say that you did not have access to the proceedings of the Judicial Council? Didn't you have the records of the Judicial Council before you? A.—I could have if I sought it, but I had no occasion for doing it and I did not seek it.

Q.—As a matter of fact, wasn't the opinion of the Judicial Council immediately transmitted to you? A.—It was merely a memorandum stating that the Judicial Council had upheld the action of the local society and the state society, but the reasons for that were not given.

Q.—Didn't that memorandum in your office contain the opinion of the Judicial Council? A.—No, only that paragraph that stated the action taken on these doctors who had been expelled was approved.

Q.—Didn't you know that these doctors had been expelled and their expulsion confirmed on the ground that they were connected with a prepayment clinic in Milwaukee? A.—I knew they were expelled from their society through participation in an organization deemed to be engaged in unethical practice; what the basis of its operation was I did not know.

Q.—And as a matter of fact, Doctor, I believe you testified that it would not influence your action in regard to Mount Sinai, whatever the cause had been for the expulsion of the doctors, is that correct? A.—That is correct.

Q.—If they had been expelled merely because they were connected with a prepayment clinic you would nevertheless have done what you did with reference to Mount Sinai? A.—We could not go behind the findings of the Judicial Council.

Q.—Now, let us see if I understand you. If the doctors who were expelled were perfectly skilful, able, professional men, that would not have influenced you with reference to your action at Mount Sinai? A.—I can only repeat: We could not go behind the decision of the Judicial Council.

Q.—If the head and front of their offense had simply been that they engaged in certain economic practices which the American Medical Association doesn't like, that would not have influenced you at all in connection with your action in so far as it concerned Mount Sinai?

Mr. Leahy:—I object to that. It is argumentative.

THE COURT:—I think the question perhaps would be all right except for the assumption which it contains.

Mr. Lewin:—I understand, your Honor.

By Mr. Lewin:

Q.—Did you know anything against these men in their professional standing in the community in which they practiced? A.—I was aware of the fact that they had been expelled from their local organization.

Q.—You knew nothing about their skill or professional ability? A.—No, sir.

Q.—Nothing about their morals? A.—No, sir.

Q.—Knew nothing about their professional relations with their patients? A.—No, sir.

Q.—So far as you know they were perfectly able, fine doctors, as good as yourself? A.—No, sir.

Q.—The only difference was that for their contract practice the Medical Association chose to expel them, but for your contract practice it chose to let you go on?

Mr. Leahy:—That is objected to.

THE COURT:—Yes. Objection sustained.

By Mr. Lewin:

Q.—Then you were asked this by Mr. Leahy: "Did that have anything whatsoever to do,"—speaking of your action with the hospitals—"the action on your part or on the part of the Judicial Council, with the Mundt Resolution?" And you answered: "No, sir." Now, did you mean by that that the action which you took with reference to Mount Sinai was not based on the Mundt Resolution? A.—Precisely.

Q.—And did you mean that the action which you took with reference to the other hospitals in Milwaukee in that connection was not based on the Mundt Resolution?

Mr. Leahy:—I object. There is no evidence here that there was any action taken against any other hospital.

THE COURT:—You mean by the American Medical Association?

Mr. Leahy:—Yes.

Mr. Lewin:—I will withdraw the question.

By Mr. Lewin:

Q.—Did you have any other authorization from the House of Delegates to tamper with the staffs of hospitals except the Mundt Resolution? A.—Yes.

Q.—What was that authority? A.—The one authorizing the registry of hospitals, which was approved by the House of Delegates and which stated the staff of any hospital that was registered should be controlled by ethical physicians.

Q.—And you took that to mean that the staffs of hospitals must be limited to those people that the American Medical Association calls ethical? A.—We took it to mean that it should be limited to those against whom there were no charges of unethical practice.

Q.—And by "unethical practice" you took it to mean any charges the American Medical Association might bring and your Judicial Council might approve against any doctor? A.—Yes.

Q.—And it was on that authority and under the Mundt Resolution that you proceeded against Mount Sinai? A.—Yes.

Mr. Leahy:—We object. He has just denied that the Mundt Resolution was the basis for the action, and now Mr. Lewin has incorporated and added the Mundt Resolution to this other. He said he invoked the registered hospitals regulations which had been adopted by the House of Delegates. Now you ask him if it wasn't on the basis of that and the Mundt Resolution.

THE COURT:—He said one of the letters had been based on the Mundt Resolution.

By Mr. Lewin:

Q.—But at any rate, acting for the American Medical Association, you did try to induce the Mount Sinai Hospital to kick these doctors off its staff, didn't you? A.—I wouldn't say that. May I speak?

Mr. Lewin:—Yes, you may explain your answer.

The Witness:—If you will read the letter of Dr. Halstead dated May 5, introduced in evidence yesterday, I think you will get a very clear statement of the Council's disposition.

By Mr. Lewin:

Q.—Didn't you take the same kind of action that you took toward Mount Sinai with the other hospitals in Milwaukee? A.—No, sir.

Q.—Now, I ask you, did you know Mr. Theodore Wiprud? A.—I knew who he was.

Q.—Isn't he the executive secretary of the District Medical Society and before that wasn't he the executive secretary of the Milwaukee Society? A.—Yes.

Q.—Didn't you have authority to write to Mr. Wiprud in regard to these doctors being on the staff of these hospitals in Milwaukee? A.—Yes; I think such a letter was sent.

Q.—Didn't you write:

"I should like to inquire (1) what are the names of the physicians who were recently expelled from your County Medical Society because of their connection with an organization fostering unethical practice, (2) have they made any appeal to the County Medical Society, (3) when was the action taken against them and how much time do they have in which they may make an appeal, (4) are they all, or any of them, and which ones, engaged in active service on the staff of either of the Milwaukee County hospitals.

"I would like details in this connection."

A.—I think that letter was sent from my office.

Q.—Didn't you want that information from Mr. Wiprud so you could approach the other Milwaukee hospitals in the same way as you had approached Mount Sinai? A.—We wanted the information and got it, but we didn't approach the other hospitals.

Q.—Didn't you seek that information so that you would be in a position to approach the other hospitals if they had retained these physicians on their staff? A.—We might have.

Q.—And if you had used it that way you would be using it to kick those doctors off those staffs, would you not? A.—That is not a fair statement.

Q.—You would have used it to induce those hospitals who were free, independent, private hospitals, free agencies, to take those doctors off their staff list under an implied threat that if they didn't you would withdraw their registration approval? A.—We stated in the letter to which I just referred that we did not pretend to tell any hospital, but if they voluntarily asked for the Council's approval they should be willing to follow the recommendation of the Council.

Q.—But, as a matter of fact, didn't you want to interfere with them and bring about the situation in Milwaukee where those doctors, for some reason which you say you do not know, could not go into any of the private hospitals in Milwaukee? A.—We didn't wish to bring about such a situation as that.

Q.—Didn't you want to bring about a situation where none of those doctors so expelled could go into any one of the registered hospitals in Milwaukee to practice their profession? A.—No, sir.

Q.—Didn't you want to induce those hospitals, if they had retained them on their staffs up to that time, to expel them from their staffs? A.—No, sir.

Q.—Why did you want this information you asked of Wiprud, then? A.—Because we wanted to know whether we should grant approval to those hospitals.

Q.—In other words, you were prepared to withdraw approval of any hospital which continued with these doctors? A.—Yes.

Q.—But if they got rid of them you would continue your approval of such institutions? A.—Yes.

Q.—Do you call that smoking out doctors from the staffs of those hospitals or not? A.—No.

Q.—Is this not the answer you got from Mr. Wiprud: I show you a photostatic copy of a letter dated July 3, 1936, and ask you if this is not his reply. (Handing document to witness.) This is in response to your letter? A.—I think so.

Q.—Does that contain the information which you sought? A.—Yes.

Mr. Lewin:

"Dear Dr. Cutter:

"I am pleased to reply to your letter of July the second, inquiring about the physicians recently expelled from the Society.

"(1) The doctors expelled for participating in what is known as the 'Milwaukee Medical Center' are A. L. Curtin, H. C. Dallwig, J. E. Rueth, G. A. Sullivan, H. F. Wolters.

"(2) They were expelled after several hearings before the Board of Directors of this Society. Their counsel made an appeal to the Council of the State Medical Society, which was heard last week.

"No action was taken because of the necessity of the individual members of the Council reading some 800 pages of testimony covering the hearings held here.

"(3) The action against these men was begun by this Society on Feb. 15, 1936, at a special meeting of our Board of Directors. Charges were preferred against the first three men on March 20, 1936, and they were given until March 27 to file their answers, and were heard on March 30th. Action against Dr. G. A. Sullivan was begun on March 2, 1936, and charges against him were heard on April 25, 1936. Action against Dr. H. F. Wolters was begun at the meeting of our Board of Directors on April 28, 1936; charges were preferred against him on June 3, and he was heard on June 5, 1936.

"(4) Some of the hospitals in Milwaukee County require that all physicians doing work in their institutions, regardless of whether they are staff members, must hold membership in the Medical Society. Others require that only members of their regular staffs be members of the Society.

"We understand that those physicians participating in the so-called Medical Center are at present working in St. Luke's, Mount Sinai and Misericordia hospitals. We have notified these hospitals that these doctors are no longer members of the Society. In the instance of Mount

Sinai, we have been informed that if the American Medical Association takes the position that the hospital will not be recognized for intern training they will not allow these physicians to continue working there.

"We have been advised that St. Joseph's Hospital has notified these men that they can no longer work there after July 15th because they are not members of the Medical Society.

"May I suggest, Dr. Cutter, that you have a talk with Dr. Rock Sleyster relative to this situation? He is entirely familiar with it. He sat in on one of our Board meetings when these men were first talked to about their project, and he heard the appeal to the State Society, also.

"Naturally, our Board is anxious that your Council support its stand against these physicians because of their unethical conduct."

By Mr. Lewin:

Q.—The pith of that letter is that here were doctors working on the staffs of these hospitals; some of them would be discharged by the hospitals because discharged from the medical society. Others had taken the position that the hospitals will not keep them on their staffs if your Council takes the position that such hospitals will not be recognized for intern training if they continued working there.

Mr. Leahy:—I object to that. The letter speaks for itself.

THE COURT:—Yes, I think so.

By Mr. Lewin:

Q.—Now, he wanted support for his stand and weren't you willing to give him support along those lines? A.—We stated to him what the policy of the Council would be.

Q.—By the way, opposite the names of these doctors on that letter appear certain items in handwriting. You see after the name "Dr. Curtin" you have the name "Misericordia, Attending Surgical Staff, Mount Sinai." That shows he was still on the staff of those hospitals in Milwaukee? A.—Yes.

Q.—After Dr. Wolters you have "Attending Staff, Mount Sinai"? A.—Yes.

Q.—And then some of the other doctors' affiliations you have indicated? A.—Yes.

Q.—Who wrote those notes: Were they done in your office? A.—I do not know.

Q.—In other words, wouldn't it be the duty of your office to check to see which ones of these doctors were connected with the Milwaukee hospitals? A.—They may have done that.

Q.—Wouldn't that be the natural thing? Wouldn't they have done that preparatory to your taking action in regard to the hospitals on whose staffs they appear? A.—They might have done so.

Q.—Didn't you write to Wiprud on July 9, 1936, thanking him for the information and saying that the Council on Medical Education and Hospitals "will, without question, adhere to the instructions of the House of Delegates in requiring that hospitals approved for intern training have on the staff only physicians that are members of the county medical society"? Didn't you say that? A.—I don't remember.

Q.—Isn't this a copy of your letter? A.—I think it is.

Q.—And in the paragraph I have read weren't you talking about the Mundt Resolution and not about registration? A.—About both of them.

Q.—Weren't you talking about intern training? A.—Yes.

Q.—Wasn't the Mundt Resolution directed to that? A.—That approval for such training was contingent on registration.

Q.—You weren't invoking the Mundt Resolution up to this point, at any rate? A.—Both of them.

Q.—Not alone this registration restriction? A.—That is right.

Q.—Did you say this, also:

"My impression is that the Council's action regarding Milwaukee hospitals should be held in abeyance pending the outcome of the appeal of the expelled physicians mentioned in your letter."

A.—Yes.

Q.—Were you talking about the other hospitals in addition to Mount Sinai? A.—Any hospital.

Q.—In other words you were preparing your guns for the other hospitals as well as Mount Sinai? A.—That refers to any hospital that might be involved.

Q.—Misericordia, St. Luke's, St. Joseph's, the Passavant and the rest of the hospitals, in addition to Mount Sinai? A.—Provided they continued to keep on their staffs men who were found by the Council to be guilty of unethical practice.

Q.—Did you write this letter of July 17, 1936 to Dr. Rock Sleyster (handing document to witness)? A.—I think so.

Q.—Didn't you say in that letter:

"I am enclosing a copy of a letter which is being sent to St. Luke's, Mount Sinai, and Misericordia hospitals, following receipt of your recent communication.

"We have used this same method with respect to quite a number of hospitals and the response has, in almost all instances, been completely satisfactory."

"We might add that in view of the monumental task associated with analyses of staffs, we have started by concentrating on the attending or voting staff, with the hope that when that situation is cleared up we can turn our attention to junior and courtesy groupings.

"Such results as we obtain through this and other methods will be communicated to you as promptly as possible."

Wasn't that Dr. Sleyster the gentleman whom Mr. Wiprud asked you to communicate with in regard to the Curtin case? A.—Yes.

Q.—And hadn't he written you with regard to the status of the other Milwaukee hospitals? A.—I presume this refers to some of the others.

Q.—On that basis? A.—Yes.

Q.—And didn't you enclose this in your letter to Dr. Sleyster, which was the letter you said you were going to send to those other hospitals, as well as Mount Sinai? A.—Yes.

Q.—And didn't you send this letter to the other hospitals as well as Mount Sinai? A.—I suppose so.

Q.—Is this changing your testimony a little from what you gave yesterday? A.—Yes.

Mr. Lewin:—This letter, which is a form letter, reads:

"It has come to our attention, through correspondence with the Medical Society of Milwaukee County, that certain physicians have been expelled from that society through participation in an organization known as 'Milwaukee Medical Center.' It is also reported that certain of these same individuals continue as members of your attending staff with hospital privileges.

"May we call your attention to the recent resolution passed by the House of Delegates of the American Medical Association, as follows:—"

By Mr. Lewin:

Q.—And then don't you quote the Mundt Resolution? And then don't you follow that up with:

"What possibility, if any, exists for observance of the principle laid down in this resolution?"

Did you say that? A.—Yes.

Q.—It is your testimony, then, that up to this point, with regard to these doctors, you were invoking the Mundt Resolution not only against Mount Sinai but against the other hospitals in Milwaukee? A.—Yes.

Q.—And you were going to do that because "this method had worked well in a great many other cases"? A.—Yes.

Q.—And that by doing so you were thus able to get hospitals to kick off doctors from their staffs and confine themselves to those doctors whom your society, for any reason, chose or was willing to permit to remain as members of such staff? A.—Yes.

Q.—To confine staffs to those whom the American Medical society was willing should remain? A.—If the hospitals wished to have our approval.

Q.—Here is a letter already in evidence to Mount Sinai; it conforms to the letter I have just read? A.—Yes.

Q.—And here is Dr. Thompson's reply, is it not; which was already in evidence. A.—Yes.

Q.—I am not going to go through the rest of this Mount Sinai—it speaks for itself. I am going to return to these other hospitals which you said on direct you didn't approach. Is this the letter you sent to St. Luke's Hospital? A.—Yes.

Q.—And it conforms to that same form, doesn't it? A.—Yes.

Q.—Wasn't your purpose in sending that to St. Luke's identical with your purpose in sending that first one to Mount Sinai? A.—Yes.

Q.—I will ask you whether that is not the same letter you sent to the Misericordia Hospital the same date? A.—Yes.

Q.—And identical with the letter you had sent to Mount Sinai? A.—Yes.

Q.—And sent for the same purpose? A.—Yes.

Q.—And didn't you cause a memorandum to be made of the staff affiliations of these doctors and of the staffs of all the various hospitals in Milwaukee at that time? A.—Yes.

Q.—Is that the memorandum which I hand you, dated July 30, 1936? A.—Yes.

Q.—Wasn't that done contemporaneously with this attack on these expelled doctors? A.—It was done contemporaneously with the preparation of those letters you have just read.

Q.—And wasn't it done contemporaneously with your action toward denying these hospitals your approval? A.—Yes.

Q.—And didn't it make a thorough job of all the large hospitals in Milwaukee and take up each one in turn? A.—It mentions eight hospitals.

Q.—And they are Columbia, Evangelical Deaconess, the Passavant, Misericordia, Mount Sinai, St. Joseph's, St. Luke's, and St. Mary's hospitals? A.—Yes.

Q.—So you were then checking on all those hospitals in connection with these expelled doctors? A.—Yes.

Q.—Didn't you receive this letter back from the Misericordia Hospital which I now show you? A.—Yes.

Mr. Lewin:—This is your letter. You wrote again to Misericordia on October 26, did you not?

The Witness:—Yes.

By Mr. Lewin:

Q.—Didn't you say:

"This is in continuation of our previous correspondence about qualifications for staff membership in Misericordia Hospital. We have been informed that the Council of the Wisconsin State Medical Society has upheld the action of the Milwaukee County Medical Society in expelling certain physicians for unethical behavior.

"How does this action affect Misericordia Hospital? Are all members on your staff in good standing with the Milwaukee County Medical Society or eligible for membership in that society?"

And then didn't you receive this reply from Misericordia Hospital, dated Nov. 10, 1936? *A.*—Yes.

Q.—Didn't the hospital write back on that date:

"Dear Dr. Cutter:

"In response to your request of October 26, we wish to apologize for this long delay. A special executive meeting was called to take up this matter.

"We do have some staff members who have been expelled by the Milwaukee County Medical Society for what they deemed unethical behavior. We have been awaiting a final decision from the American Medical Association before taking final steps in requesting their resignation. We shall appreciate having the opinion of the A. M. A. on this matter."

And in response to that, didn't you send the Misericordia Hospital your opinion as to what that hospital should do? *A.*—Yes.

Q.—Didn't you intend by this letter I have just shown you to put pressure on Misericordia Hospital to follow the policies of your counsel with regard to limiting its staff? *A.*—Yes.

Q.—Didn't you say this:

"We are taking this means to answer two letters recently received from Misericordia Hospital.

"The first of your letters dated November 10 asks for an opinion from the American Medical Association regarding the affiliation of physicians charged with unethical behavior on the staffs of hospitals which it registers. Marked copies of the 'Essentials' for hospital registration and of the 'Code of Ethics' of the American Medical Association are incorporated for your convenience.

"Our attention has also been called to your letter of October 29 which informs us of certain changes in your house staff program. On the basis of this information, we assume that you have decided to abandon intern training for the time being. We believe it best for all concerned, therefore, to omit mention of Misericordia Hospital in our published approved internship list in order that prospective interns may not be misled into believing that appointments are still available at Misericordia Hospital.

"If this is not the proper interpretation placed on your recently submitted information, we feel sure that you will communicate with us further."

A.—Yes.

Q.—And didn't you immediately get this letter of Dec. 5, 1936 from Misericordia:

"In reply to your letter of December 1, we wish to state that the necessary steps will be immediately taken to notify our staff physicians who are violating the 'Code of Ethics,' that we find it necessary to refuse their patients accommodation in our hospital."

Wasn't that the promise you sought? *A.*—That is what she said.

Q.—Wasn't that what you were after, to get that sort of a promise from her? *A.*—I think so.

Q.—Then after you got that, didn't you write back and tell her everything was jake—

Mr. Leahy:—Read the rest of the letter.

Mr. Lewin:—I will be glad to.

"May we state that our recent communication regarding internship was misinterpreted. We have no desire to discontinue offering internship service at Misericordia. In fact, we are better prepared now than ever before to offer a more complete intern service, since our daily average of patients has perceptibly increased. We have been thinking seriously of maintaining three interns.

"The reason for having the Resident and two externs this year is due to the fact that we were too late in making our requests. The prospective interns had already received their appointments. The only available course left to us was to accept a resident and two externs. We hope that this arrangement meets with your approval, and that an internship at Misericordia may remain on your approved list.

"We appreciate your kind advice in these matters, and will take every means to meet your requirements."

I am glad you called my attention to that; it does show that there was another objection that you had to Misericordia in addition to the one referred to in the first paragraph. I think you are entitled to it.

By Mr. Lewin:

Q.—And after you got that didn't you write back, in substance that everything was O. K. and that the hospital would be continued on the approved list? *A.*—Yes.

Q.—This is your letter dated Dec. 11, 1936? *A.*—Yes.

Q.—Now, didn't I understand you to testify yesterday that your Council on Medical Education and Hospitals is responsible directly to the House of Delegates? *A.*—Yes.

Q.—And that it doesn't work in close cooperation with the enforcement of the Judicial Council pronouncements? *A.*—Yes.

Q.—Now let me read you, let me call your attention to an action of the House of Delegates in 1935. It is headed "Report on Judicial Council."

"Your committee notes that as a result of the discussions and pronouncements of the Judicial Council there has been a steady improvement in the methods by which medical service is made available to the public. It regrets, however, that much remains to be accomplished, and it believes that the time has arrived when we should insist on the strict enforcement of the Principles of Medical Ethics by all constituent societies for, as so well stated by the Council, the Principles of Medical Ethics is accepted as a guide in professional relations and intelligently and faithfully followed by a large majority of the profession. There are, however, some isolated instances in which this is not true. The delinquents comprise individuals, certain groups and a few institutions. Solicitation of patients, particularly in industrial practice, unfair competition by clinics, and groups, and unethical and unlawful practice of medicine by hospitals, dispensaries, insurances and universities furnish outstanding examples. (29-30) (41)

"The Council further states, 'Public confidence in our avowed declarations for medical control over things medical cannot be successfully cultivated or maintained unless we exclude or remove from the ranks of our organized profession those who ignore our ethical code, especially as it applies to the true professional spirit in our relations with each and every patient.' It will be recalled, the Council continues, that 'last year the House of Delegates amended its Principles of Medical Ethics so clearly that there can be no misunderstanding of the conditions mentioned but the present method of procedure of preferring charges makes the pronouncement ineffective.' Your committee, therefore, deems it advisable to extend the origination of charges, in certain situations manifestly too great for county societies to handle, to the state association and possibly in rare instances to the national organization. Your committee agrees with the Judicial Council that, when the House of Delegates sees fit to extend such jurisdiction in matters of discipline, the Council should have the duties and powers then enjoined on it but should not at any time be expected to function in an ex parte capacity.

"The Judicial Council again reminds us that Medical ethics follow every member of the American Medical Association, whether in hospitals, in universities, in clinics or in private practice. While the member is at all times subject to the ethics of the profession, the hospital, university or clinic, as an entity, is not. Through the Council on Medical Education and Hospitals, in cooperation with the Judicial Council, sufficient oversight, persuasion and, if needed, pressure can be brought to accomplish that which the physicians in such institutions, as individuals, cannot. With such concerted action between the two Councils and with such enforcing legislation as has been suggested, many harmful and obnoxious practices would cease and others, not now presenting any large problem, would be prevented."

"Your committee, therefore, recommends that the Council on Medical Education and Hospitals—

that is your council, isn't it? *A.*—Yes.

Q.—"Together with the Judicial Council"—That is the one which passes on expulsion proceedings, isn't it? *A.*—Yes.

Q.—"Formulate a plan whereby all those"—That means the hospitals? *A.*—Yes.

"Associated in the delivery of medical service be included in the investigation of hospitals for classification and that approval be based in the future on the ethical practices of the institution as well as on its scientific work."

Q.—Now, you were aware of that resolution, were you not? *A.*—Yes.

Q.—And didn't you take action in connection with it? Were you familiar with this report of the Judicial Council made to the House of Delegates in 1937 in connection with that resolution asking for cooperation between your council and the Judicial Council?

"The 1935 House of Delegates recommended that the 'Council on Medical Education and Hospitals, together with the Judicial Council, formulate a plan whereby all those associated in the delivery of medical service be included in the investigation of hospitals for classification and that approval be based in the future on the ethical practices in the institution as well as on its scientific work.' Consequently the Judicial Council met with the Council on Medical Education and Hospitals in February this year and after thorough discussion presented the basis of a plan for the desired cooperation of the two councils. The problem, which involves many difficulties, will require some time for its solution."

Do you remember that report? *A.*—Yes.

Q.—Is it true? *A.*—Yes.

Q.—Did you meet with the Judicial Council to formulate a plan of cooperation between the two, whereby you could force

on the hospitals your so-called medical ethics? A.—That was the purpose of the resolution of the Judicial Council.

Q.—And in that meeting didn't you work out a plan with the Judicial Council whereby you would enforce these registration requirements and the Mundt Resolution against hospitals which the Judicial Council had passed on and against doctors which the Judicial Council had expelled? A.—No, sir, we did not discuss that.

Q.—You mean to say that this action which you took in connection with Mount Sinai, in connection with all these other hospitals in Milwaukee was not done pursuant to the plan which had been worked out? A.—Absolutely had nothing to do with it.

Q.—I think I can be a little more speedy about those things. I just want to call your attention to the fact that you approached the Passavant in the fall of 1936 in the same way as the others. That is the same as your other letters? A.—Yes.

Q.—And then didn't you approach the State Medical Society of Wisconsin again in the fall of 1936 with reference to the doctors Curtin, Dallwig, Rueth, and Sullivan? A.—I think we did.

Q.—Is that your letter to that society, dated Oct. 14, 1936? A.—Yes.

Q.—Aren't you still seeking information about their status so that you could enforce this restriction on the hospitals? A.—Yes, we were still seeking information.

Q.—And for the purpose of enforcement against these hospitals? A.—Yes.

Q.—This was to the secretary, State Medical Society of Wisconsin, Mr. J. G. Crownhart, dated Oct. 14, 1936:

"Dear Mr. Crownhart: We have understood from various parties in Milwaukee that the physicians who were expelled from the Milwaukee County Medical Society for participation in the Milwaukee Medical Center have made an appeal to the council of the state medical society. The physicians referred to are A. L. Curtin, H. C. Dallwig, J. E. Rueth, G. A. Sullivan, H. F. Wolters.

"Can you tell me whether the council of the state society has handed down any decision in this matter?

"For your information I may say that the approval of certain hospitals for intern training is jeopardized because of the presence of some of these men on their staffs."

Q.—What is your testimony now as to whether you were enforcing the Mundt Resolution against these hospitals? A.—I still say they would be jeopardized if taken off the register.

Q.—And if you enforced the Mundt Resolution the effect would also be to jeopardize their position? A.—We never attempted to do that.

Q.—Didn't Mr. Crownhart give you this reply to your letter, providing you with more ammunition—

Mr. Leahy (interposing):—I object to the characterization. THE COURT:—I think those remarks are improper.

Mr. Lewin:—Of course, my point was to explain—

THE COURT:—Yes, but I don't think you should characterize the testimony in that way.

Mr. Lewin:—Yes, your Honor. The point is: A word to the wise is sufficient. Speak softly and use a big stick is an old method—

THE COURT:—We won't argue that, either.

By Mr. Lewin:

Q.—Didn't Mr. Crownhart reply:

"I have your letter of October 14 as to the present status of the following named physicians in Milwaukee: A. L. Curtin, H. C. Dallwig, J. E. Rueth, G. A. Sullivan, H. F. Wolters. These physicians were expelled from the Medical Society of Milwaukee County and on appeal to the Council of this Society, the attached decision sustaining the expulsion was handed down on September 8. It has been my informal understanding that the physicians concerned would appeal to the Judiciary Council of the American Medical Association. Perhaps you had better check with Dr. West on this point to ascertain whether the appeal has been filed in fact."

You did get an enclosure telling you just what the charges were against these doctors? A.—I don't remember what was in the enclosure.

Q.—Didn't he say he was enclosing the "attached decision"? A.—Yes.

Q.—And whatever it was you got it? A.—Yes.

Q.—Now, you told us that C. M. P. is Dr. Peterson one of your inspectors operating under your supervision? A.—Yes.

Q.—And who is Mr. Sanger? A.—He is the director of the Hospital Division of the Council.

Q.—And he operates also under your supervision? A.—Yes.

Q.—Now, let me show you what purports to be a memorandum from Dr. Peterson to Mr. Sanger dated Oct. 14, 1936 in this same matter. Is this the memorandum from Dr. Peterson to Mr. Sanger? A.—It may be.

Q.—Wouldn't he be authorized to say that? A.—No.

Q.—Wouldn't this throw some light on the motives of the Council in that connection?

Mr. Leahy:—I object to this: The witness does not identify it.

Mr. Lewin:—I will ask him about this.

Mr. Leahy:—May I show this to your Honor?

THE COURT:—Yes. The jury may have a few minutes recess.

Counsel for all parties approached the bench and conferred with the Court.

By Mr. Lewin:

Q.—After receiving information from Dr. Crownhart of the State Society that they had upheld the action of the Milwaukee Society; after receiving a copy of that decision, you then wrote the rest of the Milwaukee hospitals again, didn't you? A.—I don't recall.

Q.—Didn't you write, on Oct. 27, 1936, to St. Joseph's Hospital, and isn't this your letter which I hand you? That is your signature? A.—Yes.

Q.—Did you say in that letter:

"We have recently been notified that certain physicians have been expelled from the Milwaukee County Medical Society for unethical practices and that the action of this constituency has been upheld by the Council of the State Medical Society of Wisconsin.

"How does this action affect St. Joseph's Hospital? Are all members on your staff in good standing with the Milwaukee County Medical Society or eligible for membership in that society? Very truly yours, William Dick Cutter."

And didn't you get this reply? A.—Yes.

Mr. Leahy:—Will you show this to the Court, please?

Counsel for all parties approached the bench and conferred with the Court.

By Mr. Lewin:

Q.—This reply which I think you received from St. Joseph's dated Nov. 2, 1936 reads:

"Dear Doctor: In reply to your letter of October 27th in regard to certain physicians who were expelled from the county medical society, I have only to say that they are no longer members of our staff but have also been barred from working in our hospital.

"This is no great punishment to them as there are other hospitals in the city who welcome them with open arms."

After you got that letter, didn't you continue with your correspondence with Mount Sinai, which has already been reviewed in evidence, and your correspondence with the other hospitals? A.—I may have continued with Mount Sinai, but I don't recall about the others.

Q.—Here is a letter which antedates that letter, October 26, to St. Luke's; isn't that identical with your letter to St. Joseph's? A.—Yes.

Q.—And isn't this your follow-up: When you received no reply, didn't you follow that up again to see whether they were permitting these doctors on their staff? Isn't this yours, November 12, 1936? A.—That is right.

Q.—Isn't that after you got this letter from St. Joseph's saying that some hospitals were letting them in? A.—Yes.

Q.—Didn't you finally get assurance that your wishes were met in St. Luke's Hospital: I show you this letter dated Nov. 14, 1936. Did you receive that? A.—Yes.

Q.—And here is the correspondence you had with St. Luke's. I won't read this first letter, of October 26, because it is exactly like the one you sent to St. Joseph's, isn't it? A.—Yes.

Q.—And here is your follow-up letter of Nov. 12, 1936 to St. Luke's:

"My dear Miss Jacobson: On October 26 we wrote you regarding our mutual problem of physicians who have been expelled by your County Medical Society.

"We have not heard from you, and trust you will send us your reply."

And doesn't the reply say that they have no members of the hospital who are not members of the Milwaukee Medical Society? A.—Yes.

Q.—Didn't you do the same thing with the Evangelical Deaconess Hospital? Didn't you write the same letter on October 27 to that hospital you wrote to St. Joseph's, and send them the letter? A.—Apparently.

Q.—And didn't you do the same thing with Passavant Hospital, writing them substantially the same letter on Oct. 27, 1936, the same day you wrote the others? A.—This is a little different letter.

Q.—Is there any substantial difference: Shall I read it? This is to the Passavant Hospital:

"Oct. 27, 1936. Rev. Herman L. Fritschel, Supt., Milwaukee Hospital, 'The Passavant,' Milwaukee, Wis. Dear Reverend Fritschel: We have recently been notified that certain physicians have been expelled from

the Milwaukee County Medical Society for unethical practices and that the action of this constituency has been upheld by the Council of the State Medical Society of Wisconsin.

"We have received no intimation that the expulsion of these men affects the staff roster at 'The Passavant' in any way. However, we are making inquiry of all approved hospitals in Milwaukee to learn if all members on your staff are now in good standing in the Milwaukee County Medical Society or eligible for membership therein."

And I think you received a satisfactory response from the Passavant Hospital, did you not? *A.*—Yes.

Q.—Is this it, dated Nov. 3, 1936, from that hospital? *A.*—Yes.

Q.—And didn't you receive from the Misericordia Hospital evidence that it was going to respect and was acting in response to your suggestion? I hand you what purports to be a memorandum from the superintendent of that hospital to the staff of Misericordia Hospital, dated May 11, 1937. Did you ever see that memorandum before? *A.*—No, I never saw it.

Q.—Wasn't it in the files of your Council on Medical Education and Hospitals? *A.*—I couldn't say.

Q.—All right. Didn't you gain knowledge that as a result of these activities which we have been exploring that you were supposed to get all of the Milwaukee hospitals that you listed on that earlier memorandum to comply with your wishes? *A.*—My recollection is that all the hospitals except Mount Sinai, by the early spring of 1938, had limited their staff membership to those who were members of the county society or eligible to become members.

Q.—And you don't attribute that result in the slightest degree to your efforts? *A.*—I do not say that; I think it may have affected it.

Q.—You think it may have affected it. Now isn't it true that you regarded the Mundt Resolution, even though phrased as it was, as an edict of the House of Delegates? *A.*—No, sir.

Q.—You didn't? *A.*—No, sir.

Q.—Didn't you refer to it as an edict of the House of Delegates in your correspondence? I show you now what purports to be your letter of July 22, 1938, addressed to Dr. D. L. Sprinkle, Superintendent, Tampa Municipal Hospital, and ask you if this is your letter? *A.*—Well, this letter refers to an edict of the House of Delegates, but the use of that word is entirely unauthorized and unjustified.

Q.—Did you write that letter? *A.*—No.

Q.—That isn't your letter? *A.*—No.

Q.—Doesn't it bear your dictation initials? *A.*—It was customary to put those initials on any letter I signed.

Q.—Doesn't it bear your dictation initials? *A.*—Signature initials.

Q.—Does it bear anybody else's initials indicating it was written or dictated by anyone else? *A.*—No.

Q.—It bears the initials "W. D. C.: M. W.," the latter for the stenographer? *A.*—Yes.

Q.—Did you read it over before you signed it? *A.*—I don't think I did.

Q.—But at any rate you sent this out? *A.*—Yes; it was sent out from our office.

Q.—Isn't this what it says here:

"You realize that the Council on Medical Education and Hospitals is carrying out the edict of the House of Delegates of the American Medical Association, which is here reiterated."

And then don't you include in here the Mundt Resolution, quote it in full? *A.*—Yes, I did.

Q.—Isn't this the situation: You were prepared to put this pressure on the hospitals in the form of suggestion, were you not? You simply quoted the Mundt Resolution, and asked what possibility, if any, there was for observance. That was your method? *A.*—The procedure adopted by the Council was to send copies of the Mundt Resolution as a matter of information, and ask the question as to what they proposed to do about it.

Q.—And usually you got results in that way? *A.*—More or less.

Q.—But you were prepared to use more drastic methods if necessary? *A.*—Not on the basis of that resolution.

Q.—Let me show you a letter which purports to be from you to Dr. Knudson, President, King County Medical Society, Seattle, Washington, and ask you if this is a copy of your letter. I am referring particularly to this second paragraph, Dr. Cutter. *A.*—That letter was sent out from my office.

Q.—You signed your name to it? *A.*—Yes, sir.

Q.—Does it not carry this paragraph—

Mr. Leahy:—What is the date?

Mr. Leahy:—March 28, 1936:

"This information regarding Medical Society memberships will be particularly useful to us at this time, because we are now contemplating a survey of the Seattle hospitals shortly after the American Medical

Association convention in San Francisco. So far it has not been necessary to take drastic action against any hospital on the basis of the membership resolution of the House of Delegates, since prompt results have usually been obtained by less formidable action on the part of the Council."

Have I read that correctly? *A.*—Yes.

Q.—Does that refer to the Mundt Resolution? *A.*—Yes, sir.

Q.—Now, Dr. Cutter, just as we closed the session of yesterday I had asked you this question and you had given me this response:

"*Q.*—And, as a matter of fact, is it not true that as a result of your letters to those five hospitals?"

Meaning the five Washington hospitals—

"in the summer of 1937 you did get those five hospitals substantially to promise compliance with that restriction? And by 'that restriction' I mean the Mundt Resolution."

And your answer was "No, sir."

Do you still stand on that testimony? *A.*—Yes, sir.

Q.—Now I will hand you a sheaf of correspondence between you and the five Washington hospitals and ask you to answer some questions in regard to it. Did you not on July 27, 1937 call the Washington Sanitarium's attention to the Mundt Resolution? *A.*—Yes, sir.

Q.—That is the first time you had ever done it, was it not? *A.*—No, sir.

Q.—The Washington Sanitarium? *A.*—No, sir.

Q.—When had you done that before? *A.*—In 1934.

Q.—Oh, yes; when you sent out a round robin letter to all hospitals? *A.*—Yes, sir.

Q.—Was this the first time you had done that specifically in regard to that hospital? *A.*—So far as I can recall, that is the first time we had had any correspondence with this hospital since 1934.

Q.—When did you say it had been approved for intern training? *A.*—I don't recall.

Q.—When had it been inspected last? *A.*—I can't recall offhand.

Q.—Did you not give that testimony yesterday? Did you not have a little notebook that you referred to? *A.*—I gave you the dates when some of these had been inspected, but I don't know which one it was.

Q.—Had Washington Sanitarium ever been inspected before by Peterson? *A.*—Yes, sir.

Q.—When? *A.*—I don't remember when.

Q.—Would you say it was 1933, the last time it had been examined? *A.*—I remember that one of these hospitals was examined in either 1933 or 1934, but I am not certain whether it was George Washington or Washington Sanitarium.

Q.—After you made that suggestion to the Washington Sanitarium they wrote back and asked you a question about it, did they not? *A.*—Yes.

Q.—And did they not say this:

"Each application for staff appointment calls for the Medical Societies to which the applicant belongs. Would this meet the requirement of the resolution?"

Is that correct? *A.*—Yes, sir.

Q.—And did you not respond to that inquiry? *A.*—Yes, sir. *Q.*—And did you not say in response to that inquiry, on Oct. 5, 1937:

"As far as the resolution of the House of Delegates is concerned the intention remains that all hospitals stipulate membership in the County Medical Society as the basis for the assignment of hospital privileges. The great majority of hospitals with which we have corresponded on this point have agreed that this is a good basis on which to operate."

Is that right? *A.*—That was what the letter said.

Q.—That is what you said? *A.*—I didn't write that letter.

Q.—Did it not go out over your signature? *A.*—Yes.

Q.—Then you were saying it, were you not? *A.*—No.

Q.—Are you not willing to take responsibility for it? *A.*—I have to take responsibility for what I send out, but that is not what I dictated.

Q.—Is not that what you would have dictated? *A.*—No, sir.

Q.—Was there anything wrong with it? *A.*—It stated that the Council intended to stipulate that membership in a County Society must be required; and that was not the intention of the Council.

Q.—Did you not write to Sister Rodriguez of Georgetown Hospital? Georgetown was one that was applying for approval of residents, was it not? *A.*—Yes, sir.

Q.—And did you not say in that letter:

"What possibility, if any, exists for the observance of this recommendation in Georgetown University Hospital?"

A.—Yes, sir.

Q.—Were you not referring to and quoting the Mundt Resolution? A.—Yes, sir.

Q.—Did you not get back this answer from the Superintendent of that hospital:

"The Executive Staff ruled in its last meeting"—

This was as late as Oct. 18, 1937, was it not? A.—Yes.

Q.—(Continuing reading):

"that no physician shall be nominated or elected to any staff of the hospital unless he is a member of his local medical society or the American Medical Association. Doctors who are already on the staffs specified by you as not meeting these requirements will be notified to qualify within the year."

Is not that what she told you? A.—Yes.

Q.—Did you not regard that as an assurance of compliance with what you wanted to achieve? A.—Yes.

Q.—Did you not write to Sister Margaret of Providence Hospital also in the summer of 1937, quoting the Mundt Resolution, and asking the same question of that hospital? A.—Yes, sir.

Q.—And when had Providence Hospital been last inspected? A.—I don't recall.

Q.—Was it one of those that was applying for residency that spring? A.—Yes, sir.

Q.—Did you not say in the same letter that you had other criticisms of the hospital? A.—Yes, sir.

Q.—And did you not say that—

"As matters now stand we believe it quite likely that when this statement is submitted to the Council at their next regular meeting in November, internship approval will be withdrawn?"

A.—Yes.

Q.—Was not one of the reasons for the opinion that you so stated the fact that Peterson's report disclosed that they were not confining their staffs to members of the American Medical Association? A.—No, sir.

Q.—Did you point out in the letter that that criticism had no bearing upon this opinion of yours that the Council would withdraw the internship approval? A.—That was not mentioned in that letter.

Q.—But you did call, in that letter, her attention to this criticism? A.—Yes.

Q.—You did quote the Mundt Resolution? A.—Yes.

Q.—You did ask for her compliance? A.—I asked what they proposed to do about it.

Q.—Did not she write back to you and say:

"No words can express my distress at the possibility of losing the American Medical Association's approbation of our intern training school. Nothing will be omitted either by the staff of the hospital or the superintendent to prevent what would prove a dire catastrophe to Providence Hospital, the loss of its credit for intern training."

Did you not regard that as assurance that she would eliminate the things you criticized? A.—Not necessarily all of them.

Q.—Well, you felt that that was sufficient assurance that all of them would be eliminated, when she said that nothing would be omitted. She told you nothing would be omitted, did she not? A.—I think she qualified that by saying that nothing that they could do—the approval of hospitals was not based on a requirement that every single recommendation should be carried out a hundred per cent. It was based on the entire picture of the hospital and its ability to give good training to interns.

Q.—Did not she in that letter promise you one hundred per cent compliance, and did you not so understand it?

Mr. Leahy:—The letter speaks for itself. Let us not argue with the witness.

By Mr. Lewin:

Q.—Is there any qualification of this statement?

"Nothing will be omitted either by the staff of the hospital or the superintendent"—

Is not that what she said? A.—I don't recall that. You have the letter.

Mr. Leahy:—The letter speaks for itself, if your Honor please.

By Mr. Lewin:

Q.—Did she not write to you again on October 12 and give you definite assurances with regard to this Mundt Resolution requirement, in specific terms. A.—My recollection is that in that letter she said that the criticisms in the report were very well founded and that the staff had unanimously agreed to meet all of the suggestions.

Q.—Did she not say this:

"Members of the staff who did not belong to the Medical Society of the District of Columbia have been contacted and at the present time all members have submitted their applications for membership, so that now, with those exceptions, all members of our staff are members of the American Medical Association or affiliated with its constituent societies."

Is that right? A.—I don't have the letter before me, but that may be a correct statement.

Q.—The letter is right before you, Dr. Cutter. That is why I gave you the exhibits. That is Exhibit No. 241. I think I have quoted that letter correctly. A.—I think you have, too; but I could not verify it without seeing it.

THE COURT:—Would it not be better if you pointed it out and saved time?

Mr. Lewin:—I think you are right, your Honor.

THE COURT:—Point out the paragraph to him.

Mr. Kelleher:—Yes, your Honor (handing a letter to the witness).

The Witness:—Yes, Sir; that is as you read it.

By Mr. Lewin:

Q.—And she was assuring you then that she was taking steps to comply with the Mundt Resolution? A.—Yes, sir.

Mr. Leahy:—I object. The letter speaks for itself.

Mr. Lewin:—I think it does, but as the witness has had difficulty with it—

THE COURT:—Then you both agree, so I guess the objection is well taken.

By Mr. Lewin:

Q.—Let us turn to George Washington University Hospital. In August 1937 you made the same suggestion to George Washington Hospital, did you not? A.—That is right.

Q.—And you got a reply from the Medical Director, Dr. Bloedorn, did you not? A.—Yes, sir.

Q.—He did not say anything about the staff membership requirement in that first letter, did he, so that you had to write again? A.—He did not reply at all for quite a long time. That is why I had to write a second time. I got no reply.

Q.—When you wrote again you said this:

"Has any action been taken with respect to the resolution of the House of Delegates on the subject of staff membership contained in our letter of August 23?"

You wrote that in October 1937, did you not? A.—That is correct.

Q.—And then he responded to that, did he not, on November 4? A.—Yes, sir.

Q.—Did he not say:

"With respect to the resolution of the House of Delegates on the subject of staff membership, we find that only nine members of the total staff are not members of the local medical society, and that of these nine, six are full time members of the staff of St. Elizabeths Hospital in the department of psychiatry. As we do not have a psychiatric department in George Washington University Hospital, these members are used primarily in a teaching capacity for our medical students who go to St. Elizabeths Hospital, which, as you know, is a psychiatric institution."

Then did he not say this:

"The problem, then, is reduced to three members of the clinical staff."

A.—Yes, sir.

Q.—Did you not take that as assurance that you were going to have compliance with the Mundt Resolution in that hospital? A.—It does not indicate complete compliance, because there were nine who were not members.

Q.—Did he not explain that that problem was reduced to three; that six of them were on the teaching staff of a psychiatric institution? A.—But they were not members of the District Society.

Q.—He told you he was going to reduce that very shortly. Is not that what he assured you of? A.—That is what he said; yes.

Q.—Let us turn to the Columbia Hospital, which is the last. You adopted the same technic with regard to that institution, did you not, in the fall of 1937?

Mr. Leahy:—I object to the characterization.

THE COURT:—Yes. Omit the characterization.

By Mr. Lewin:

Q.—You adopted the same method with regard to Columbia Hospital, did you not? A.—The same kind of a letter was sent to Columbia Hospital.

Q.—He did not reply to it, did he, from September 8 until in November? A.—Oh, no; he replied on the 14th of September.

Q.—Oh. Did he? He did not reply with regard to the Mundt Resolution, did he? A.—There was no reference to it in that letter.

Q.—So you wrote him on Nov. 3, 1937, again, asking if he was in position to report any action on the Peterson report, and saying, did you not—

"This present inquiry also extends to the resolution which was quoted in our letter of September 8 relating to County Society membership as a basis for hospital privileges."

A.—There were two letters in between there, but this letter is correct.

Q.—And did you not receive a reply, then, to that inquiry, from the superintendent of Columbia Hospital on Nov. 5, 1937?

A.—Yes, sir; November 5.

Q.—Did he not say:

"As for the demand that physicians on the staffs of hospitals approved for intern training should be limited to members in good standing of their local County Medical Societies, it meets with the approval of the Medical Board as regards future appointments."

A.—Yes.

Q.—(Continuing reading):

"So far as known, all the present members of the staff of this hospital, except one, are members of the District Medical Society. The exception is a man of long service in the hospital and of high standing in the profession. His reasons for not belonging to the society are probably personal, and nobody on the Medical Board suggested that any action be taken in his case."

A.—Yes, sir.

Q.—Did you not find that reply satisfactory and a substantial compliance? A.—Yes, sir.

Q.—Was Columbia then approved for intern training? A.—No, sir.

Q.—Was it approved for intern training later? A.—No, sir.

Q.—Why were you bringing the Mundt Resolution to the attention of the Columbia Hospital? Did you go outside of the hospitals that you were approving for intern training to enforce this resolution? A.—I think it was just a matter of routine that it got in there by accident, because it never was an intern hospital. It is a special hospital.

Q.—You had more correspondence on this subject with Columbia than you did with any of the others, did you not? A.—I would not say it was more than we had with any of the others.

Q.—Any of the other five here; is not that right? A.—I don't know the exact number of letters. It may be.

Q.—As a matter of fact, most of this correspondence that we have called your attention to was after you had had occasion to read Dr. Woodward's article which Dr. Fishbein published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION regarding Group Health; is not that right? A.—The correspondence began on the 8th of September and was followed up on the 14th, 17th and 29th of September. It was not until November that any letter was written after the publication of that article.

Q.—The article was published on October 2? A.—That is right.

Q.—And Dr. Woodward had been writing it through the summer? A.—I don't know anything about that.

Q.—Had he not submitted a draft of it early in September? A.—I don't know.

Q.—You do not know anything about that either? A.—Certainly not.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, your attention was called on cross examination to page 40 of the proceedings of the House of Delegates of the American Medical Association in Atlantic City, June 7 to 11. Did you read this at that time, Doctor? A.—Yes, sir.

Q.—What reference was there particularly in there as to your Council and the Judicial Council? A.—We invited the representatives of the Judicial Council to meet with the Council on Medical Education and Hospitals and find out what this was all about.

Q.—What was all about? A.—They wanted cooperation from our Council.

Q.—Who wanted it? A.—The Judicial Council wanted some cooperation from our Council.

Q.—With reference to what? A.—With reference to the practice of medicine by hospitals, particularly in connection with the department of Radiology.

Q.—Just stop there for a moment. Did this cooperation which the Judicial Council wanted with your Council have

anything to do with group practice, prepayment plans, contract practice of medicine, or anything of that sort? A.—Nothing at all.

Q.—To what did it relate? A.—It related to the practice of some hospitals of going into the practice of medicine through their radiologic department and furnishing radiologic service to the public, and in connection with that they very frequently exploited their radiologist.

Q.—What was it you objected to, or what did the Judicial Council object to, and why was cooperation desired between both of you in regard to that feature? A.—It was a situation which occurred in some hospitals wherein the hospital might make \$50,000 or \$70,000 on its radiologic department, and then employ a man to do the work at perhaps a salary of \$5,000; and the practitioners in those localities, and particularly the radiologists, felt that that was a very unfair arrangement, and they had appealed to the Judicial Council to see if something could be done to stop it.

Q.—Did your Council also think that something ought to be done to stop the exploitation of patients by a practice of that kind? A.—Yes, sir.

Q.—Did the profession feel the same way? A.—Yes.

Q.—And is that what you all were going to cooperate together to try to prevent? A.—Yes, sir.

Q.—Did it have anything to do with G. H. A.? A.—Not a thing.

Q.—It had nothing to do with contract practice? A.—No, sir.

Q.—Or the Mount Sinai Hospital, or the Milwaukee Medical Association? A.—No, sir.

Q.—It was restricted, then, as I understand it, solely and only to the practice which you have just related in certain hospitals under circumstances in which you thought the public and the patients were being exploited?

Mr. Lewin:—I object to that, as leading.

Q.—This is the proceedings of the House of Delegates of the American Medical Association, June 10 to June 14, 1935. I now direct your attention to those portions of the minutes carried on pages 40 and 41. Glance down those, please. A.—Yes, sir.

Q.—Did that particular report contained therein have anything to do whatsoever with the group practice of medicine or contract practice of medicine or prepayment plans or however you might describe them? A.—No, sir. It had reference to this radiology situation.

Q.—Is that another volume of the minutes of the House of Delegates at the same session? A.—No, sir. That was at the session of 1935, two years prior to this.

Q.—How long had your Council or the Judicial Council been discussing this matter of hospitals exploiting in the manner which you have stated? A.—During the two years intervening between these two reports.

Q.—What was the purpose, then, which you set forth in the report, or your Council recommended to the House of Delegates? A.—I don't know just where that is.

Q.—Can you give it to us from memory without taking time to run down through all that book? A.—I don't believe I can give it to you from memory, but the general tenor of it was that we had had conferences between the Council on Medical Education and the Judicial Council and we had tried to cooperate with the Judicial Council by securing for them information concerning the operations of hospitals in their radiologic departments.

Q.—You speak in the 1936 minutes about a plan which was to be devised. Did you not use the words in there that it would take some time to work out a plan? A.—Yes.

Q.—Was a plan ever worked out? A.—Not a very satisfactory one.

Q.—Was this practice which you were complaining about at that time finally stopped? A.—I don't think so.

Q.—Doctor, what other agency, if any, is there in the United States which examines hospitals and investigates hospitals to keep them up to standards? A.—The American College of Surgeons.

Q.—What distinction, if any, is there between the examination which you make of hospitals and that of the American College of Surgeons? A.—The examination which we make of hospitals is directed to their educational program for interns and residents. The examination which the College of Surgeons makes is not directed to the educational function of the hospital, but rather to the function of rendering medical care to its patients—medical and surgical care; and the approval of the College of Surgeons is based upon an examination of the hospital with reference to its ability to provide good, sound medical care for its patients.

Q.—When was it that the American College of Surgeons first began its investigation of hospitals?

Mr. Kelleher:—I object, your Honor. I do not see any relation between those questions and the questions on cross-examination by Mr. Lewin.

Mr. Leahy:—I am going to fit it into the Milwaukee situation.

THE COURT:—I will permit it as a preliminary question.

A.—The College of Surgeons was founded in about 1913 or 1914, and I think that its program of inspection of hospitals began just after the War, in 1918 or 1919.

By Mr. Leahy:

Q.—Is there any other agency, other than those two, which can protect the standards of hospitals? *A.*—There is no other agency which has facilities for inspecting hospitals.

Q.—How long has the inspection of hospitals by the American Medical Association been recognized?

Mr. Lewin:—Objected to as immaterial, irrelevant, and beyond the scope of the cross examination, and improper redirect.

Mr. Leahy:—It is just along the line of the cross examination with reference to the value of the approval.

Mr. Kelleher:—The American College of Surgeons?

Mr. Leahy:—It is the American Medical Association that I am asking about.

THE COURT:—Objection overruled.

A.—The American Medical Association changed the title of the Council from Council on Medical Education to Council on Medical Education and Hospitals in 1919 or 1920, and the actual visitation of hospitals began a few years later. I cannot remember exactly whether it was 1923 or 1924, but it was about that time.

By Mr. Leahy:

Q.—From that time down has the approval which you have given been recognized generally throughout the United States?

A.—Yes, sir.

Q.—Is it recognized now by the United States Government itself? *A.*—I don't know that the Government is particularly interested in the approval for internships, but our registration of hospitals is utilized by the Government very extensively.

Q.—Is it utilized now on the question of the national defense?

A.—Yes; it is.

Mr. Lewin:—Wait a minute.

Mr. Leahy:—It is on the question of the value of approval.

THE COURT:—I will sustain the objection. We are dealing with a different period here.

By Mr. Leahy:

Q.—In the matter of the Milwaukee situation, Doctor, is it a fact or not that the Council would or would not approve a hospital which had on its staff five men whom the majority of their own physicians in a given locality did not consider worthy to belong to the Association?

Mr. Kelleher:—Objected to as leading, your Honor.

Mr. Leahy:—I have got to make it leading.

Mr. Lewin:—Why?

Mr. Leahy:—I will change it.

Mr. Lewin:—You have already asked it.

By Mr. Leahy:

Q.—What is the attitude of the Council with reference to any hospital, whether it is in Milwaukee, Seattle, Chicago, Washington, D. C., Boston, or any other city that you can think of, which retains upon its staff five doctors who have been expelled from their local medical society by the vote of the majority of the members as being unworthy of belonging to the society? *A.*—The Council would feel that such hospital did not conform to the requirements of the essentials for a registered hospital.

Q.—We have been talking about these essentials for a registered hospital. I think that three of them were identified yesterday in evidence. Will you identify now which one you refer to when you say the essentials for a registered hospital?

A.—This one (indicating).

Q.—How is it numbered? *A.* Defense II.

Q.—Of what importance is the membership of the staff in a hospital? *A.*—It is of the greatest importance.

Q.—Why do you say that? *A.*—Because the character of the service which is rendered in the hospital depends upon the character and qualifications of the physicians who compose its staff.

Q.—Under these Essentials of a Registered Hospital does the ethical standing of a doctor who is on the staff come into consideration also, as well as his ability?

Mr. Lewin:—Objected to, unless he defines the word "ethical."

Mr. Leahy:—I will.

THE COURT:—Objection overruled.

A.—Yes; it does.

By Mr. Leahy:

Q.—When you use the word "ethical," to what do you refer, Doctor? *A.*—To the principles of ethics adopted by our Association.

Q.—Are those principles of ethics also recognized by others than the American Medical Association?

Mr. Lewin:—It makes no difference, and I object.

Mr. Leahy:—Oh, yes, if your Honor please. If I can show generally that the principles of medical ethics are those principles under which all doctors practice whether they belong to the American Medical Association or not, it is perfectly proper.

THE COURT:—Objection overruled.

By Mr. Leahy:

Q.—Are those principles of ethics recognized by all doctors in the United States, regardless of membership in the American Medical Association? *A.*—They represent substantially the principles of ethics which are recognized by all physicians, whether they are or are not members of the Association.

Q.—How long have those principles of ethics been recognized by doctors practicing medicine?

Mr. Lewin:—I object to it on the ground that this witness cannot have knowledge that all doctors subscribe to these rules.

THE COURT:—No. I think that question is too broad. You may ask him how long they have prevailed.

Mr. Leahy:—I want to bring out that those principles of ethics have been in force for centuries.

THE COURT:—I am saying that he may state how long they have prevailed.

By Mr. Leahy:

Q.—How long have those principles of ethics been in force, Doctor? *A.*—They usually trace back to the time of Hippocrates.

Q.—Do you know how long ago that was? *A.*—Two thousand four hundred years ago.

Q.—What is the attitude of the Council of which you are the secretary where a hospital retains upon its staff five men who refuse to abide by and to perform in accordance with those principles of ethics?

Mr. Lewin:—He has already gone over this. He says they frown upon them and they try to kick them out of the hospitals.

THE COURT:—I did not hear him say that. Do not characterize it in your own way. You are informing the court that he said a certain thing. He did not say that. When counsel undertake to tell me what has occurred, I want it stated with substantial accuracy.

Mr. Lewin:—He did not use those words, but he certainly said that in substance?

THE COURT:—What is the question, please?

(The pending question was read by the reporter as above recorded.) He may answer that.

The Witness:—The Council would consider that such a hospital did not conform to the standards for a registered hospital.

By Mr. Leahy:

Q.—What action, then, would the Council take with reference to those five doctors, if any? *A.*—None with reference to them. It would take the hospital off the registered list.

Q.—And that registered list is made up of hospitals who seek registration thereon—

Mr. Kelleher:—Objected to as leading.

THE COURT:—I think that is quite leading.

By Mr. Leahy:

Q.—Do you require any hospital to seek registration? *A.*—No, sir.

Q.—Is it not their voluntary act and request? *A.*—Entirely.

Q.—And what you do then is to withdraw the privilege of registration from a hospital; is that right? *A.*—That is it.

Q.—Do you still leave it free for the hospital to keep those doctors on their staff if they want to? *A.*—Certainly.

Q.—Does your Council in any way undertake to impose its will upon the administration of any hospital?

Mr. Lewin:—May we have some ruling on these leading questions, your Honor?

Mr. Leahy:—They have got to be leading.

Mr. Lewin:—I don't know why. This witness is an intelligent witness, and very much interested.

Mr. Leahy:—I know he is; there is no doubt about that.

THE COURT:—I think that question may be answered. Try to avoid leading questions.

A.—The Council does not try to impose its will on any hospital.

By Mr. Leahy:

Q.—For instance, in the city of Washington, when these letters were written, this correspondence back and forth with George Washington, Georgetown, Columbia, and so forth, when, for instance, you found that on the George Washington Hospital staff there were nine doctors who were not members of the Medical Society, six of whom were in St. Elizabeths Hospital, three of whom were not members of the Medical Society: what action did your Council take with regard to withholding approval from George Washington University Hospital? A.—None at all.

Q.—In the case of Columbia Hospital what action did you take? A.—None at all.

Q.—And that was after you read the Woodward article, was it not? A.—Yes.

Q.—What did you do with reference to the Washington Sanitarium? A.—Nothing.

Q.—Did you, in connection with any single Washington hospital, Doctor, officially or otherwise exert threats or any pressure to compel the hospitals to have on their staffs only members of the local society?

Mr. Lewin:—Objected to as leading.

THE COURT:—I do not think that is leading. I think that is a proper question.

A.—No, sir; we did not.

By Mr. Leahy:

Q.—Would you kindly point out to me where in these Essentials of a Registered Hospital you refer to the staff? A.—In the paragraph which is numbered Arabic Two under Roman One.

Q.—Point it out to me. A.—Right here (indicating).

Q.—Are there any other places about the staff? A.—Under Roman Three there are more details about the medical staff.

Q.—When a hospital applies for approval to your Council for registration for intern training or for residencies, does the hospital receive a copy of this (indicating)? A.—It does.

Q.—The hospital therefore knows in advance of its application what requirements it must fulfil if it expects the application to be granted? A.—Certainly.

Q.—And these you think are the essentials (indicating)? A.—Yes, sir.

Q.—And you so publish them, do you? A.—Yes, sir.

Q.—And they are the very essentials which a hospital ought to have in the public interest?

Mr. Lewin:—Objected to as repetitious and leading.

THE COURT:—That is very leading. It speaks for itself.

Mr. Leahy:—May I just read briefly from the Essentials of a Registered Hospital, prepared by the Council on Medical Education and Hospitals of the American Medical Association? (Mr. Leahy read to the jury the "Essentials of a Registered Hospital.")

By Mr. Leahy:

Q.—Now, Doctor, under subparagraph 7 of paragraph 3 on page 2 of this exhibit, I find this:

"Staff meetings should be held for the review of the work of the hospital, the discussion of resolutions and reports of autopsies and pathologic studies, the presentation of papers and such other matters as concern the professional work of the hospital."

In your examination of hospitals what does your Council do should it find that a hospital is not following what the Council considers essentials of a registered hospital? A.—The first thing we would do would be to notify the hospital of the things that we consider to be lacking, and if they were things that could be reasonably corrected we would allow them to go on and correct them.

Q.—Take a look at that examination which was made into Providence Hospital, Doctor (indicating). Without going through the whole report, did you find therein what you considered to be a failure to live up to certain essentials as laid down in that exhibit, which Providence Hospital had, before it had its application granted?

Mr. Lewin:—Objected to as leading.

Mr. Leahy:—It could not be leading.

Mr. Lewin:—The answer is just yes or no.

Mr. Leahy:—That is all.

THE COURT:—I do not think that is leading. Where you are referring to some connection that involves a certain practice the question has got to be directed to the practice to which you have reference.

Mr. Lewin:—May I make a suggestion with regard to that, your Honor?

THE COURT:—Yes.

Mr. Lewin:—I do not see why it would not be proper examination to ask him what he criticized about Providence Hospital.

Mr. Leahy:—I will ask him that in the very next question.

THE COURT:—That is all right if it does not open up too broad an answer. In view of the extensive ground that this case has covered I want counsel on both sides to direct their questions in such a way that it will bring it down to the very thing which you have in mind. I think counsel must endeavor to avoid what are in their nature clearly leading questions, but I do not want to be too strict about it on either side.

By Mr. Leahy:

Q.—Did you find certain criticisms which relate to the essentials of a registered hospital? A.—This has to do with an internship hospital, Mr. Leahy. There are in the summary—without going into the reports—five points noted regarding which it was suggested that improvements should be made.

Q.—Did you send a copy of that report with those five points for correction, to Providence Hospital? A.—Yes, sir.

Q.—Does that report contain anything at all to the effect that Providence Hospital must comply with the Mundt Resolution? A.—No, sir.

Q.—Does that report on the five essentials which must be corrected in any way refer to anything about the staff or its membership? A.—No, sir.

Q.—Let us take one other hospital that was brought to your attention in the shape of a letter. I am going to show you now a letter which was brought to your attention on cross examination, and you said it was a letter which went out but that you did not think you dictated. A.—I know I did not dictate it.

Q.—Let me ask you, Doctor: How many people in your Council are there who handle correspondence?

Mr. Lewin:—It has already been testified to.

Mr. Leahy:—I don't think it has.

Mr. Lewin:—You asked him that on direct examination.

THE COURT:—It has been asked, but he may answer it again.

A.—There are four men in my department who handle correspondence.

By Mr. Leahy:

Q.—I will ask you if it is humanly possible for you to take care of all correspondence that comes into the office? A.—No, sir.

Q.—What discretion, if any, do you give to the others in your Council in the matter of answering correspondence? A.—I ask them to prepare letters in reply to inquiries that come in, and submit them to me for signature.

Q.—Whether you wrote it or dictated it or whether you did not, there was read to you from this letter the word "edict." Do you recall that? A.—I remember reading it this morning.

Q.—Listen while I read it, so we will all know what it was all about. This is on the letterhead of the American Medical Association. It is dated July 22, 1938, to the Superintendent of Tampa Municipal Hospital, Tampa, Florida:

"Thank you for your letter of June 29 in which you invite the Council to send a representative to assist you in the solution of certain problems now confronting the Tampa Municipal Hospital.

"It is unlikely that we can release one of our staff men now or in the near future, since the field work is necessarily planned well in advance. You may be sure, however, that the Council desires to be kept informed of what developments may take place. If later it seems desirable a visit may be arranged. The Council is well aware of the situation existing in Tampa between the Hillsboro County Medical Society and the doctors serving the Latin population through fraternal clubs on a contract basis. The physician of the hospital has always been under the purview of the Council. A reasonable amount of time has elapsed during which a solution might have been effected."

Then it says that the Council on Medical Education and Hospitals is carrying out the edict of the House of Delegates of the American Medical Association, and it quotes the resolution, and it goes on to say—

"The principle involved is one of unethical contract practice by members of your hospital staff. This is in conflict with the resolution as well as with your own staff constitution and by-laws. No action for removal of the hospital from the approved list will be taken immediately, and I believe the Council can see its way clear to carry the name of the Tampa Municipal Hospital in the forthcoming list to be printed in the Educational number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Aug. 27, 1938. If a satisfactory settlement cannot be made during the current year, the recognition of the hospital by the Council may be jeopardized."

Now let me ask you this: If a hospital is operating in conflict with its own staff constitution and by-laws, what effect would that have with respect to the Council's recognition of the hospital so acting in violation of its own staff constitution and by-laws? A.—It would be regarded as a serious breach of the standards which we have proposed.

Q.—In this particular case is it a fact that you did publish that hospital in the A. M. A. Educational number of THE JOURNAL? A.—Yes.

Q.—And you gave them a year in which to try to effect an improvement? A.—That is what was stated in that letter; but actually no action was taken at the end of the year.

Q.—None whatsoever? A.—No, sir.

Q.—They remained on the register? A.—Yes, sir.

Q.—Now, this is a letter which was shown you, dated March 28, 1938, going out to Dr. C. W. Knudsen, president of the King County Medical Society, Seattle, Washington. This was brought to your attention, and you recognize it now? A.—Yes.

Q.—Let me read the letter so that we will know what is going on. It is dated March 28, 1938, addressed to Dr. C. W. Knudsen, President, King County Medical Society, Medical and Dental Building, Seattle:

"Dear Dr. Knudsen: We appreciate very much your continued interest in the work of the Council and your offer to assist us in obtaining full compliance with the resolution of the House of Delegates pertaining to staff appointments in hospitals approved for intern training."

Stopping there for a question, Doctor: Does the staff of a hospital which is approved for intern training have more importance from the standpoint of selection of membership than the staff of another hospital which is not engaged in intern training? A.—Yes; it does.

Q.—Why? A.—Because they are responsible for teaching these young men who have come to them for such instruction.

Q.—What effect, in your judgment, is it with respect to the ethical practice of one who is teaching younger doctors? A.—He should be a good example to the men he is teaching.

Q.—Is that what you have in mind with reference to the staff which you state in your Essentials of a Registered Hospital, that it must be an ethical staff? A.—Precisely.

Q.—In other words, are you looking out for the young men who are coming up to be doctors? A.—Yes.

Q.—What part does your Council play in seeing that the proper standards of the practice of medicine are taught to those young men who are coming on to be the doctors of tomorrow? A.—In the examination of the hospitals we always try to ascertain whether the practice which is carried on there is satisfactory and in accordance with modern standards.

Q.—Continuing the letter:

"We are sending under separate cover the staff lists recently submitted by doctors and hospitals of Seattle and shall be glad to receive your notification of the number of staff physicians who are not members of the County Medical Society. Some of the hospitals failed to submit on the last information blank the names of physicians having staff privileges. We are writing for up-to-date staff lists and shall send them on to you at the earliest opportunity. All information regarding County Medical Society membership will be particularly useful to us at this time, since we are now contemplating a survey of the Seattle hospitals shortly after the American Medical Association convention in San Francisco. So far it has not been necessary to take drastic action, since prompt results have usually been obtained by less formidable action on the part of the Council. We feel certain that the cooperation of the King County Medical Society will be of great help to the Council in this matter."

Can you tell us what the purpose of the Mundt Resolution was? A.—You mean, the purpose of the House of Delegates in adopting it?

Q.—Yes. A.—I presume—

Mr. Levin:—Wait a minute.

By Mr. Leahy:

Q.—Were you present at its adoption?

Mr. Levin:—Just a minute, please. I object and move that the answer be stricken.

THE COURT:—Yes.

Mr. Leahy:—Very well.

By Mr. Leahy:

Q.—Have you told us how many hospitals have adopted the principles set forth in the Mundt Resolution? A.—No, sir. I don't know.

Q.—Have you any information upon it at all? A.—No definite information.

Q.—Doctor, do you now recall whether any of the hospitals in the city of Washington, outside of Georgetown University Hospital, adopted the principles as set forth in the Mundt Resolution? A.—I don't recall exactly what their action was, but I think that it was shown a few moments ago that Providence Hospital took some similar action. But whether it was precisely the same or not I could not say.

Q.—In the letter of transmittal to you from Georgetown Hospital, which was just brought to your attention a short while ago, it is stated that the Executive Committee at its last meeting had put into effect the principles stated in the Mundt Resolution. Do you recall that? A.—Yes, sir.

Q.—Do you recall the date of the meeting of the Executive Committee? A.—That was not indicated.

Q.—After you read the Woodward article in October of 1937, Doctor, what did you do toward bringing the Mundt Resolution to the notice of the other hospitals in Washington which had not been examined? A.—Nothing.

Q.—Did you personally, or through anybody else, bring the Mundt Resolution to their attention? A.—No, sir.

Q.—Was anything done with respect to the Washington hospitals differently from what was done with reference to every other hospital in the United States, so far as the Mundt Resolution was concerned? A.—There was nothing different.

Mr. Leahy:—May I just look over my notes, your Honor?

THE COURT:—I will give you an opportunity to look them over during the recess. We will take our recess now until 1:30.

MARCH 11—AFTERNOON

RE-DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, I wish you would identify for us these as the Principles of Ethics of the American Medical Association. A.—Yes.

Mr. Leahy:—I should like to read them. They will have to be read sometime, your Honor. I might as well do it now. Ladies and gentlemen of the jury: These are the Principles of Medical Ethics:

At this point the entire "Principles of Medical Ethics" was read to the jury.

By Mr. Leahy:

Q.—Doctor, there was just one further question I wished to ask you in connection with a letter which was shown you, and I will identify it by date, July 22, 1938, from the Tampa Hospital. Do you recall whether the Tampa Hospital, at the expiration of the year which you gave that hospital to adjust whatever problem they had between them down there had so adjusted that problem so that they remained on the register, or were they taken from the register? A.—They were not taken from the register.

Q.—At what time were they not taken from the register? A.—A year after that letter was written.

Q.—Were they at any time subsequently thereto, if you know, removed from the register? A.—I think not.

Mr. Leahy:—That is all.

RE-CROSS EXAMINATION

By Mr. Levin:

Q.—Is it not true that those doctors who had been engaged in Tampa in rendering medical services to these fraternal clubs, to these groups with a Latin population, and who had been on the staff of the Tampa Municipal Hospital, were required to resign from the staff of the Tampa Municipal Hospital? A.—I couldn't say whether they were required to resign; I think they did resign.

Q.—The hospital dropped them as a result of your activities? A.—I think not.

Q.—The hospital dropped them; you will agree with that? A.—Yes.

Q.—Now, before they did resign you did withdraw registration from that hospital? A.—No, sir.

Q.—Didn't your Council drop the Tampa Municipal Hospital for this reason and only reinstate them because a suit for an injunction was filed? A.—I think not.

Q.—You think not? Let me ask you this question: I think I was misinformed. Is it not a fact that the Tampa Municipal Hospital dropped these doctors from its staff and those doctors sought an injunction against the hospital, and after they obtained that injunction, didn't your Council withdraw its approval from that hospital?

Mr. Leahy:—There are two or three questions involved in that.

THE COURT:—You might ask the witness if he understands the question.

By Mr. Levin:

Q.—Are you confused by that question? A.—Yes.

Q.—Then I will divide it up. First, didn't the Tampa Municipal Hospital drop these doctors in question from its staff? A.—That is my recollection.

Q.—And didn't those doctors go into court and obtain an injunction preventing that discharge? A.—Something of that sort occurred; I am not certain of the details.

Q.—And after that didn't you notify that hospital that your Council was withdrawing its approval from that hospital? A.—Not within the period covered by this investigation.

Q.—Oh, well, now, I didn't ask you that. I asked you if after that time, didn't you then take action and withdraw them from your approved list? A.—It was quite a long time after that.

Q.—Specifically, wasn't it Feb. 17, 1940, and isn't that a copy of your letter to the hospital? A.—That is a correct copy of the letter of Feb. 17, 1940.

Q.—(Reading:)

"My Dear Mr. McKay: The Council on Medical Education and Hospitals, meeting on February 11, voted to withdraw approval for the training of interns at the Tampa Municipal Hospital. As a result of the changes which have been made recently in the organization of the medical staff, the Council is convinced that the hospital is no longer capable of fulfilling the requirements fixed by this Council and ratified by our House of Delegates."

Weren't the changes in the organization of the medical staff referred to this reinstatement of those doctors produced by their injunction suit? A.—That was one of the changes.

Q.—Was that one of the changes referred to in this letter, which caused you to withdraw approval for intern training at that hospital? A.—The changes referred to in the letter were that the entire staff of the hospital had been changed and within six months thereafter had undergone an almost complete change again, so that there was no continuity of service or supervision over the training of interns.

Q.—Weren't the changes that you referred to in this letter, and which caused you to act in withdrawing that approval, the fact that these doctors whom you had objected to were reinstated on the staff of the Municipal Hospital by order of the equity court down there? A.—That was not the only reason.

Q.—That was one of them? A.—That was one of them.

Q.—And wasn't the other one, the other change in the staff, that the rest of the staff, members of the A. M. A., withdrew from the Tampa Hospital when these doctors were reinstated by the court? A.—No, I think not.

Q.—Is there any truth in what I have asked you? A.—I know that a good many of the members of the society did stay on the staff.

Q.—And a good many left? A.—Some of them.

Q.—Because the court had reinstated these physicians you objected to?

Mr. Leahy:—That is objected to.

THE COURT:—How does he know that?

Mr. Lewin:—He said, as a result of the changes which were made.

By Mr. Lewin:

Q.—I just want to ask him about this other change, whether the other change in the medical staff which you refer to in that letter was not the change that resulted when a group of A. M. A. doctors left that hospital because these other doctors to whom you objected had been reinstated by the Court? A.—I couldn't say whether that was the reason why they left, but all I can say is there was a complete change in the staff of the hospital at one period, and within six months a complete change again, and we notified the hospital that if they couldn't keep a staff more regularly than that we couldn't depend on it to carry out our educational program.

Q.—But there was a substantial change in the personnel of the staff shortly after the injunction suit was decided? A.—There were two almost complete changes of the staff within six months or so.

Q.—Didn't you understand that there was a connection between those changes and the injunction action? A.—I have forgotten just where the injunction action came in.

Q.—The principles of medical ethics were introduced through your testimony. Do you recall that provision of the principles which says that contract practice may be unethical if it is contrary to sound public policy? A.—Yes.

Q.—Do you understand that to mean that the American Medical Association is the judge of what is sound public policy in connection with contract practice? A.—The American Medical Association would have to judge how to apply that phraseology in their consideration of the evidence.

Q.—Doesn't it usually act in that regard through the Judicial Council? A.—Yes.

Q.—And don't you know it to be the fact that the Judicial Council has consistently failed to define what they mean by "contrary to sound public policy"? A.—I am not aware of that.

Q.—Aren't you aware of these transactions in the Judicial Council which I now read you, from Exhibit 137: "The secretary"—

These proceedings were Nov. 12, 1937—

"The secretary presented the request of Dr. Kingsley Roberts, Medical Director of the Bureau of Cooperative Medicine of the Cooperative League of the United States of America, for definitions of 'solicitation,' 'advertising,' and 'contrary to good public policy.'" "No definite action was taken by the Council but there was no objection to giving Doctor Roberts the definition of 'solicitation' as adopted by the Judicial Council. The Judicial Council has never defined the terms 'advertising' or 'contrary to good public policy.'"

Didn't you know that? A.—No, I never heard that before.

Q.—Did you ever see a definition of "sound public policy" as used in circumscribing the proper limits of contract practice? A.—I don't recall.

Q.—As far as you know, the matter is completely within the caprice of the Judicial Council, without any standard to guide it as to what is or is not sound public policy? A.—I wouldn't say that, no.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Did you ever see a definition of "sound public policy" in the law? A.—No, sir.

Q.—Did you ever find it in the dictionary? A.—No, sir.

Q.—Do you know anybody else that did? A.—No.

Mr. Lewin:—Did you ever look for it? The Witness:—No.

Mr. Leahy:—Did you? Mr. Lewin:—Yes, I have looked for it.

By Mr. Leahy:

Q.—Why did the Council consider, if the Council did so, that a hospital which couldn't keep a staff longer than six months was such a hospital as couldn't remain on its approved list as those or as one qualified to train interns? A.—Because it is necessary, to carry out any kind of a system of training, to have the continuity in planning and execution of any training program to have constant and regular supervision, and any hospital that wasn't in a position to undertake the responsibility of doing that we felt was incapable of properly carrying out such a program.

Mr. Leahy:—That is all.

TESTIMONY OF THOMAS H. REAVIS

DIRECT EXAMINATION

By Mr. Leahy:

Thomas H. Reavis said he was employed in the General Accounting Office as investigator for fifteen years. Answering the subpoena for the Comptroller General of the United States he produced documents out of the A files, or the Comptroller's files, of the General Accounting Office.

TESTIMONY OF C. M. PETERSON

DIRECT EXAMINATION

Carl M. Peterson, Palatine, Illinois, said that he is employed as secretary of the Council on Industrial Health of the American Medical Association. Before that he was on the staff of the Council on Medical Education and Hospitals of the American Medical Association. He commenced in that employment in April 1930 and terminated in February 1938. He graduated from the Medical School of the University of Minnesota in 1927. Following that he was engaged for a short time in the practice of medicine in the Duluth, Minn., clinic; a short experience in private practice in London, Minn., and then a short period of postgraduate work immediately preceding his employment by the American Medical Association.

Q.—And where did you take your postgraduate training? A.—Actually my appointment in Duluth was in the nature of postgraduate work, and I also had a term at the New York Post-Graduate College and Hospital.

Q.—Now, when you were connected with the Council on Medical Education and Hospitals, in what capacity did you act? A.—My work was to investigate the educational program developed in hospitals.

Q.—And how many hospitals a year were you able to visit? A.—I should say between one hundred and fifty and two hundred hospitals, perhaps.

Q.—And in area, what territory did your examination cover? A.—We covered the entire country.

Q.—Do you recall at the time how many hospitals there were in the country which were on the approved list for intern training? A.—Oh, approximately seven hundred hospitals had been approved for training of interns.

Q.—And were there others besides yourself engaged in that same work for the Council? A.—Yes.

Q.—How many others? A.—Three of us.

Q.—How much of your time did you give to your work? A.—Full time.

Q.—Did you have any other duties than the ones you have just related? A.—Only administrative details in the office such as were incident to traveling in the field.

Q.—How was the necessity for the examination or investigation into the qualifications of the hospitals for intern training made? A.—Well, in every instance that I can recall an application was filed by the hospital in the office of the Council.

Q.—And do you mean by that the application of the hospital desiring the investigation for approval? A.—Yes, they suggested or asked for the regulations governing internship approval and we supplied them with the regulations.

Q.—Now, when the application came in to you from a hospital, what reply did you make to the request? A.—Well, subsequent to the first inquiry we regularly sent them some application forms.

Q.—Did you send with the forms any other communication whatsoever? A.—Yes, we usually sent them also—called attention to the essentials which had been set up governing the various kinds of approval.

Q.—And did that particular pamphlet have any given name? A.—Well, we had one pamphlet governing internship approval, another pamphlet governing residency approval.

Q.—I now show you what has hitherto been identified as Defendants' Exhibit 12, "Essentials in a Hospital Approved for Training Interns"; is that the one to which you refer? A.—This is dated 1939. There may have been some changes over the years since I was actually engaged in that work.

Q.—In general setup was the pamphlet which you enclosed in response to the requests of the hospitals for an examination similar to that? A.—It looks to me to be substantially the same.

Q.—Did you say that you also had another pamphlet, "Essentials in a Hospital Approved for Residencies"? A.—I did.

Q.—I now show you what has hitherto been identified as Exhibit 13: Is that the pamphlet you refer to? A.—I believe there have been some changes made in the characteristics of this set of essentials over what we had while I was associated.

Q.—But in whatever form the essentials may have been at that time, what did those essentials contain as information to the hospitals? A.—They contained a number of recommendations to the hospitals which we had found on the basis of experience to be good basis for training for house officers, interns and residents.

Q.—Do you recall whether at any time you made any examination of any Washington hospitals? A.—Yes, I have such a recollection.

Q.—Have you an independent recollection of the date or year when you made such an examination? A.—Yes; it was in 1937.

Q.—Do you recall now the occasion for coming to Washington to make such an examination? A.—I should feel it was based on an application received from the hospital here in Washington.

Q.—I am now going to show you what has hitherto been identified as Defendants' Exhibit 16. Will you kindly look that over and see if you can identify that, Doctor? A.—This is a letter addressed to Ray Lyman Wilbur, from Dr. James A. Cahill Jr. of Washington, regarding surgical appointment at Georgetown University Hospital and Providence Hospital.

Q.—Do you recall whether you ever saw that before? A.—Yes, I did see it before.

Q.—I will ask you to look at the paper clipped thereto. Tell us whether you identify that. A.—That is a letter I wrote to Dr. Cahill in response to his original inquiry about the residency.

Q.—Before the residency letter written by Dr. Cahill to Dr. Wilbur, had you had any notice of coming to Washington in order to make an inspection or examination of any hospitals? A.—No, sir.

Q.—What then was the occasion of your coming, if you can recall? A.—The occasion for coming to Washington was in connection with Dr. Cahill's request.

Q.—Did you receive any reply to the letter which you wrote, which is attached to Exhibit 16? A.—I believe so.

Q.—I now show you Defendants' Exhibit 16, and ask you whether you ever saw that before. A.—Yes, that is the letter addressed to me from Dr. Cahill.

Q.—And attached to it what do you find? A.—A copy of an application for residency approval submitted by Dr. Cahill in

behalf of Georgetown University, and another one in behalf of Providence Hospital here in Washington.

Q.—Now, after you had received the application with the information contained thereon, with respect to each hospital, what did you do with respect to coming to Washington to make an examination of both of those hospitals for residency training? A.—As soon as other arrangements could be made in connection with our regular program of inspection, we arranged to come here to investigate this application and the circumstances surrounding the application here in Washington.

Q.—Now, you said as soon as you could make the arrangement with reference to your other business, to what did you refer? A.—It wasn't possible to respond immediately to an application of this kind, because we received a great many similar ones from other institutions all over the country and they had to take their turn.

Q.—Do you recall now how soon it was after the receipt of the application forms that you finally came to Washington? A.—It seems to me, I recall that Dr. Cahill's letter was written in February and I believe we came here early in the summer.

Q.—Early in the summer of 1937, is that right? A.—I think 1937.

Q.—When you came here how many hospitals did you examine? A.—I visited Georgetown, Providence, Washington Park, George Washington and Columbia.

Mr. Levin:—You mean Washington Sanitarium? The *Il'it-ness*:—Yes.

By Mr. Leahy:

Q.—Had you ever previously examined any of those Washington hospitals before? A.—I think not.

Q.—Have you any recollection now as to the reason why you examined Columbia, Washington Sanitarium and George Washington at the time you examined Georgetown and Providence Hospitals? A.—That very likely was a routine matter, routine reinspections, or in the case of one of them, that may have—or they may have had an application in for a certain type of recognition; very likely it was routine visits.

Q.—What was the custom of your Council and yourself as an inspector in the matter of these reexaminations of hospitals? A.—Well, we attempted periodically to return to every hospital that had received approval to see whether they were maintaining what we considered desirable standards.

Q.—What instructions, if any, did you receive when you came to Washington to make these examinations of these hospitals? A.—I recall no particular instructions.

Q.—With respect to your itineraries, and with respect to the hospitals you should examine, who makes and determines as to the date, time and place, et cetera, thereof? A.—That was left largely to my own initiative. We worked where we felt that the need was most acute, from the point of view of our work.

Q.—Do you recall now whether Dr. Cutter ever gave you any special instructions of any kind when you started here for the examination of the Washington hospitals? A.—He did not, no.

Q.—Did anybody else in the Council give you any such instructions? A.—On the Council?

Q.—Yes. A.—No, sir; no, indeed.

Q.—Didn't anybody else in the American Medical Association? A.—No, sir.

Q.—Was the matter entirely in your own discretion? A.—Yes.

Q.—Now, in making these examinations of hospitals, who determined the character of the type or thoroughness of the examination? A.—In respect to the examination of the individual hospitals?

Q.—Yes. A.—Well, the inspector naturally, I believe—and—

Q.—And in your case that would be yourself? A.—Yes.

Q.—And having made the examination of these hospitals, what then did you do, with reference to the results of whatever you found existed? A.—I prepared reports of each visit.

Q.—Did you do the same with reference to all hospitals which you visited, all over the United States? A.—Yes.

Q.—And have you always done that ever since you have been employed by the Council?

Mr. Levin:—Is it necessary for this many leading questions to be asked of this witness? He is not a defendant.

By Mr. Leahy:

Q.—All right: What has been your practice ever since you have been employed by the Council with reference to making recommendations?

Mr. Leahy:—Is that better?

Mr. Lewin:—Well, after you have given him the answer.

The Witness:—It is the same thing.

By Mr. Leahy:

Q.—Won't you tell him, please, Doctor? *A.*—We regularly prepared a report which was submitted, which was intended to be submitted to the Council, regarding our findings in individual hospitals, and we presented a copy of that report to the hospital.

Q.—What did you personally do in that regard with reference to your examinations of the Washington hospitals? *A.*—I followed out those steps in regard to each of those hospitals.

Q.—I am going to show you a page of reports—five in number—and in order to keep the record straight, I will give you the number of this: It is U. S. 221, 218, 219, 220, 222. I want you to look those over and see if you can identify those papers. *A.*—221 is an inspection report I prepared about internship and application for residency in surgery in Providence Hospital.

218 was an inspection report I prepared about residency in obstetrics and gynecology at Columbia Hospital for Women and Lying-In Asylum.

219 was an inspection report I prepared regarding Washington Sanitarium and Hospital.

220 is an inspection report I prepared regarding internship and an application for a residency in surgery by Georgetown.

222 is an inspection report regarding intern training at George Washington University Hospital.

Q.—You identify each of those as your own report? *A.*—Yes.

Q.—What did you do with the copy of those, if you did anything? *A.*—The original one was intended or submitted to the Council on Medical Education and Hospitals, and the copy was sent to each hospital visited.

Q.—And did those reports conform to the reports which you had been submitting since you had been employed there? *A.*—They all followed this same general form.

Q.—Now, without going into the details of each report, how thorough an examination did you make of these hospitals? *A.*—We attempted to cover all the regulations which had been set up by the Council governing these various types of approval.

Q.—And without going again into the details of it, what were the general matters which you examined into with respect to each hospital?

Mr. Lewin:—Don't the reports show that?

Mr. Leahy:—I think so, but this method is so much quicker.

Mr. Lewin:—Well, I think the reports speak for themselves.

THE COURT:—Of course the reports speak for themselves, but if we can save time by having the witness summarize them I do not think it is objectionable.

Mr. Lewin:—What I am afraid of is that we will have both, the reports and the witness's summary.

THE COURT:—Well, you will have the reports; I will see to that.

Mr. Kelleher:—I think what Mr. Lewin means is, if the witness is going to cover the reports in summary they should not then be read to the jury.

THE COURT:—I see no harm in the question being answered by the witness.

By Mr. Leahy:

Q.—Doctor, will you just kindly look with me at these so we can hurry along. Did your report cover the object of your visits? *A.*—Yes, that was item No. 1.

Q.—For instance, on the report of the Providence Hospital, does it show the fact why you went to the hospital to make an examination of it? *A.*—Yes, the reasons are listed under the title "Object of Visit."

Q.—And that is what? *A.*—"Review of Internship," "Application has been received for approval of a residency in surgery."

Q.—Now, with reference to Georgetown, does that also show the object of the visit? *A.*—Yes, there is such a heading reading: "Report."

Q.—Does that also show that application has been made for approval of a residency in surgery? *A.*—It does.

Q.—The report then goes down in certain headings, general statement? *A.*—Yes.

Q.—And then you go into the staff organization? *A.*—Yes.

Q.—And then you give the type of staff: visiting, general, and then an analysis of the staff? *A.*—Yes.

Q.—In which you show the fellows of the American Medical Association, members of the American Medical Association, and the nonmembers of the American Medical Association. That is right? *A.*—Yes.

Q.—Do you also show whether it has a visiting, general dispensary? *A.*—Yes.

Q.—And then from that you go to the clinical material in the hospital? Department, outpatient department? And then you made an examination, did you, of the medical records? *A.*—Yes.

Q.—Reported thereon? *A.*—Yes.

Q.—Medical library? *A.*—Yes.

Q.—Reported thereon? *A.*—Yes.

Q.—Pathological service? *A.*—Yes.

Q.—Teaching plan for interns? *A.*—Yes.

Q.—And the intern committee? *A.*—Yes.

Q.—And reported on general medicine? *A.*—That is right.

Q.—Surgery? *A.*—Yes.

Q.—Obstetrics? *A.*—Yes.

Q.—Special instruction? *A.*—Yes.

Q.—And then on residencies? *A.*—Yes.

Q.—Staff coverage? *A.*—Yes.

Q.—And then and there you go, do you not, into an investigation into clinical material; basic training; regular duties; teaching duties; research clinics? *A.*—Yes.

Q.—What is meant by "fellowship" in dermatology? *A.*—A fellowship is slightly different than a residency, since it is ordinarily supported by endowment, but the terms are usually, that is the terms under which it is provided are usually controlled outside the hospital, ordinarily by a university, but the actual training is ordinarily given in a hospital, where the material is more available.

Q.—Then you examined, as far as Georgetown is concerned, the fellowship in medicine? *A.*—Yes.

Q.—And again the fellowship on radiology? *A.*—Yes.

Q.—And you went into that thoroughly? *A.*—Yes.

Q.—And then you concluded with a general summary? *A.*—Yes.

Q.—Now, what does your general summary state, not in detail, but what is the purpose of the general summary? *A.*—The purpose is to bring to the attention of the administration staff those findings which are most prominent and which need to be brought to their attention most forcibly.

Q.—And when you say the findings which need to be brought to their attention, what are they? *A.*—Substantially they are the recommendations which we think the hospital ought to put into practice.

Q.—It would be fair to say that the summary includes what your recommendations are to the hospital with reference to certain deficiencies found therein? *A.*—That is right.

Q.—Now, having gone through that report made at Georgetown, how did the reports for the other hospitals conform in general nature? *A.*—As far as my work was concerned they were all developed in this same way; some only referred to internship, others to residencies; still others to both.

Q.—Do you recall which hospital referred only to residencies? *A.*—Yes, the Columbia Hospital for Women and Lying-In Asylum.

Q.—Do you recall whether the Washington Sanitarium had been examined before? *A.*—I don't think I ever visited it.

Q.—Do you recall whether you had any information in the shape of a record indicating whether there had been a previous examination from the Council before you left? *A.*—I don't quite understand your question.

Q.—Do you know whether the Washington Sanitarium had been examined for approval before you left?

Mr. Lewin:—Object to the question. He said it had not.

THE COURT:—I think he may state whether the record shows it.

The Witness:—I would say yes, it had.

Mr. Lewin:—I move to strike that answer as unresponsive.

THE COURT:—Yes, that is unresponsive. The question is whether or not his preliminary examination, preparation for this examination, indicated that a previous examination had been made.

The Witness:—The hospital had been previously examined.

Mr. Leahy:—Now, let us go to Providence.

Mr. Lewin:—I still move that it be stricken as not responsive.

THE COURT:—I think that is sufficient. You may take that up on re-cross examination if you so desire and test his knowledge.

By Mr. Leahy:

Q.—Will you just glance through your report here, Doctor, as to Providence? There came a time when you also drew up the summary for that institution, did you not? *A.*—Providence, yes.

Q.—Without going into all the details of it, what have you to say as to the general character of the summary itself? A.—Here again it covers those points which I thought ought to be brought to the attention of the hospital in the shape of a few recommendations.

Q.—Perhaps if I read this back here I will not be standing between you and the jury:

"Providence Hospital ought to be in excellent position to provide high grade internships. Like all hospitals with essentially a private clientele, there are difficulties in establishing an active and progressive teaching program. The following recommendations are made:

"1. It is suggested that the details of appointment and supervision of interns be assigned to a separately organized intern committee which will report to the Executive Committee or the whole staff, as seems more desirable. Such a committee should consider adopting the following activities:

"a. Regular physical examination of interns at the outset of service including a flat plate of the chest.

"b. Adoption of regulations which will require that each intern maintain a record of the work he performs subject to check by the residents and countersign by the chief of service. Advantages are that obvious deficiencies in experience can be corrected and the hospital authorities may recommend or promote on a merit basis.

"c. Meetings should be held periodically with the interns to settle difficulties as they arise and to determine whether all interns are receiving a well balanced clinical training.

"d. Development of additional teaching exercises would improve the internship considerably, such as:

"1. Improved contact with clinical pathology and a controlled experience in that department and by the development of weekly clinical pathological conferences.

"2. Development of a clinical society by the interns themselves where they may invite clinicians to discuss subjects the interns select themselves."

What was the reason or basis for that recommendation that you made in that summary?

Mr. Lewin:—I object to that as immaterial.

THE COURT:—I am inclined to think, Mr. Leahy—will you gentlemen step here a moment?

By Mr. Leahy:

Q.—Doctor, I had just finished reading to you your first recommendation. Perhaps you had better have that before you. May I ask you what basis there was in fact for the recommendation that you made there? A.—We regularly suggested or recommended to the hospital staffs that they entrust the details of intern training, so far as appointments and development of the training schedule, to an intern committee. That was part of our regular practice.

Q.—Did you find an intern committee at Providence at the time? A.—Apparently not, because that is given very prominent place in my recommendation.

Q.—What is the importance of such a committee, Doctor? A.—It centers responsibility for the development of an educational service in a committee of the staff which has no other responsibility, and consequently they can organize the whole picture in much better fashion than without such a committee.

Q.—Where a hospital makes application for approval as a hospital for training interns, what importance does that recommendation have in connection with their application? A.—It gives us a very favorable impression if they do have a committee of that kind.

Q.—And if they have not, what do you do? A.—If they have not, we recommend very urgently that they do develop such a committee.

Q.—Just run your eye down across some of the subheadings and see what other basis in fact there was for the recommendation. A.—Under the major heading?

Q.—Yes. A.—We call attention to the fact that the committee could arrange for some supervision over the physical welfare of the interns by having physical examinations and x-ray pictures of the chest; and we suggest that regulations be adopted so that interns maintain a record of the work they perform, which would give them some insight into the broadness or diversity of the experience which they are having during their year or more of training. We recommend also that meetings should be held periodically between the interns and the intern committee so that matters may be adjusted as they arise, and then we further suggested in this instance that teaching exercises should be developed in connection with experience in clinical pathology and in clinical discussions through the formation of a society organized by the interns themselves.

That last recommendation deals with the fact that the interns presumably will know more themselves what kind of teaching they want—or I might put it better this way—what kind of instruction is missing in their ordinary daily duties, and this would supplement their ordinary clinical training to that extent.

Q.—The fact that those suggestions were made by you in the shape of recommendations indicates what, Doctor, with reference to whether those facilities existed at Providence at the time you made your examination? A.—The fact that they are included in the summary means that they did not previously exist, and I made this recommendation that they should be installed or developed.

Q.—How did those recommendations which you made in that regard conform to the requirements of a registered hospital for intern training? A.—This would bring the educational service at Providence Hospital in line with the recommendations which had been developed by the Council covering this question of training.

Q.—And in the event that those recommendations were not followed or pursued, what effect would that have on the application of the hospital for approval for intern training?

Mr. Lewin:—Objected to. This gentleman has been qualified as an inspector. What happens to the hospital depends on the action of the Council.

THE COURT:—Yes, I think he may speak generally, not with respect to this particular hospital, but with respect to certain facts known through his experience over the years.

A.—These reports would be submitted to the Council and action would be taken in respect to the closeness with which these hospitals conform with the regulations which had been set up for intern training.

By Mr. Leahy:

Q.—And where a hospital is found not to conform, in your experience what has been the action of the Council? A.—We felt that they should give up their approval.

Q.—If they were initially seeking approval? A.—We felt that these regulations should be reached before definite approval was assigned.

Mr. Lewin:—I object to that as not responsive. What he felt does not make a bit of difference.

By Mr. Leahy:

Q.—Does that express, in your experience, Doctor, the action of the Judicial Council whose a hospital is making application for the first time for intern training or for a residency in surgery, if it does not comply with the recommendations made after an inspection of it?

THE COURT:—You refer to the District Council?

Mr. Leahy:—I mean, the Council on Medical Education and Hospitals.

Mr. Lewin:—The best proof of that is what the Council does.

THE COURT:—That is true; but that would cover years of action by the Council on hundreds of applications, and we cannot delve into those things.

Mr. Lewin:—I think he could summarize it without going into all these detailed records.

THE COURT:—He may answer.

The Witness:—The effect of nonobservance of these matters brought out in the summary to this report or similar reports would be substantially as stated, in my opinion.

By Mr. Leahy:

Q.—And that is that the hospital would or would not get approval? A.—It would not be approved unless these recommendations were observed.

Q.—Did you make any further recommendation with reference to any other condition existing? A.—Yes. There are several additional recommendations.

Q.—Look at your second recommendation there and tell us what that represents. A.—That refers to the clinical records in the hospital.

Q.—What, in substance, was your recommendation in that regard? A.—My recommendation is that much more attention should be paid to the character of clinical records written by the interns. Since that is an exceedingly important part of their training, we pay a good deal of attention to that factor; and I make recommendations regarding the importance of actual work done by the interns and the amount of supervision exercised over this part of their training by the attending staff.

Q.—Why is that such an important part in the training of an intern—keeping proper clinical records? A.—He is a good physician or a poor one depending on the character of the records he keeps; and we try to instill that into him from his earliest medical training.

Q.—What was the basis for the recommendation at the time of your inspection? A.—I found that improvement could very easily exist in that respect in regard to this hospital.

Q.—What did you find as your first recommendation, Doctor, with reference to the manner in which the records were kept at the time? A.—May I read it?

Q.—Read the first sentence:

"At the present time there is no tradition for good records in Providence Hospital."

Q.—Did you make any other recommendation as to conditions that should be corrected? A.—I bring out the fact that the intern relationship to the hospital record system should be adjusted, uniform rules for recording histories and physicals should be adopted, progress notes regularly written and a working diagnosis arrived at in all cases. Interns will not write histories conscientiously if no attention is paid to their efforts. Attending physicians should countersign records on their own private cases or delegate this duty to the residents since the ward services are small. This step can readily occur at rounds. All final diagnoses should be signed by the attending physicians.

There is another paragraph:

"Statistical reviews should be improved through recording by services, the number of admissions, discharges, conditions on discharge, infections, consultations, deaths, and autopsies. Where organized hospital services exist, it is usually preferable to submit service statistics at departmental conferences rather than before the entire staff."

Q.—Of what importance were those various records and matters and things which you recommended and put in your report? A.—This is, we think, of considerable importance, since it constitutes the basis for a man's educational experience in his hospital year or years. It is on this kind of training that he develops his own professional approach to the work-up of an individual case.

Q.—Did you make any further recommendation with regard to that problem? A.—I have another recommendation regarding autopsy performance.

Q.—Of what importance is autopsy performance in any hospital which is seeking approval for intern training? A.—Autopsy performance is our best index of the diagnostic acumen of the staff; that is, the findings pre mortem as against the findings post mortem.

Q.—Where would this fit into the training of an intern or resident? A.—We would know through an examination of the statistical material and reports of that character how well the diagnosis agreed with the findings at postmortem examination.

Q.—What condition did you find to exist as the basis of your recommendations? A.—I say here that:

"The autopsy record is susceptible of great improvement. One hundred autopsies a year should not represent great difficulty. Coroner's autopsies are not considered as useful educationally unless it is possible for house officers to witness the procedures and suitable protocols are available for the hospital files."

Q.—Were there any other recommendations than those? A.—The fourth recommendation refers to the availability of a suitable medical library and medical reference works.

Q.—Of what importance is it in the training of a young intern or resident to maintain a library in a hospital? A.—It is of the greatest importance that he have access to the recognized literature in medicine describing diagnoses and treatment of disease.

Q.—What condition did you find to exist at the time of your inspection? A.—I recommend that regular provision should be made for the medical library as a joint hospital staff enterprise. Use of reference material is best secured by the development of an intern journal club whose activities might well be integrated with the clinical society mentioned above.

Q.—And the fact that you made that recommendation indicates what, if anything, in connection with the library facilities for the instruction of young interns and residents in Providence Hospital at the time you inspected that hospital? A.—It means that the collection available at Providence at the time I inspected it was probably below the status recommended by the Council on Medical Education and Hospitals.

Q.—Were there any further recommendations? I recommend to the Council that approval of a residency in surgery should await response to the listed recommendations, especially improved control over the surgical records, development of weekly grand rounds, improved autopsy performances on surgical cases and better contact with autopsy and surgical histopathology.

Q.—The result of your recommendation, then, Doctor, with reference to the granting of the approval which Providence sought in its application was that it should be granted or denied or withheld until you could see what Providence would do? A.—That it should be withheld. That refers to the recommendations for approval of a residency as to surgery.

Q.—In your experience as an inspector, where a recommendation has come from you to your Council that approval be withheld until the hospital acts on the recommendations made, what has been the action of the Council with reference to your recommendation? A.—They would ordinarily follow out our recommendation.

Q.—Without going into all of the other reports in that fashion, I will just ask you this question, Doctor. Did you, with reference to each hospital which you inspected, make a summary of recommendations of what you found to be in your judgment the conditions which should be improved? A.—I did.

Q.—Do you recall how long you were in Washington upon that particular occasion? A.—I should say I spent a day in each hospital, so I would feel that I was here five days.

Q.—Do you recall any further correspondence in connection with the reports which you have just identified? A.—Yes. We submitted a copy of the report to the hospital.

Q.—Is that copy here? I do not happen to have the number. After you had submitted, as you have stated, this report to the Council—I think you told us you also submitted a copy of the report to the hospital? A.—Yes, sir.

Q.—Did you follow that practice in this instance? A.—Yes, sir.

Q.—How is it that you forward a copy of the report to the hospital? How do you do that? A.—We send them a copy of the report with a letter calling attention to the general contents and particularly to the specific recommendations.

Q.—At the time, Doctor, that you received, or the letter which Dr. Cahill wrote to Dr. Wilmer first came to your attention, did you know anything about G. H. A.? A.—No, sir.

Q.—Had you ever heard of it? A.—No, sir.

Q.—When you wrote your letter in reply to the letter which Dr. Cahill had written had you then learned anything about G. H. A.? A.—No, sir.

Q.—When you came to Washington to make an examination and inspection of the hospitals that you did examine or inspect, had you heard anything about G. H. A.? A.—No, sir.

Q.—Had any one discussed G. H. A. with you? A.—Not at all.

Q.—Had Dr. Cutter? A.—No.

Q.—Had any one at all discussed G. H. A. with you in any way, shape, or form? A.—Not in any way, shape or form.

Q.—Did the examination which you made of the hospitals and their inspection have anything to do in your mind with G. H. A. in Washington, D. C.? A.—No, sir.

Q.—At any time did any of the recommendations which you made in your report to each of the hospitals relate in any way to G. H. A.? A.—No.

Q.—Subsequently in the correspondence was anything said by you or anything done by you in connection with these examinations which had anything to do with G. H. A.? A.—No, sir.

Q.—When was the first time that you ever heard of G. H. A.? A.—I read a description of G. H. A. in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Q.—And do you recall when that was? A.—That was late in the fall of that year.

Q.—Do you recall now whether you personally conducted the correspondence with the five hospitals which you had inspected in Washington following your submitting to them copies of the reports which you have before you? A.—No.

Q.—Was it done by somebody else in the office, if you can recall? A.—Well, the general plan was for the inspector to prepare a letter of transmittal for Dr. Cutter's signature.

Q.—But should other correspondence be had following the letter of transmittal, who would conduct that correspondence? A.—Ordinarily, Dr. Cutter.

Q.—Do you recall in the instance of these hospitals here which we have just been discussing whether you or Dr. Cutter conducted the correspondence? A.—I should say, Dr. Cutter.

Q.—With respect to the letter of transmittal you just mentioned, did you at any time draw the attention of any hospital in Washington—and I am referring to any one of the five about which we have been talking—to a resolution called the Mundt Resolution? A.—In the letter of transmittal?

Mr. Levin:—He said Dr. Cutter wrote these letters, and they are in evidence and they quote the Mundt Resolution.

Mr. Leahy:—If your Honor please, he has just stated that it was the habit or custom of the inspector to prepare the letter of transmittal for Dr. Cutter's signature. Am I wrong about that?

THE COURT:—I think you are right about that; but the letters are in evidence and they speak for themselves.

Mr. Leahy:—I did not have them before me, and I was just trying to summarize them.

By Mr. Leahy:

Q.—Did you or did you not do that?

Mr. Lewin:—I object to that. The letters speak for themselves. There was only one letter and that was from Dr. Cutter, he said.

Mr. Leahy:—Let us get this straight, because he did not say that the only letter was from Dr. Cutter. He has just reiterated that he prepared the letter of transmittal for Dr. Cutter's signature.

Mr. Lewin:—What is the difference between the two statements?

Mr. Leahy:—There is just enough difference so that one is right and the other is wrong.

THE COURT:—Produce the letter and let us have it settled.

Mr. Leahy:—I am told that it is No. 239.

By Mr. Leahy:

Q.—I am now going to show you what has been identified as No. 239, dated Aug. 21, 1937. Would you kindly run your eye down that letter and see if you have any recollection about it? *A.*—Yes. This letter is dated Aug. 21, 1937, sent to Sister Margaret, Providence Hospital, Washington, D. C. It calls attention to my inspection report of Providence Hospital.

Mr. Lewin:—He was asked whether he had any independent recollection of it.

THE COURT:—Yes.

By Mr. Leahy:

Q.—Do you recall the letter now? *A.*—Yes.

Q.—Do you recall now who dictated it? *A.*—I did.

Q.—After you dictated it, where did you send it? *A.*—I sent it to Dr. Cutter for his signature.

Q.—What was the custom with reference to initials, and so forth, on the bottom of pages where a letter was for Dr. Cutter's signature? *A.*—His initials appear followed by the stenographer's, and underneath are my own, indicating that I prepared the letter for him.

Mr. Kelleher:—If your Honor please, I think it should be understood that the filing cabinet with Government Exhibits in it is accessible to both sides, and we will be willing to try to accommodate counsel as much as possible, and they are welcome to go there as much as they want to.

THE COURT:—I do not think there will be any trouble about that. I should think that primarily the exhibits offered by the Government should be produced when called for, and on the other hand I think as to exhibits offered by the defendant they should produce them—in other words, cooperate with each other.

Mr. Kelleher:—We want to, your Honor; but I merely point this out because we are not permitted to keep these documents ourselves; they are kept in the custody of the Marshal.

By Mr. Leahy:

Q.—Doctor, I want to draw your attention to this letter which you wrote to Providence Hospital. It encloses, as it states, a copy of your notes and recommendations, referring to opportunities available for interns at Providence Hospital, and you say:

"Please refer this statement to the officers of the staff and membership of the Executive Committee.

"You will recognize that there are several factors that are not in conformity with the Council's regulations governing internship approval."

What were those factors? You say there are several factors not in conformity with the Council's regulations. *A.*—Those factors were the ones enumerated in the summary of the report.

Q.—The ones that your attention has just been brought to? *A.*—Yes.

Q.—And which you just explained to us? *A.*—Yes.

Q.—(Reading):

"It is a matter of great interest to this office, therefore, to learn whether the recommendations enumerated at this end of the report are acceptable or not. As matters stand now we believe quite likely that when this statement is submitted to the Council at its regular meeting early in November internship approval will be withdrawn."

To what were you referring as the basis of your belief when you dictated that letter, that internship approval would be withdrawn from Providence? *A.*—Here, again, I referred to the recommendations contained in the summary of the report regarding conditions I found in Providence Hospital.

Q.—Doctor, in that report you also made an analysis of the staff to which your attention was directed as I went over the report with you. Do you recall? *A.*—Yes.

Q.—I will ask you whether or not the analysis of the membership of the staff had anything to do with the paragraph which you have just read? *A.*—No; it had nothing to do with that.

Q.—To what, exclusively, did that paragraph refer when it said that intern approval would very probably be withdrawn? *A.*—To the statements in the summary regarding the matters that I found below par in respect to intern training.

Q.—(Reading):

"Similarly the application for approval of a residency in surgery is held in abeyance pending adjustment of the present situation."

To what did you refer by the phrase "present situation"? *A.*—Those factors which I felt were still below the standard recommended by the Council regarding the training of a surgical resident.

Q.—You called attention in the concluding paragraph of your letter to the Mundt Resolution, so called, did you not? *A.*—Yes, sir.

Q.—Why, Doctor, was the Mundt Resolution referred to in this particular letter? *A.*—We were calling the attention of all hospitals to the Mundt Resolution as we inspected them in relationship to our inspection program.

Q.—What difference was there in your conduct when writing this particular letter to Providence Hospital and to other hospitals you inspected at the same time? *A.*—We followed this same procedure.

Q.—With reference to all hospitals? *A.*—All hospitals approved for internship and residencies.

Q.—Now, Doctor, I want to bring your attention to certain other letters which were written. I show you one to George Washington University Hospital. Who dictated that letter? *A.*—I did.

Q.—(Reading):

"The enclosure is a copy of Dr. C. M. Peterson's report on the present status of intern training at George Washington University Hospital. We should like to have you refer this statement to those on your staff who are interested in or responsible for the internship program. A number of suggestions are incorporated at the end of the report, and it would be a matter of interest to this office to learn whether these suggestions are acceptable or not. They represent developments which, in our experience, have proved to be of real value elsewhere.

"May we call your attention to the Mundt Resolution."

"Analysis of the staff is included in the report. What possibility, if any, exists for the observance of this recommendation at George Washington University Hospital?"

Now, Doctor, in the report which you sent to George Washington University Hospital was any indication contained therein with reference to what the Council might or might not do as to recommending its internship approval?

Mr. Lewin:—Objected to. The letter certainly speaks for itself.

THE COURT:—Yes.

By Mr. Leahy:

Q.—Take the letter to Sister Mary Rodriguez at Georgetown University Hospital. Who dictated that letter? *A.*—I did.

Q.—(Reading):

"A number of recommendations are incorporated at the end of the report. It is a matter of interest to this office to learn whether in your opinion these suggestions can be adopted. In consequence, any supplementary information which you care to submit will be appreciated.

"In respect to the residency in surgery, your attention is called to the components which need further attention before full approval can be assigned."

And then the same language with reference to the Mundt Resolution? *A.*—Yes, sir.

Q.—In your letter to the Washington Sanitarium and Hospital at Takoma Park you say:

"Your particular attention and that of other members of your staff is called to the recommendations enumerated at the end of the statement. It would be a matter of interest to this office to learn whether you consider these recommendations acceptable and the possibility for their adoption in your educational program. Such a statement would be useful to the Council when it meets in October, in order to determine whether internship approval should be continued or not."

Then you call attention in the same language again to the Mundt Resolution? *A.*—Right.

Q.—In the one to the Columbia Hospital for Woman, after stating that you are enclosing your report, you say:

"It is a matter of genuine interest for this office to learn whether these suggestions are acceptable or not, preferably in advance of the next meeting of the Council which will occur early in November."

Then it says that it is judged from certain remarks that remedial measures have already been instituted. Then you again draw attention to the Mundt Resolution, and conclude:

"What possibility, if any, exists for observance of this principle in your hospital?"

Is that right? *A.*—Yes.

Q.—In calling the attention of the five hospitals which you inspected here in Washington, to the Mundt Resolution, what connection, if any, was there between G. H. A. and your calling the attention of the hospitals to the Mundt Resolution? *A.*—There was no connection at all.

Q.—When you wrote those letters had you heard anything about G. H. A.? *A.*—Not at all.

CROSS EXAMINATION

By Mr. Lewin:

Q.—It is true, is it not, Doctor, that in each of these five reports, for each of the five Washington hospitals, you did report on the staff membership? *A.*—We customarily did in all reports; yes.

Q.—And you did it in these five reports, did you not? *A.*—Yes.

Q.—Did you not do that pursuant to the Mundt Resolution? *A.*—No.

Q.—No? You mean to say that you were not instructed to do that by the Council on Medical Education and Hospitals? *A.*—In reference to the Mundt Resolution?

Q.—Yes. *A.*—No. I was not so instructed.

Q.—Do you know anything about this minute of the meeting of the Council on Medical Education and Hospitals held Feb. 15, 1936, with regard to the resolution of the House of Delegates adopted at Cleveland? The Mundt Resolution was adopted at Cleveland, was it not? *A.*—I believe so.

Q.—(Reading):

"That physicians on the staffs of hospitals approved for intern training by the Council be limited to members in good standing of their local medical societies. It is suggested that in making reports on intern hospitals the Council's inspectors include an analysis of staff affiliations; that is to say, that they indicate which are fellows of the A. M. A., which are members and non-members. Such a report sent to the superintendent of the hospital would have a good effect."

Were you not familiar with that? *A.*—I believe I attended that meeting of the Council; yes.

Q.—Would you say now that the reason you were required to report on the staff memberships when you inspected these hospitals was because of the Mundt Resolution? *A.*—Our principal approach to the staff analysis was in relation to the character of men who were to be responsible for the training of interns.

Q.—Wait a moment. Did you go into the character of the individual members of the staff, or did you simply go into the question of whether or not they were members of your Society? *A.*—We obtained staff lists of the hospitals at the time we visited them and referred them to the list we had in our own office regarding their membership in the A. M. A.

Q.—Did you study and report on the individual characters of the staff members? *A.*—We took into consideration memberships in other societies as well, particularly special societies.

Q.—Did you take into consideration the membership on the staffs of any of these five hospitals in societies other than the A. M. A.? Will you look at those reports, please? *A.*—In connection with George Washington Hospital it appears that the staff, for example, is made up of the faculty of George Washington University School of Medicine, which would be a factor in its favor, as far as experience in teaching is concerned. I do not see any analysis of the staff here in this report.

At Georgetown the analysis refers to membership and affiliation and nonmembership in the American Medical Association.

Q.—I did not ask you that. I asked you whether you analyzed the affiliations of staff members with other societies than the A. M. A. and whether you reported on them. *A.*—Yes. I call attention to certain of the executive and visiting staffs being professors, associate professors, assistant professors in Georgetown Medical School.

At Columbia Hospital I call attention to the proposal for the development of eligibility to certification by the American Board of Obstetrics and Gynecology.

Q.—What is that? *A.*—That is a certifying agency which, through a system of examinations, establishes the competency of a man in the specialty of obstetrics or gynecology.

Q.—Is it in connection with the A. M. A.? *A.*—Yes. They have representatives on the Examining Board from the appropriate section of the A. M. A.

Q.—Is it confined to A. M. A. members? *A.*—Membership in the A. M. A. is one prerequisite for certification.

Q.—I want to know what reports you made upon staff affiliations in societies other than the A. M. A.

Mr. Richardson:—He has told you.

Mr. Lewin:—He has told me about some professorship at local medical schools.

By Mr. Lewin:

Q.—Have you not? *A.*—Yes.

Q.—Is that all? *A.*—And the matter we have just discussed about special certification.

Mr. Leahy:—Go ahead through the others, Doctor.

The Witness:—In respect to Washington Sanitarium, the hospital itself had some specific rule regarding staff appointment which I do not recall at the moment; and in respect to Providence Hospital no other affiliation is mentioned, as I read this now, other than the American Medical Association.

By Mr. Lewin:

Q.—You were interested, you say, in reporting on the membership of nonmembership in the A. M. A. because you were interested in the character of the men who were instructing the interns; is that right? *A.*—Yes.

Q.—And you confined your study of their character to ascertaining whether or not they were members or nonmembers of the A. M. A. That is what that means, does it not? *A.*—If you will include that certain references are made to other affiliates.

Q.—And those are the references that you have given, that some were professors in some of the medical schools? *A.*—Yes, sir.

Q.—What is your testimony now, since I read you this minute of your Council, as to whether or not your purpose of studying and reporting on staff affiliations was connected with the Mundt Resolution and grew out of the Mundt Resolution? *A.*—I can say this speaks for itself.

Q.—What does it speak? Are you in agreement with it? Did it grow out of the Mundt Resolution or didn't it? You testified to the contrary a moment ago. Does it speak correctly for itself? *A.*—This does not quote the resolution as such.

Q.—Does it refer to the Mundt Resolution or not? It says "the resolution adopted at Cleveland with regard to staff membership." *A.*—I should say that it referred to the Mundt Resolution.

Q.—Then your testimony would be that your practice in reporting on affiliations with the A. M. A. directly grew out of the Mundt Resolution, would it not? *A.*—As regards this action, yes.

Q.—As regards your action in making these reports, yes; is not that correct? *A.*—I thought you said that it grew out of this statement.

Q.—I asked you whether your action in making these reports on the five Washington hospitals as to staff affiliations with the A. M. A. did not grow directly out of the Mundt Resolution? *A.*—Yes.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, is there anything which you indicate in any one of these reports as to whether the members on the staff of any of these hospitals belonged to any other organizations? *A.*—Is there any statement in the reports to that effect?

Q.—Yes. *A.*—No. I did make the statement that they belong to faculties of medical schools and that certain of them are qualified.

TESTIMONY OF J. FRANCIS MOORE

DIRECT EXAMINATION

By Mr. Leahy:

J. Francis Moore said he had been employed by the Home Owners Loan Corporation as Secretary to the Board since November 1939. He produced and identified part of the official records of the Home Owners Loan Corporation.

TESTIMONY OF LOGAN S. GAIN

DIRECT EXAMINATION

By Mr. Leahy:

Logan S. Gain said that he was employed as assistant treasurer of the Home Owners Loan Corporation and had been for about seven years.

He produced records from the Home Owners Loan Corporation.

(To be continued)

PHYSICIANS IN INDUSTRIAL PRACTICE

The Committee on Medical Preparedness, with the cooperation of the Council on Industrial Health of the American Medical Association, prepared a special questionnaire to be sent to industrial physicians. This schedule requested detailed information of the physician's training and experience in industrial medicine.

The names of physicians engaged in or interested in industrial practice were obtained from two sources: First, in coding the regular Medical Preparedness schedules, all physicians who indicated in some way on their schedule that they were interested in industrial medicine were coded for industrial practice and a list of names was made up from the names on these schedules. A special questionnaire relating to industrial practice was sent to each name on this list. Second, the names obtained in this way were supplemented by names of physicians engaged in industrial practice which were already in the files of the Council on Industrial Health.

Up to March 1, 10,134 special industrial schedules had been mailed out to physicians, and 6,332 of the physicians had replied.

Of the total that replied, 4,981 were now engaged or had experience in industrial practice and completed a schedule. The remainder, or 1,351, indicated in their reply that they were not engaged or interested in industrial medicine. It is not known how many of the 3,802 physicians who have not replied are engaged in industrial practice. Follow-up letters with another schedule will be sent to these physicians in an attempt to obtain information from them.

Up to this date, 4,434 industrial schedules have been coded, edited and sent to the International Business Machines Corporation Service Bureau, where the information was transferred to punch cards. The remaining 547 schedules which have been received have been coded and edited, but the information has not been transferred to punch cards as yet.

A listing of the information from 4,434 punch cards on hand as of March 1 was made according to the type of practice and according to the percentage of time the physician devoted to that particular phase of medical service. The physicians are listed on special sheets by state, and, in addition to showing the type of practice and amount of time devoted to that particular practice, other data which were provided on the schedule are also shown. The accompanying table shows the number of

Types of Practice of Industrial Physicians, Based on 4,434 Punch Cards, March 1, 1941

Type of Practice	Percentage of Time Devoted			Total
	Full Time	More than Half Time	Less than Half Time	
General industrial practice.....	806	1,079	1,022	2,907
Traumatic surgery	100	264	313	677
Occupational disease control.....	8	5	11	24
Plant medical department administration..	103	20	16	139
Toxicology	7	2	8	17
Physical examination	26	35	54	115
Health education of employees.....	1	2	1	4
Industrial hygiene teaching.....	1	..	4	5
Industrial hygiene research.....	7	..	1	8
Governmental industrial hygiene administration	20	2	2	24
Casualty insurance administration.....	11	5	2	18
Workmen's compensation administration..	10	12	18	40
Civil service medical examinations.....	2	2	2	6
Private industrial hygiene consultant.....	6	10	17	33
Total.....	1,177	1,438	1,471	4,086

Punch cards from 348 schedules did not contain sufficient information to be classified under the headings given.

physicians engaged in industrial practice according to a tabulation of the type of practice and time devoted to practice.

This is only a partial tabulation of the industrial physicians in the United States. As additional schedules are received, punch cards will be prepared and later tabulations will show more complete figures.

OFFICIAL NOTES

ANNUAL CONGRESS ON INDUSTRIAL HEALTH

Third Annual Meeting, held in Chicago, Jan. 13 and 14, 1941

DR. STANLEY J. SEEGER, Milwaukee, in the Chair

JANUARY 13—MORNING

Report of the Council on Industrial Health

DR. STANLEY J. SEEGER, Milwaukee: As an initial activity, the Council on Industrial Health of the American Medical Association undertook to define the problems of health in industry and to learn what was done and is being done about these problems. The Council has placed emphasis on the large number of workers who are under the care of the general practitioner. Contrary to common impression, industry in this country is made up predominantly of small units. Ninety-seven per cent of all manufacturing concerns employ fewer than two hundred and fifty men, and almost seventy thousand of them employ five wage earners or less. From the point of view of preventive industrial medical service, the field of the small plant is almost unexplored. When it is found possible to extend qualified preventive assistance to such concerns, through the joint agencies of private practice and public health administration, satisfactory to those who supply the service and to those receiving it, an achievement will be recorded in which all elements in the medical profession can take lasting satisfaction.

The Council is perfecting machinery so that it may act as a clearing house in this field. It has established contacts with organizations representing the nursing profession and industrial hygiene engineers, with industrial commissions, with insurance carriers, with representatives of industry and of labor. These numerous contacts have demonstrated that the field of industrial health is complex and contentious and that conditions of work and their effect on the health of employees will eventually bring a wide range of interests within the sphere of legitimate medical activity.

The development of the preparedness program has brought to maturity situations in medical industrial relationships which have been known to exist for many years and it has created new developments. In common with all other agencies of the American Medical Association, the Council on Industrial Health has tendered its services to the federal government in the prosecution of defense measures. It has acquired information about the activities of all major medical agencies interested in the health of workers. It has conducted a census of physicians who confine their interests or give special attention to industry throughout the nation. It has investigated the facilities that are available for industrial medical training and has arrived at conclusions about what needs to be taught, both before and after graduation.

At the recommendation of the Council, cooperating committees in the state medical societies have been formed in the industrial areas and in a great many counties.

The Physician in Industry and National Defense

DR. IRVIN ABELL, Louisville, Ky.: If industrial production is to contribute in full measure to national defense, the medical profession must assume greater responsibility and participate more fully in health maintenance programs for industrial workers. The essential nature of this responsibility lies in the fact that, as warfare is now waged, the mental and manual work of twelve (to state the proposition conservatively) is necessary to maintain one effective combatant in the field. Loss of working time by skilled and indispensable craftsmen must be regarded as wartime casualties equal in importance to those which occur in actual combat. The same careful mobilization of medical and hygienic resources will be required to keep them under control.

The survey of the medical profession by the Committee on Medical Preparedness will define clearly actual shortages which exist in medical personnel capable of immediate service as industrial physicians, administrators and consultants. Sufficient information has been accumulated making it certain that such shortages exist, as no doubt is the case in other classifications of industrial health personnel, notably engineers and nurses.

In view of these limitations in qualified personnel, two steps seem practical and logical. The first is that physicians in industry should not be assigned to services of strictly military nature unless special experience, training or previous commitments make such a procedure unavoidable. The other is to explore all available opportunities for instruction in the special technics of industrial medicine and hygiene to the end that an adequate reservoir of well trained physicians and hygienists be regularly available. It is not too early to begin such teaching in the undergraduate curriculum. More important at the moment is the development of teaching programs for practicing physicians ranging from the introductory or refresher type of course to short intensive instruction of three to six months' duration arranged by professional schools or medical societies or in combination. It must be regarded as most unwise to assign to military service physicians able and willing to instruct others in the nature and methods of industrial practice.

Physicians working in the industrial field are highly competent in their own special jobs, but as far as munitions are concerned they are untrained. The primary need in the present emergency is an increase in the number of physicians and engineers qualified in industrial health and medicine and their further training in the requisites for control of the hazards of war industries. This task can be successfully accomplished by avoidance of duplication of effort and by harmonious and constructive endeavor on the part of all concerned.

The physician in industry will make many and notable contributions to the national defense. Some special form of recognition or commission ought to be devised which could make certain in the minds of physicians that a medical appointment in industry must be regarded as equal in importance and dignity to an assignment with the combat forces.

Current Needs in Industrial Hygiene Research

PHILIP DRINKER, Boston: Toxic solvents requiring study should be selected according to a threefold scale of practical urgency: their war or peace time usefulness, their physical and chemical properties and their toxicity. Inhaled gases or vapors, whether they react physiologically or are nonreactive, exert their special effects only when they have been dissolved in the blood or other fluids. Biochemical laws can be given in comparatively simple chemical language, once a few fundamental constants are known. Blood saturation due to any particular vapor concentration as well as blood desaturation can be determined whenever the toxicity of a given gas or vapor is known.

Research problems persist whenever the solubility in blood, urine or lymph of a given toxic gas or vapor is not known. Such is toluene, a substance of vast importance in the national defense program. For producing toluene the government is building huge plants in the manufacture of trinitrotoluene. Likewise, in the making of cellulose-acetate rayon it is not unusual to find fairly high concentrations of acetone. Since acetone has the same effect on man as ethyl alcohol, the effects of chronic exposure, especially in explosives manufacture, cannot be ignored.

There is also a great need for better methods of detecting small amounts of solvents and other substances in blood and urine. In problems of industrial hygiene, saturations are measured in micrograms per cubic centimeter of blood. There are not many industrial solvents which today can be measured accurately in such small concentrations. Yet industrial hygiene demands and expects to get great improvement in methods for detecting absorption by man of the common industrial solvents. Carbon disulfide, for example, is an important industrial solvent and is essential to the manufacture of viscose rayon. If chemical procedures can be refined still more, it may be possible to detect easily absorption of carbon disulfide in either blood or urine far below the level which might indicate or warn of possible harm.

Data are urgently needed to determine the possible irritation of pulmonary tuberculosis from breathing solvent vapors or gaseous irritants. Accumulated experience on the effects of various associated pneumonias and of the irritant gases used in the last war suggests that it is not pulmonary inflammation per se that has an unfavorable influence. Rather, it is some specific peculiarity of an inflammatory state, such as that in influenzal pneumonias. This is not at all a difficult type of research and it is one which will benefit industry greatly.

Unusual outbreaks of industrial dermatoses, like other occupational diseases, are definitely preventable. Frequently the offending agent is one the harmful nature of which should have been known or could have been determined had advice been sought. Not infrequently, trouble results because the true chemical name of the offending substance was concealed by some trade name or catch title, like solvent 10X. It is time that industrial medicine and industrial hygiene prohibited the use of substances that are not properly labeled. The use of brief names, like aspirin, are a help in industry, but the true composition should be given also, just as it is with proprietary medicines.

The etiology of silicosis has been extensively studied. However, one can determine physiologically the potency of a new dust without studying the possible tuberculosis complications. After all, only silica and asbestos have proved of serious consequence from the standpoint of subsequent or previous tuberculous infection. In investigating the potency of a new dust the question is, therefore, To what degree does it do what either silica or asbestos does? All of us are watching with keenest interest the Canadian experiments on the possible use of aluminum dust to prevent or to reduce the severity of silica dust exposures.

One of the most important jobs in the construction of ships, tanks, cars and even of airplanes is welding, especially electric welding. Some of these jobs require the welder to work in small spaces, as in bulkheads of ships, in which adequate ventilation is difficult. Under reasonable working conditions there is no health risk from either gas or electric welding, but welding in unventilated confined spaces is dangerous. In such cases the welder should wear an appropriate mask, preferably one with a supply of fresh air.

The Special Nature of Industrial Practice

DR. C. O. SAPPINGTON, Chicago: In a questionnaire sent out by the American Medical Association to which 120,000 physicians had replied, only 1,283 physicians could be recorded as competent in industrial medicine. The employer-employee relationship is the one important factor that distinguishes industrial from private practice. That relationship brings to the industrial scene industrial nurses, hygienists, chemists, medical specialists, safety engineers, insurance men, legislators, courts, commissions and boards and attorneys, all of whom are vitally interested in the same objectives—health promotion and health supervision in industry. In industrial practice the etiology lies in an industrial environment and therefore deserves special consideration. It is not expected that the private practitioner will be competent to investigate the technical aspects of dusts, gases, vapors and fumes in industrial occupations or do illumination or ventilation tests; it is expected, however, that he will take such factors into consideration. He should be able to take a thorough history of industrial occupations so that it would indicate what points might be important in the diagnostic and laboratory methods to follow.

When examining employees for industrial work he should know (1) the nature and severity of the industrial exposure where the employee is going or has been, (2) whether that exposure is adequately controlled or represents a health hazard—if the latter, whether supplementary protection can be or has been provided, and (3) whether the examinee possesses any defect which might be adversely affected by the employment or might of itself cause disability or incapacity. There must be special examinations for different types of exposure. Until we can make our examinations more specific and more industrial in type, we cannot expect that the results will be specific.

Diagnosis in occupational and nonoccupational diseases among industrial employees has come to be difficult both for private and for industrial practitioners. There are a number of instances in which well known occupational maladies simulate nonoccupational sickness and contrariwise. It is of the greatest importance that the etiology be taken into consideration when making the diagnosis, for there must be a causal relationship between the industrial environment and the disease if the illness is to be directly ascribed to industrial factors. Health supervision methods in industry are of unusual type. The supervision of the correction of physical defects is vital to the continued health of the employee. It is not expected that the industrial medical staff shall do the correction of physical defects, which should be referred to the private practitioners, but, rather, it is expected that it shall follow up the industrial employee and see through proper arrangements that correction is made.

The practice of first aid to illness in industrial dispensaries has been a question for years. The majority of industrial employees do not go to their private physicians for headache, constipation, colds, periodic disturbances and the like, which make up the most of these sickness first aid calls in any industrial dispensary. It should now be conceded that such practice, without actually carrying treatment further, is within the scope of industrial health work.

Nowhere in the field of industrial practice is the test of scientific application so great as in medicolegal problems. For it is here that the physician and surgeon must prove his contentions and establish his proof by the judicious admixture of scientific data with common sense. Here is applied real cause and effect reasoning through the detailed consideration of medicolegal technicalities, which must rest on a background of thorough records and investigations.

DISCUSSION ON NEEDS OF INDUSTRY

COMMANDER C. S. STEPHENSON, Washington, D. C.: The Navy is one of the largest employers of labor. It is astonishing the number of hazards that we have got in the Navy. It is also astonishing the small amount of damage that occurs. One of the reasons is that we are attempting to approach these hazards in a realistic manner. It has been my pleasure for several years to teach in the Navy Medical School. I have done everything I could to invite to the attention of those young men who are going out into our industrial organizations and to the ships at sea that if they will apply the knowledge that is already available they will not get into much trouble. We bring them in from our standard medical schools, from their internship, and we are not concerned with their ability to handle the average situation that comes up from a surgical standpoint. Whenever a surgical case is seen in the infirmary or the hospital, one of the fundamentals of industrial medicine has broken down; that is, it actually should not have occurred. A large number of people are doing a creditable job in industry, but they are not prepared to take over the survey and to determine what is apt to happen when new means and new methods are brought into the industrial picture. There does exist a tremendous body of information that could be used profitably. I should like to see us begin to get out into the field of general medicine and general surgery thumb-nail sketches of the available information. We go from what happens in our navy yards and our arsenals to what happens to the man when he is off the job. That is our concern because we are trying to prevent the loss of highly skilled labor. It is on the shoulders of the general practitioner that the great burden of protecting the nation from the loss of time of these skilled people must fall.

DR. IRVIN ABELL, Louisville, Ky.: Practical training in the plants has in the past produced and will continue to produce men highly competent in restricted fields. I have in mind the coal industry in my native state of Kentucky. Some of the men in charge of highly specialized units in the coal districts have had no training other than the practical training in the plant itself, and yet they have developed high competence. For the investigators, for the consultants, for the teachers, the more highly specialized program is certainly desirable.

Disability Evaluation in Silicosis

DR. J. L. BLAISDELL, Timmins, Ont.: By the use of tests developed by Dr. William S. McCann of the University of Rochester, N. Y., and his associates it is possible to evaluate the disability in human cases of silicosis, something that is impossible to do by radiology or physical examination. I am going to build up the discussion around two cases of hard rock miners who have been engaged in the industry for many years and have been subjected to finely particulated quartz dust. A person can have a tremendously advanced silicotic process without any physical disability. The first part of the test is the measurement of the total pulmonary capacity and its various components. The measurement of the reserve air, tidal air, complementary air is a simple procedure. The difficulty is in measuring the residual air. We use a modification of Christy's method, which is oxygen in dilution, without forced breathing. Of importance is not only the actual values of these subdivisions but their relation to one another. The measurement of the residual air is carried out in a special spirometer which will hold 6 or 7 liters. The reserve air and complementary air can also be measured in this spirometer and the vital capacity in the small Collins spirometer. The nitrogen determination is carried out in duplicate by the use of advanced manometric methods. It is possible by roentgen ray measurements of the chest and certain regression formulas to determine what the total capacity should be and what these various partitions should be, provided no disease exists in the lungs. Six foot plates are taken of the subject lying in the prone position, at maximum inspiration and at maximum expiration. These roentgenograms are measured. The area of the lung field is measured by means of a chronometer and recorded in square centimeters. We also measure the anteroposterior diameter of the chest at maximum inspiration. By multiplying the area of the lung field by the anteroposterior diameter of the chest, we arrive at a figure which is termed radiologic chest volume. From that we can calculate what the total pulmonary capacity should be and what the subdivisions of total capacity should be. We can predict from our roentgen ray measurements total capacity of the chest by this formula, the vital capacity by this formula, the residual air by this, and the midcapacity by this. These are the predicted values for total capacity and subdivisions. The whole point of this is in a comparison of the predicted values with the values actually observed or measured. The predicted values will be extremely close to the observed values in a healthy subject. When disease occurs there is a greater and greater discrepancy between the predicted and the observed values.

The second part of the test is a study of pulmonary ventilation before, during and after exercise. For this purpose we have constructed a brake bicycle ergometer by the use of which we can give the subject any predetermined amount of exercise. The subject is connected to a series of Douglas bags. The volume of air contained in each bag is measured in the spirometer. We investigated a number of young, healthy subjects by this test, first at 300 kilogrammeters per minute. We computed the total ventilation at 300 kilogrammeters of exercise for a five minute period, which is 89.4 liters, which is very low. People suffering from pulmonary disease usually ventilate a great deal more than that. The healthy person increases the ventilatory activity by increasing his tidal volume, by increasing his respiratory rate. The respiratory rate in healthy subjects under exercise remains comparatively unchanged or increases but slightly. The total ventilation was only 133 liters; 183 at exercise and rest. The record of a man aged 38 showed that the vital capacity over total capacity was 69 per cent, which is good, the normal being about 75. This gives a picture of a normal person. He expands

his chest 3 inches. At exercise his respiratory rate does not go over 20 per minute. It returns to normal quickly and his tidal volume is good. At 600 kilogrammeters of exercise we get a result that is similar. The remarkable thing about it is that this man has an advanced silicotic lesion, in all likelihood complicated by tuberculous infection, and yet shows no evidence of incapacity. He does not complain of inability to carry on his work.

A man aged 50 does not show radiographically nearly the extensive silicotic process of the first patient. As the disease advanced, his residual air has tremendously increased. His residual air is over 600 liters and is as great as his total predicted pulmonary capacity. His reserve air is greatly diminished and his vital capacity greatly diminished. His vital capacity makes up only 20 per cent of his total capacity. His residual air makes up almost 80 per cent of his total capacity, and his midcapacity about 85 per cent of his total capacity.

We have tested a large number of silicotic miners by these methods. They offer the best means of determining pulmonary disability in silicotic and in emphysematous patients.

DISCUSSION

DR. LEROY U. GARDNER, Saranac Lake, N. Y.: It is obvious, after seeing this presentation, that the degree of dysfunction of the lung is not necessarily proportional to the amount of anatomic change reflected on the roentgenogram. As a result of my visit to the Porcupine Clinic I came to the conclusion that inhalation of silica must disturb the pulmonary function and that the degree of dysfunction is not necessarily proportional to the roentgen ray changes; that there are possible toxic effects of silica which are manifested before silicotic nodulation makes its appearance, or at least before the shadows of the nodule become visible on roentgenogram.

DR. NOLAN KALTREIDER, Rochester, N. Y.: These tests serve to evaluate disability, and repeated measurements over a period of time indicate whether the patient's condition is improving, remaining stationary or getting worse. Determination of the pulmonary capacity indicates the underlying lesion. It shows whether fibrosis, emphysema or bronchial obstruction is the predominating lesion. The vital capacity serves as a measure of the patient's pulmonary reserve. The ratio of residual air in proportion to the total capacity indicates the amount of damage. When this value reaches a certain value (45 to 50 per cent) it shows that alveolar ventilation is inefficient and the oxygen saturation of the arterial blood is diminished. By exhaustive exercise or voluntary hyperventilation one can obtain the maximum volume that any one individual can breathe. Persons who are disabled have a reduced reserve. When an individual uses 60 per cent of his maximum minute ventilation he becomes dyspneic. Persons who are disabled do less work than normal persons before they reach this level. There is no single, simple measuring stick for testing pulmonary efficiency. It is necessary to employ several different types of functional tests to estimate disability. It is important for the investigator to be thoroughly familiar with them, and it is necessary for him to study a group of normal subjects comparable to the abnormal group. It requires considerable experience to interpret the results of the tests.

DR. LUDWIG TELEKY, Chicago: It was demonstrated that there is no parallelism between the roentgenograms and the disability or ability to work. The young man with the heart changes was able to work, and the old man, aged 51, was not able to work, because at his age the heart becomes weaker. It is the same with men who have changes in the lung. They have grown older and their hearts are weaker. We must always have on one side the picture of the lungs and, on the other, the strength of the heart. The strength of the heart is of the same importance in the question of disability as the picture of the lung and perhaps even more important.

PHILIP DRINKER: I should like to ask Dr. Blaisdell if the blood pressure or pulse rate will give any more information.

DR. BLAISDELL: It has been recorded in some cases.

DR. HENRY H. KESSLER, Newark, N. J.: Was the surface area utilized in modifying the various indexes? Was it just taken as a reading by itself?

DR. BLAISDELL: We utilized the surface area in certain computations that I did not show here. We do not find that corre-

lation of various factors with surface area is of a great deal of assistance. In regard to the problem of separating the disability of the heart and the disability of the lung in these tests, we do not claim to do that. We are interested in the man's total disability, which, of course, is partly disability of the lung and also partly heart.

JANUARY 13—AFTERNOON

SESSION ON INJURIES OF THE HAND

DR. C. W. ROBERTS, Atlanta, Ga., in the Chair

The following papers, which appear in full in this issue of THE JOURNAL, were read as a symposium on "Injuries of the Hand":

DR. JAMES M. WINFIELD, Detroit: "Anatomic Diagnosis of Injuries of the Hand" (p. 1367).

DR. HARVEY S. ALLEN, Chicago: "Treatment of Superficial Hand Injuries and Burns" (p. 1370).

DR. MICHAEL L. MASON, Chicago: "Division of the Nerves and Tendons of the Hand" (p. 1375).

DR. HENRY C. MARBLE, Boston: "Importance of Purposeful Splinting Following Injuries of the Hand" (p. 1373).

DR. SUMNER L. KOCH, Chicago: "Prevention and Treatment of Hand Infections" (p. 1365).

DISCUSSION

DR. BRUNO GEBHARD, Cleveland: We have a new museum in Cleveland, the Cleveland Health Museum, sponsored by the Academy of Medicine and the Cleveland Health Council. We have devoted an entire room to man's hand. We have exhibits which show the hand having twenty-seven bones and thirty-eight muscles and how hands work. People can test the muscle power of their hands and the sensitiveness of the finger tips. There is a fluoroscope which shows the bones of the hands. We have many exhibits which may be called cultural interpretation of human biology. A third group has a more practical character. One of these is "How to Avoid Crushed Hands." This exhibit can be operated by the visitor and shows the right and wrong way of using a wrench, a chain and a rope. Another exhibit has the title "A Cut in the Finger—Get First Aid at Once, No Matter How Small the Injury," based on material of the National Safety Council and of the American Medical Association. Models of a realistic appearance show what happens if cuts on the hands are neglected. The necessity of wearing good gloves or hand leathers when handling rough or sharp objects is also emphasized. These exhibits, which cover an entire wall, have the title "You Have Ten Wage Earners—Keep Them Safe."

SESSION ON AVAILABILITY OF TRAINED INDUSTRIAL HEALTH PERSONNEL

DR. LEVERETT D. BRISTOL, New York, in the Chair

The Industrial Nurse

RUTH HOULTON, R.N., New York: The last count made by the U. S. Public Health Service in 1940 shows a total of 23,705 public health nurses in the United States. Of these, 3,271 are listed as industrial nurses. This represents an increase in public health nurses other than nurses in industry of 27.5 per cent, while the number of industrial nurses remained almost stationary.

The needed increase in public health nurses is estimated at about three times the present number. With concentration of men in army camps and expanding industry, housing and sanitation problems will increase and epidemics are likely to occur. Rehabilitation of men rejected in the draft because of physical defects or communicable disease (tuberculosis, syphilis) will become a responsibility of official and voluntary local health agencies. Moreover, it would be difficult to find qualified nurses if additional nurses were employed for health departments, schools and visiting nurse associations on a larger scale. The field of industry is likewise incompletely covered by nursing service.

According to the "Preliminary Survey of Industrial Hygiene Problems in the United States," reported for 1940 by the U. S. Public Health Service, only about one third of the industrial employees in this country now have either full time or part time industrial nursing service. Full time nursing service was provided for 33⅓ per cent of the employees and part time service for only 1.5 per cent. The gaps in nursing are chiefly in the smaller plants. In plants employing more than one hundred workers, 45.7 per cent have full time plant nurses while 1.9 per cent have part time; in plants employing fewer than one hundred workers only 1.1 per cent have either full time or part time nursing service.

In the majority of plants with fewer than five hundred employees, a full time nurse is often not possible. Here part time service needs to be arranged.

The visiting nurse associations number almost 1,200 and employ approximately 6,000 nurses.

Of the 1,029 of the 3,271 graduate nurses employed in industry, 75 per cent completed high school, but only 3.9 per cent (40) received one or more years of public health training. Only 7.3 per cent (75) have had any part of such education and 1.4 per cent (14) have completed work. It appears that only 11 per cent of industrial nurses now employed have taken any postgraduate work in public health subjects.

One part of the present problem of preparation of nurses for industrial service are additional opportunities for instruction in such subjects as industrial hygiene, preventive medicine, principles of public health nursing and educational methods. The other part is the need for preparing additional nurses who gradually should be employed to serve the two thirds of the industrial population which at present completely lack industrial nursing service.

Approved programs of study in public health nursing for graduate nurses are offered now by twenty-six colleges and universities in the United States. However, in few of them is much application made to industry.

The industrial nurse requires superior native equipment plus excellent preparation. To supplement preparation of nurses already in this field, part time courses could be arranged as evening courses on a regional basis by state departments of health. Industrial hygiene divisions in states in which these exist might cooperate with the nursing unit of the health department. Short intensive courses of three to four months would seem practicable for new nurses who have some background of experience or theory in the public health fields but no industrial experience. For the better handling of problems connected with nursing in industry, the national organization for public health nursing authorized this year the addition of a qualified industrial public health nurse to the national staff.

The Industrial Hygiene Engineer

DONALD E. CUMMINGS, B.S., Denver (reading in the absence of the author, MR. WARREN A. COOK, Chicago): As recently as the middle of the last decade only three states included industrial hygiene engineers in their health and labor departments. Now there are thirty-nine industrial hygiene units located in twenty-nine states and two territories. All these units include industrial hygiene engineers, the number of them depending more on the extent of development of the service in a given area than on the actual need for the work.

Only the largest industrial concerns have full time industrial hygiene engineers and chemists with laboratory and field equipment. In many more concerns the accident prevention department is charged with control of occupational disease hazards. In still others the engineering department has the responsibility to install operations so that the exposures to potentially injurious materials may be minimized. Where harmful gases or vapors are evolved in processes such as in viscose rayon manufacturing, the chemical laboratory may make routine checks of extent of exposures and report their findings to the management.

The system followed in some concerns where there are several separate departments or plants is to place an industrial hygiene service on call when, as and if the superintendent of that unit makes a formal request. This system has the advantage of encouraging the superintendent's cooperative interest in whatever preventive suggestions may be made as a result of the

industrial hygienist's survey, but it has its disadvantage of insufficient contact with potential hazards, which can be more effectively handled by a more direct system with retention of the superintendent's cooperative spirit through demonstrated practical work on the part of the industrial hygienist.

A preferable method is one which is at present proving its value in industry. The industrial hygiene engineer is available to any of the plant superintendents on call. But his work does not begin and end there. He is kept continually informed by the purchasing department on potentially injurious materials coming into the plants. He knows where these materials go and what becomes of them. He has a record of potentially harmful processes being conducted with a schedule to check these at proper intervals. He makes general surveys at regular periods, since industrial operations are always in a state of change.

The American Industrial Hygiene Association was organized a year and a half ago with one of its objects the dissemination of information among industrial hygienists. This is being carried out through encouraging further attention to such publications as the *Journal of Industrial Hygiene and Toxicology* and *Industrial Medicine*, particularly the quarterly industrial hygiene sections of the latter periodical, through stimulation of local section meetings of the American Industrial Hygiene Association in the more important industrial centers and through its annual meeting, which is assuming the nature of a post-graduate institute of industrial hygiene. The National Conference of Governmental Industrial Hygienists, sponsored by the United States Public Health Service, has through its annual meetings been doing much in furthering the training of industrial hygiene engineers attached to federal, state and municipal departments. The Division of Industrial Hygiene of the National Institute of Health has presented brief courses in industrial hygiene over the last five years and directed in-service training in many of the state universities. A small number of universities are now providing training courses in this field, such as the Harvard School of Public Health and the University of Pennsylvania School of Medicine. The University of Pittsburgh School of Medicine and Johns Hopkins University have set up curriculums.

There is not a sufficient number of trained industrial hygiene engineers to cover adequately the present exposures to occupational disease hazards—estimated by the National Institute of Health, on the basis of actual surveys by state bureaus, to amount to one and one-half million persons exposed to hazards of carbon monoxide, three fourths of a million to lead and its compounds, more than one million persons to silica dust—to enumerate only a few of the most important.

Although present training facilities are recognized as inadequate to take care of the greatly increased need for industrial hygiene engineers for the present emergency, estimated at from two hundred to five hundred men, plans are now in progress for setting up short time training courses in a number of universities in the country.

The Safety Engineer

MR. R. L. FORNEY, Chicago: Are there shortages of personnel in these different divisions? What are the present facilities for training people for these kinds of jobs? What can be done to improve those training facilities? I am not able to cite figures as to the number of industrial safety engineers that would be anywhere near as precise as those of Miss Houlton. There are about two thousand industrial safety engineers in the engineering section of the National Safety Council, the American Society of Safety Engineers. What proportion that represents of the total number of persons in the United States who are doing industrial safety work, we don't really know. I would presume that there are at least two or three times that many who are spending all or a considerable share of their time in industrial safety. There is a definite lack of trained industrial safety personnel. Many companies, even in the group which wants to do a good job of safety, are trying to do it without adequate personnel. We maintain records of people available for industrial safety jobs. We ask industries to let us know if they are in need of that personnel, so that we have some measuring stick indicating the demand for jobs and the demand for men. There is a definite shortage of people

qualified to do industrial safety work in specific industries. To my knowledge no college or university has until the past year actually set up a course designed to lead to a degree in industrial safety engineering. Such a course has been established at the University of Alabama.

Industrial safety engineers have come up through a variety of ways. Some of them have come up through the plant. The training which has been done has been both formal and informal. Some of this training work, on the informal side, has been done through conferences and meetings. Some of those meetings have been held by the National Safety Council and a great many of them by our local affiliated Safety Councils here in Chicago, in Baltimore and in New York, and in some fifty other cities where there are such councils. At Northwestern, for about five years, rather complete courses have been given on traffic safety for police officers. At Harvard and Yale rather complete and formal courses are being given for traffic engineers to a greater extent than there have been formal courses leading to degrees and certificates in industrial safety.

The Medical Industrial Hygienist

DR. PAUL A. NEAL, Bethesda, Md.: According to Public Health Bulletin 259, Division of Industrial Hygiene, based on data from fifteen states, covering seventeen thousand plants, employing a million and a half workers, it was found that only 26 per cent of the workers had the services of a full time safety director. Hospital facilities were found to be available to only 15 per cent of the workers, and first aid rooms were provided for 51 per cent. Full time services of a physician were available to 15 per cent, while full time nursing services were provided for 33 per cent of the employees. The analysis revealed that, although accident records were kept on nearly all workers, sickness statistics were available for only 45 per cent of the employees. From this analysis it may be estimated that in this country slightly more than a million persons are engaged in occupations that potentially expose them to the inhalation of silica dust and one and one-half million persons to silicate dusts. Approximately eight hundred thousand persons are handling lead and its compounds, thirty-four thousand arsenic and its compounds and nearly thirty-three thousand mercury and its compounds. The highest exposure of all was in connection with the agents known to produce dermatitis.

If proper industrial hygiene practice is to be carried into factories engaged in key defense activities, several hundred medical industrial hygienists are needed. From the programs submitted to the U. S. Public Health Service the immediate needs for the states are twenty-eight additional trained medical industrial hygienists. The Division of Industrial Hygiene of the U. S. Public Health Service has made a request for funds whereby ten additional physicians may be engaged to take care of immediate needs. It is evident that this number will have to be increased in time. At present the Navy has employed more than one hundred and fifteen thousand civilians in its yards. It is obvious that additional trained medical industrial hygienists are required for this civilian personnel.

As of July 1, 1940 there were in the state units thirty-seven trained medical industrial hygienists, eighty-one engineers and thirty-seven chemists, and in the Public Health Service there were fifty-one trained industrial hygienists, of whom fifteen were physicians. In June 1940 the public Health Service requested the Council on Industrial Health of the American Medical Association to ascertain the number of medical industrial hygienists in the United States. The Council reported that there have been classified as medical industrial hygienists a total of approximately nine thousand physicians. The number of universities conducting industrial hygiene training is increasing and the type of training is improving. Regardless of these efforts, the number of trained medical industrial hygienists is not sufficient to supply the needs at the state level alone.

The Industrial Physician

DR. ROBERT T. LEGGE, Berkeley, Calif.: Modern industry requires the assistance of medicine to solve the complex problems of health and safety. The main purpose of industrial medicine is the control of occupational diseases and accidents by preventive and safety measures. Formerly an antipathy was entertained by the medical profession against the physician

employed in industrial medicine, on the assumption that industrial medicine was a form of contract or insurance practice and because the worker was not free to choose his own physician. The industrial physician commands a knowledge and experience required for this form of preventive medicine which the private physician neither has nor shows much interest in acquiring.

Plans must be worked out for providing adequate medical service for small industries. Unless organized medicine leads the way, labor and society will demand political supervision. Ninety per cent of the manufacturing establishments employ fewer than five hundred employees and cannot employ a full time physician. The incidence of morbidity and traumatic disabilities, according to insurance carriers, is on the upcurve in small industries. Medical care is inadequate and more hazards prevail. Much thought has been given to the consideration of well trained public health nurses, on part or full time, to solve the problems.

In the organization of the new order of industrial medicine the Council of Industrial Health will submit a program of ethics, develop and advise on an educational program of training in our medical and postgraduate schools in industrial hygiene and medicine and prepare and recommend the content of such courses. It will standardize procedures necessary to promote industrial health by curative and preventive medicine. The rights of the private physician will be respected and his cooperation sought.

The physician of industry is a specialist in his field, a health consultant whose purpose is to promote efficiency, curtail absenteeism, minimize fatigue and improve the working by sanitation and safety measures. One of his particular functions is to locate hazards and to study the earliest symptoms. It is the right of the worker injured on the job to consult his own physician. In such cases the industrial physician should be invited in consultation and be allowed to follow the case.

The qualifications of an industrial physician include the following: In addition to a good training and experience in the general practice of medicine and surgery and good personal qualities, he should have a knowledge of the detection and control of communicable and occupational diseases and mental hygiene. He should possess a knowledge of administration, which includes industrial relations, economic responsibility, factory laws and records, compensation and methods of rehabilitation of handicapped persons and of plant sanitation, accident prevention and safety, industrial physiology, welfare relations with outside agencies and private physicians.

A shortage exists in trained industrial physicians. The specialty offers a regular income, no general expenses, opportunities for making contributions to scientific medicine and a satisfying humanitarian employment.

DISCUSSION

MISS JOANNA JOHNSON, R.N., Milwaukee: I would like to ask Dr. Legge how he would suggest that the interest of the smaller manufacturers be stimulated in encouraging them to use the services of nurses for industry.

DR. ROBERT T. LEGGE, Berkeley, Calif.: I would suggest that the nurses have a registry, the same as clinical nurses. I should then suggest that they see their chambers of commerce or the medical society in the community and organize a service to these smaller plants. Such an organization would profit by the safety and the industrial hygiene work that they would do and the first aid they would render. At the same time it would increase the private physicians' income by referring cases of industrial diseases and accidents to these physicians. In an organization of that kind in the beginning, if it warranted, with a number of plants, they could supply the industrial engineer and the safety engineer. Under those circumstances that would be the beginning for the small plants in having an adequate nursing service.

THEODORE HATCH, M.S., Philadelphia: We have heard a great deal about the need for trained industrial hygienists in connection with our national defense program. The educational facilities available at the present time are distinctly limited. The problem of introducing into the engineering curriculum additional work is the same as it is in the medical schools. The courses are already overloaded. Nevertheless

there exists a real need. Most industries can afford and do have a full time safety engineer. With the added engineering knowledge involved in this industrial hygiene, effective service should be built up. In the development of the engineering curriculum in industrial hygiene the greatest advances can be made if the problems of safety engineering and of occupational disease control, of ventilation and of lighting be combined in one course of training for the undergraduate engineer. In an emergency we haven't time to do a lot of research work, and in the present state of the development of industrial hygiene there are a great many problems to be solved, the solution of which is known at the present time and no further research is required. I would emphasize the need for bringing to the attention of the manufacturers of equipment used in industry, for incorporating into their machinery, safety protection and health protection on the basis of what is known at the present time. That is of greater importance than the emergency training of a lot of new people.

MR. AMBROSE B. KELLY, Chicago: In our approach to this problem of meeting an emergency we are doing a great deal of long range planning to provide men for an emergency that will be over before the first of those men is on the ground. We haven't emphasized as much as we must the need for getting men immediately who may not be as well trained as we would like them to be. In many cases we are setting our requirements so high that it will be impossible in the immediate future, however desirable it is to have that as an objective, to provide men who meet those qualifications. We are starting late on a program which should have been launched ten years ago. These refresher courses for the men who are now in private practice, these symposiums, inadequate as they are, these short courses which Mr. Forney talked about, are the things that must have the right of way in the present emergency.

DR. LEONARD GREENBURG, New York: I was in the Public Health Service in 1918, when we went through the same procedure of training people for a war emergency. The only persons I remember of the early training groups who are now in industrial hygiene work are Dr. Clarence Selby and Emory Hayhurst. That means a large number of men were trained and dropped out of the field between 1918 and 1921 or 1922, probably about 1920 or 1921. We are going through that same procedure now. We are going to try to train a large number of men who are probably not deeply interested in the field and probably not primarily qualified to continue in the field. After we spend a great deal of time and energy, they are going to drop out. I don't mean to say that we are not faced with an emergency or that we shouldn't try to adopt some scheme of rapid training of personnel. All this effort that we put into new personnel should be put into personnel whom we have examined and studied.

DR. ALBERT S. GRAY, Hartford, Conn.: We can reach somewhere between these two ideas, pick out good men and give them a short training course. A number are going to continue to be interested in this type of work, and they are going to develop. Such a course has been suggested at Yale University.

DR. CLIFFORD KUH, New Haven, Conn.: To answer Miss Johnson's question I would say that in Connecticut we are, in cooperation with the Industrial Health Committee of the Manufacturers' Association of Connecticut, which was organized at the suggestion of the industrial health committee of the state medical society, submitting a proposal to every member of the Manufacturers' Association, nine hundred members in all, representing 95 per cent of employees in Connecticut manufacturing industries. This proposal outlines the scope, function and organization of industrial medical and nursing service, and we offer to help individually every manufacturer who wishes to inaugurate an industrial medical service or to expand an existing one. We have a New England Industrial Nurses' Association from which we can draw nursing personnel. Also Dr. Gray's Bureau of Occupational Diseases of the State Department of Health has already added an industrial nurse to its staff, an entirely new departure for a state department of health. The function of that nurse will be to

stimulate the employment of industrial nurses through the state and to improve nursing service where it exists. We have started a course of fourteen weekly lectures in industrial medicine for both doctors and nurses, and we believe we shall get an immediate response as a result of our proposal.

MISS RUTH HOULTON, New York: There are few nurses that are not now in industry who know a lot about industrial nursing and those nurses are all busy. Most of us seemed to feel that in an emergency the best way to prepare more nurses quickly would be to take well selected nurses and give them short, intensive courses of preparation, if we had three months to do that. I suggested that the best people to select would be nurses already with some experience in public health nursing. If we do not have three months, certainly this plan of Connecticut, mentioned by Dr. Kuh, would be helpful. We have nurses interested in industrial nursing, nurses who have had some experience in public health work, and if they can be trained on the job through in-service lectures of that kind, and through some sort of nurse supervision while they are working, it should help to solve the problem. Besides Connecticut there are at least two states, Indiana and Michigan, that have appointed consultants in industrial nursing in their nursing unit of the state health department, and I would venture to say that within the next year every health department, where there is any industry within the state, will be looking for that sort of person.

MR. DONALD E. CUMMINGS, Denver: I believe that more important at the present time than formal instruction is practical plant instruction in this subject. I feel that, despite all the formal instruction that is offered, the thing that solves the actual problem is a little practical experience with the problem itself. I would like to offer the suggestion that more attention be given to practical instruction in the plants themselves.

MR. R. L. FORNEY, Chicago: The National Safety Council receives scores of letters from men in industry saying "How can I prepare myself to do safety work?" I have a stock answer which consists of four things: First, I tell the man to participate in the safety work in his plants, find out how it is being done and learn what he can from the safety director of that plant. Second, read about safety. Third, attend safety meetings and conferences which may be held in his city or his community. Fourth, and the hardest to get, formal class instruction in the school. That is the last thing, and these other things can be done much more readily. I think we all agree that a better safety engineer or better industrial hygiene engineer could be made if we have longer training, but certainly people engaged in safety never have felt that long, formal training was necessary to make people competent to do industrial safety work.

DR. PAUL A. NEAL, Bethesda, Md.: What are the needs from the standpoint of the federal government? Right now construction jobs incident to large industries are being placed in isolated communities, covering general health, general sanitation, and so on. That is our acute need, and that is what we are focusing our attention on right now. From the training standpoint we are doing exactly as Dr. Bartle suggested from the medical standpoint. We are using the units we have. In mining one needs one sort of man and in the chemical industry another. We are not starting out with no facilities at all available in industry itself. We know that our greatest task is in the small plant, and that is where we are centering our efforts right now. The National Defense Council has ordered—not requested—the division, through the Surgeon General, to get busy. We have always waited for a request. This is not a time for enforcing: Industry is asking now. It is not from the old angle. It is being approached as fast as possible right now. It is not as blue as it looks to us when we look at the mass of things. What specific industries are there outside of isolated communities? Obviously, arsenals and munitions plants. Seventeen thousand cases of trinitrotoluene exploded and four hundred and seventy-five persons died. Doesn't that speak for itself? Then in ship yards, from the welding standpoint alone, there is an obvious job. With the changes in welding, the other control procedures don't work.

DR. ROBERT T. LEGGE, Berkeley, Calif.: For the last five or six years we have been training at the University of California nurses who are taking the National Organization for Public Health nursing course. They are also taking certain students who have been studying industrial hygiene at the university. In the last year we have had two semesters in which we have taken graduate nurses, experienced women and experienced nurses who have been taking courses for this emergency which we believed was coming on. The Council on Industrial Health discussed this problem yesterday. We believe there will arise in the near future certain training centers in different parts of the United States for the purpose of giving short courses to private physicians who are on call and others who wish to go into industry. There will be refresher courses. Large industrial plants that have medical directors and a corps of industrial physicians will also develop practical instructions. We are endeavoring at the present to seek properly qualified persons with practical experience to teach these people this type of course. The Council on Industrial Health has been busy the last year and a half in endeavoring to develop some training in education. We have developed a working syllabus for instructing doctors and nurses in industrial hygiene and medicine. The next question will be "If these doctors take this training will they have a job?" That we cannot at the present time promise. But if the emergency is here—industrial medicine is on the march, I am satisfied—I feel we can absorb these trained persons in industry.

CHAIRMAN BRISTOL: We have been discussing the question of availability of trained industrial health personnel from the standpoint of leadership, the doctor, the nurse, the safety engineer, the industrial hygiene engineer, the medical industrial hygienist. How about the workers? How about the matter of industrial health personnel among the rank and file of the workers? After all, national defense will depend largely on the physical and mental health of the individual workers themselves. In our own individual industry, the Bell Telephone System in the United States, we have given one hundred and seventy-five thousand women employees a six to ten lesson health course over the last fifteen years. It is purely a voluntary effort. It is taken on the employees' own time, after hours. That, in itself, would seem to indicate the helpfulness of such a health course for employees. In this emergency we have got to do something more along that line, not only to get our leaders, but to stimulate on-the-job health and medical preparedness through various short courses in order to build an adequate individual defense, which means, in sum total, an adequate national defense.

JANUARY 14—MORNING

DR. HENRY H. KESSLER, Newark, N. J., in the Chair

THE HANDICAPPED

The following papers, on "The Handicapped," appear in full in this issue:

DR. D. L. LYNCH, Boston (read by DR. GEORGE F. WILKINS, Boston): "Employment of the Physically Handicapped" (p. 1380).

DR. EDWARD J. STIEGLITZ, Bethesda, Md.: "Aging as a Problem of Industrial Health" (p. 1383).

DISCUSSION

DR. ANTON J. CARLSON, Chicago: The National Research Council has been concerned with the problem of aging for some years, and the U. S. Public Health Service has recently taken up the work in a small way and Dr. Stieglitz is in charge of that research. There must be much greater weight, both in our profession as well as in industry and in the country as a whole, given to the problems involved here. We have taken the view, largely erroneously, that useful work and responsibility should not begin until the boy or the girl is 18 to 21 and that effective work and responsibility should cease somewhere at 55, 60 or 65 years. Both assumptions are biologically and medically erroneous. Responsible work,

responsibility, should progress gradually during childhood, as it does usually in the most primitive activity of men in agriculture. It is one of the great cruelties to man and woman to announce to them that they are through at 55, 60, 65 or 70. We are concerned in the National Research Council and in the little division we started in the U. S. Public Health Service with arriving at a greater understanding of the inevitable and the accidental processes of aging. We are thinking in the National Research Council of inviting to a conference some time this year, for studying fundamentals that are going to be with us long after the present war fury is over, a conference of representatives of the scientific profession in industry as well as those representing the financial side in industry, to figure out what we should do first on this problem of useful, effective, productive and psychologically preventive employment in later years. Dr. Stieglitz is greatly interested in this, and you who face this problem in industry should be greatly interested. You may soon get letters from the National Research Council, some of you who are more distinctly concerned with it in industry, and I hope you will realize that what we are thinking of is really a forward looking step in the life and health of our country.

CHAIRMAN KESSLER: The person who is physically handicapped lives not only with his disability but also with the sum total of those active functions and structures that still remain. In other words, there are a great many safety factors in the human economy, and there are a great many safety factors in the social economy. So that the stark realism of Darwin's dictum, when he said that evolution takes place as the result of survival of the fittest, must be altered to read that the survival is not of the fittest but of the luckiest, because social selection modifies the stark realism of natural selection.

DR. W. A. SAWYER, Rochester, N. Y.: A method of measuring and evaluating physiologic age is most important. The industrial physician has to rely on experience in his industry and clinical judgment in making such decisions. Health supervision is effective only if applicant and periodic examinations are followed by corrective prophylactic measures. No examination of a new worker can begin to have its full value if what is found initially is not checked subsequently. In this way impairments can be corrected, trends studied and early incapacity prevented. Another essential safeguard in prolonging health and productive capacity is the day to day consultation service. There should be periodic job analysis for the older groups. The fatigue factors of each job must be evaluated. Reassignment or readjustment rather than retraining, as suggested by Dr. Stieglitz, will be the outcome of such reexaminations. The selection of the work, the worker's capabilities, the effect on individual and group morale are regarded as vital factors which must be given adequate consideration. There is a unanimity of opinion on certain basic factors, which may be summarized as follows: 1. Older workers are adaptable to changes and new routines, and the so-called set mind is not entirely characteristic of aging. 2. The importance of preparing the individual mentally to accept the retraining necessary to continue him in employment must be recognized. 3. It is desirable to preserve the morale of the worker by encouraging the thought in his mind that he is, and will continue to be, a part of the organization and thereby maintain his self respect and that of those with whom he associates.

ACUTE RESPIRATORY DISEASE IN INDUSTRY

The following papers, which appear in full in this issue, were read as a symposium on "Acute Respiratory Disease in Industry":

DR. ANTHONY J. LANZA, New York: "Incidence and Costs of Acute Respiratory Disease in Industry" (p. 1342).

DR. CAREY P. MCCORD, Detroit: "Respiratory Disease and Air Conditioning" (p. 1360).

DR. GEORGE M. PIERSOL, Philadelphia: "The Role of the Physician in Industry in the Control of Acute Respiratory Disease" (p. 1339).

JANUARY 14—AFTERNOON

DR. HARVEY BARTLE, Philadelphia, in the Chair

Conservation of Eyesight in Industry

CHAIRMAN BARTLE: Protection of the vision of the worker is of prime importance and may be viewed from different points of view: the evaluation of vision of prospective employees; proper supervision and advice concerning eye ailments, including eye trauma; refractive errors and underlying diseases affecting the eyes secondarily, and protective measures and appliances. Recently, in a single industry, the records showed that among thirty thousand preemployment examinations in one year there were 12 per cent of temporary or permanent disapprovals. Twenty-five per cent of these were basically due to visual defects. Industrial demands will be anticipated if interest in vision conservation now shown to the newborn and in the early months of life is extended to the first two decades of life. Workers should have the benefit of all practical measures to prevent deleterious effects from poor lighting, improper desks and work benches. Errors of refraction should be routinely sought and proper advice and corrective prescription be furnished. Fumes and gases of an irritant character should be eliminated. The use of goggles is becoming a recognized practice in well conducted plants. Goggles must be worn in certain shop areas without exception. Rather severe penalties for infraction of this rule are enforced. Such regulations yield excellent results. The widely established practice of periodic examination of workers should discover incipient diseases which may be secondarily related to errors in vision. The proper treatment of these diseases will do much to protect against serious changes in the eye.

INDUSTRIAL OPHTHALMOLOGY

The following papers, which appear in full in this issue, were read as a symposium on "Industrial Ophthalmology":

DR. LEONARD GREENBURG, New York: "Economic Importance of Visual Disability in Industry" (p. 1357).

ABSTRACT OF MINUTES OF MEETINGS OF BOARD OF TRUSTEES

A two day session of the Board of Trustees was held at the headquarters of the Association, Thursday and Friday, February 20 and 21, at which careful consideration was given to the business of the Association. Space permits of only a brief abstract of these deliberations.

SPECIAL ISSUE OF ARCHIVES OF PATHOLOGY IN HONOR OF DR. EUGENE LINDSAY OPIE

Authorization was given for the publication of a special issue of the *Archives of Pathology* in honor of Dr. Eugene Lindsay Opie.

APPOINTMENTS

The following appointments were made to editorial boards of special journals and to councils and committees (unless otherwise stated the appointee succeeds himself):

American Journal of Diseases of Children, Dr. H. F. Helmholz. *Archives of Pathology*, Dr. G. H. Whipple. *Archives of Neurology and Psychiatry*, Dr. Bernard J. Alpers; Dr. John Whitelhorn of St. Louis to fill the unexpired term of Dr. H. Douglas Singer (deceased), and Dr. Tracy J. Putnam as Chief Editor. *Archives of Otolaryngology*, Dr. George M. Coates, and Dr. J. Mackenzie Brown of Los Angeles as an additional member. *Archives of Surgery*, Dr. Alton Ochsner. *Archives of Internal Medicine*, Dr. Arthur Bloomfield. *Archives of Ophthalmology*, Dr. William Zentmayer, and Dr. David G. Cogan of Boston, to succeed Dr. J. H. Waite (resigned). *Archives of Dermatology and Syphilology*, Dr. Herbert Rattner and Dr. Harold N. Cole. Committee on Scientific Research, Dr. Ludvig Hektoen. Committee for the Protection of Medical Research, Dr. Lewis H. Weed and Dr. Walter B. Cannon. Council on Industrial Health, Dr. Raymond Hussey of Baltimore to fill unexpired term of Dr. Allen D. Lazenby (deceased)

DRS. SYDNEY WALKER JR. and HANFORD L. AUTEN, Chicago: "Essentials of First Aid and Later Management of Industrial Eye Injuries" (p. 1356).

DR. ARTHUR M. CULLER, Dayton, Ohio: "Detection and Control of Defective Vision in Industry" (p. 1349).

DRS. THOMAS D. ALLEN, Chicago, and HENRY F. CARMAN, San Francisco (read by DR. HERMAN P. DAVIDSON, Chicago): "Protective Equipment for Eyes in Industry" (p. 1343).

DISCUSSION

DR. HEDWIG S. KUHN, Hammond, Ind.: I can endorse Dr. Culler's statement that "industrial efficiency depends almost directly on visual efficiency." To place employees on jobs within their visual capacity is the cornerstone in this entire field. It at once eliminates the dangerously insecure interpretation of Dr. Gould's, as to eyestrain and his conclusions that specific occupations cause eyestrain. May I caution against making careless statements relative to a job causing eyestrain. You'll start a major and needless attack of hysterics in the industrial relations departments. Great possibilities for special close work lie in the field of occupational lenses, such as we are now experimenting with in work at 8 inches. It is essential to record, for every employee, acuity, corrected and uncorrected, stereopsis, color vision and muscle balance and, for special industries, an added battery of close vision tests. Careful groupings of occupations with their specific visual requirements will produce a much more healthful situation. The standard of ocular requirements for various occupations which Dr. Culler has set up is not at all in agreement with my experience. Working in plants totaling over seventy-five thousand employees, I believe, first, that it is important to do the full battery of tests on all employees hired or, if one is conducting a survey, the full data on all employees already employed. Second, the job classifications need to be drawn up from an on the spot evaluation of the requirements of a job. In one mill of over ten thousand men and over one hundred and twenty-five different types of work, I made the rounds and saw in action every type of job existing. One's understanding quickly becomes real rather than empirical after such an experience.

and Prof. Philip Drinker of Boston to fill unexpired term of Dr. Earl D. Osborne (resigned). Council on Pharmacy and Chemistry, Dr. William C. Rose, Dr. E. L. Seyringhaus and Dr. Torald Sollmann. At an earlier meeting of the Board, Dr. Soma Weiss was elected to succeed Dr. Ernest E. Irons (resigned). Council on Physical Therapy, Dr. A. U. Desjardins, Dr. H. B. Williams and Dr. Frank H. Krusen. Council on Foods and Nutrition, Dr. Howard B. Lewis, Dr. J. S. McLester and Dr. Russell M. Wilder. Committee on American Health Resorts, Dr. Frank H. Krusen. National Research Council, Division of Medical Sciences, Dr. Roger I. Lee of Boston to succeed Dr. Russell Haden.

4-H CLUB COMMITTEE (NATIONAL COMMITTEE FOR BOYS' AND GIRLS' CLUB WORK)

Dr. W. W. Bauer, Director of the Bureau of Health Education, was authorized to continue to represent the Association on the 4-H Club Committee.

NATIONAL CONFERENCE FOR COOPERATION IN SCHOOL HEALTH EDUCATION

Dr. W. W. Bauer was also authorized to continue to represent the Association at the National Conference for Cooperation in School Health Education.

REPRESENTATIVES TO MEETING OF CANADIAN MEDICAL ASSOCIATION

Dr. W. F. Braasch of Rochester, Minn., and Dr. Thomas S. Cullen of Baltimore were elected to represent the Association at the annual meeting of the Canadian Medical Association to be held in Winnipeg in July.

APPROPRIATIONS

Appropriations were made for the conduct of the work of the various departments in the headquarters office and of committees, for necessary conferences and for scientific and therapeutic research.

ESTABLISHMENT OF RESERVES TO COVER DEPRECIATION

In accordance with a suggestion from the auditors, it was decided to establish reserves to cover depreciation in furniture, equipment, buildings and other material.

COOPERATION BETWEEN PHARMACY AND MEDICINE

The Board voted to request the Council on Pharmacy and Chemistry to sponsor a conference on medical pharmaceutical relationships, the purpose of which shall be to outline ways and means by which some program for the better development of more definite relations and better cooperation between pharmacy and medicine might be established.

DR. E. E. IRONS A MEMBER OF EXECUTIVE COMMITTEE

Dr. Ernest E. Irons, who at the September meeting of the Board was elected a Trustee and Secretary of the Board pro tem until the annual session of the Association in Cleveland next June, was elected to membership on the Executive Committee.

DEATH OF DR. LEECH

A resolution prepared by the Secretary of the Board concerning the death of Dr. Paul Nicholas Leech, Secretary of the Council on Pharmacy and Chemistry and Director of the Division of Foods, Drugs and Physical Therapy, was adopted and instructions were given to spread it on the minutes of the Board.

RADIO BROADCASTS

"Doctors at Work" is the title of the sixth annual series of dramatized radio programs being presented by the American Medical Association and the National Broadcasting Company.

The program is scheduled for 10:30 p. m. eastern standard time (9:30 central, 8:30 mountain, 7:30 Pacific time) over the Blue network, other N. B. C. stations and Canadian stations.

The programs will dramatize what modern medicine offers the individual in the way of opportunities for better health and the more successful treatment of disease. Incidental to this main theme the programs will explain the features that characterize the different fields of modern medicine and its specialties.

Descriptive posters for local distribution may be had gratis from the Bureau of Health Education.

Tickets are available for each broadcast. Address the Bureau of Health Education, American Medical Association, 535 North Dearborn Street, Chicago. Tickets are free, but a stamped self-addressed envelop should accompany requests.

The next three programs to be broadcast, together with their dates and titles, are as follows:

- April 2. Invisible Invaders.
- April 9. The Life Ray.
- April 16. Health on the Wing.

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Changes in Status.—Hearings have been held by the Senate Committee on Military Affairs on the Murray bill, S. 783, providing for the deferment of medical students, interns and resident physicians from induction into service under the Selective Training and Service Act of 1940. H. R. 2112 has passed the House and Senate, authorizing the Secretary of the Navy to appoint for temporary service such acting assistant surgeons as the exigencies of the service may require. Under existing law not more than one hundred acting assistant surgeons may be appointed for temporary service.

Bills Introduced.—S. 1121, introduced by Senator Gillette, Iowa, proposes to create a Division of Water Pollution Control in the United States Public Health Service. H. R. 3968, introduced by Representative Houston, Kansas, proposes to impose additional duties on the United States Public Health Service in connection with the investigation, treatment and control of tuberculosis, including the provision of facilities for sanatorium and other care for persons with tuberculosis and for the purpose of making studies, investigations and demonstrations to develop more effective measures of prevention, treatment and control of the disease. H. R. 3993, introduced by Representative Magnuson, Washington, proposes a federal appropriation of \$1,500,000 to construct a four hundred bed general and surgical veterans' hospital in Seattle. H. R. 4000, introduced by Representative Houston, Kansas, proposes to provide for the common defense in relation to the sale of alcoholic liquors to members of the land and naval forces of the United States and to provide for the suppression of vice in the vicinity of military camps and naval establishments. H. R. 4056, introduced by Representative McCormack, Massachusetts, and H. R. 4039, introduced by Representative Curtis, Nebraska, propose to establish in the Department of Labor a Bureau for the Welfare of the Deaf with authority (1) to collect, tabulate and make public statistics pertaining to the deaf, their employment and their welfare; (2) to ascertain what fields of employment are available to the deaf and to endeavor to create such new fields of employment; (3) to acquaint employers in private industry with the special capabilities of the deaf and to encourage the employment of the deaf on an equal basis with the hearing; (4) to cooperate with the heads of the various departments of the Government and with the Civil Service Commission and states and political subdivisions thereof in expanding the opportunity for the employ-

ment of the deaf in public service, and (5) to cooperate with any public or private agency in the vocational rehabilitation of the deaf.

DISTRICT OF COLUMBIA

Bill Introduced.—H. R. 4057, introduced by Representative Randolph, West Virginia, proposes to authorize the Federal Security Administrator to accept on behalf of the United States gifts made unconditionally by will or otherwise for the improvement, maintenance or operation of the Freedmen's Hospital in the District of Columbia.

STATE MEDICAL LEGISLATION

Colorado

Bill Passed.—S. 640 passed the senate, March 15, proposing that after its enactment no additional persons may be licensed to practice midwifery in the state. The bill proposes, however, that persons licensed to practice midwifery prior to the enactment of the bill may continue to exercise all rights and privileges permitted by such license under the existing law.

Connecticut

Bills Introduced.—H. 1816 and S. 2575 propose that each state employ who during the performance of his duties comes in contact with persons afflicted with any contagious disease shall be given a physical examination semiannually by the state. If such person is found infected with any such disease, the state is to pay for all necessary hospital and medical expenses resulting from the disease, and the employee is to be paid one half of his normal salary.

Delaware

Bills Introduced.—S. 227, to amend the workmen's compensation act, proposes to add the following occupational diseases to the list of occupational diseases compensable under the Act: industrial dermatitis, ivy poisoning, oak poisoning and silicosis. H. 340 proposes that one member of the state board of health shall be a licensed osteopath.

Illinois

Bills Introduced.—S. 176 proposes to enact a separate electrolysis practice act and to authorize the Department of Registration and Education to appoint a committee of electrologists to examine persons applying for certificates of registration as registered electrologists. The bill provides that "The practice

of electrolysis shall herein be defined as the removal of superfluous hair by means and use of an electrically charged needle." H. 315 proposes to enact a separate chiropractic practice act and to require the Department of Registration and Education to appoint an independent examining board of three chiropractors to examine applicants for licenses to practice chiropractic. The bill proposes to define chiropractic as "the science of palpating and adjusting the articulations of the human spinal column, correcting interference with nerve transmission and expression, to restore health, without the use of drugs or surgery." H. 354 proposes to enact a separate physiotherapy practice act and to authorize the Department of Registration and Education to appoint an examining committee of physiotherapists to examine applicants for licenses to practice physiotherapy. The bill defines the practice of physiotherapy as "the method, art or science of treating the human body for hygienic or remedial purposes by the following methods: massage and manipulations with the hands or with any other physiotherapy modality, and the use of such adjuncts as light, heat, air, water, diet, gymnastics and electricity." An applicant for such a license must be a graduate of an accredited high school, or possess an equivalent education, and must be a graduate of an accredited school teaching massage and physiotherapy, covering an instruction period of not less than three years and consisting of at least nine months in a single calendar year, or a total of not less than three thousand hours, including courses in general anatomy, physiology, hygiene and sanitation massage, physical gymnastics, hydro-therapy, mechano-therapy, thermo-therapy, actino-therapy and electro-therapy, dietetics, blood pressure technic, taking of pulse and respiration, and the use of the clinical thermometer.

Iowa

Bills Introduced.—H. 511 proposes, in effect, to condition attendance at any public or private school on the presentation of the certificate of a licensed physician that the pupil either (1) has been vaccinated against smallpox and immunized against diphtheria or (2) has previously had smallpox and diphtheria or (3) is an unfit subject for vaccination and immunization. No provision of the law, however, is to be construed to require vaccination or immunization or medical treatment with respect to pupils who, or whose parents, are members of a church the tenets of which are opposed to medical treatment. H. 519 proposes to enact what it cites as the Uniform Iowa Drug and Cosmetic Act to regulate the manufacture, sale, distribution and advertising of foods, drugs, cosmetics and therapeutic devices.

Maryland

Bill Introduced.—H. 591 proposes to enact what it cites as the Uniform Maryland Food, Drug and Cosmetic Act to regulate the manufacture, distribution and advertising of foods, drugs, cosmetics and therapeutic devices.

Michigan

Bills Introduced.—S. 201 proposes to require all records, medical and hospital, of a patient to be open to examination by the patient's attorney. An attorney, however, is not to be liable in any manner for a failure to disclose fully the substance of the records to his client when disclosure would be against the best interests of the client. S. 206, to amend the workmen's compensation act, proposes that reasonable and necessary medical, surgical and hospital services and medicines shall be furnished by the employer or his insurer for one year, if the commission so orders, to an employee disabled by an occupational disease.

Massachusetts

Bills Introduced.—H. 1618 proposes that no person shall be required to submit to vaccination or inoculation against his or her will as a condition precedent to (1) admission to or attendance at any public school or other institution or (2) the exercise of any right, performance of any duty or enjoyment of any privilege. The bill also proposes to subject a person who vaccinates or inoculates a child, or adult under guardianship, without the written consent of a parent or guardian to a fine of \$100 or imprisonment for a year, or both. H. 1923 proposes to require a board of health to make monthly inspections of per-

sons distributing foodstuffs within their city or town. H. 2007 proposes to establish under the department of public health a bureau for the care of inebriates.

Minnesota

Bill Introduced.—H. 903, to amend the laws relating to the practice of massage, proposes to create an independent board of massage examiners to examine and license applicants for licenses to practice massage. Under the present law masseurs are examined and licensed by the board of medical examiners.

Missouri

Bills Introduced.—H. 234, to amend the law prohibiting the planting, cultivating, harvesting, preparation, selling and distribution of marihuana, proposes to extend such prohibition also to "coca leaves, opium, locoweed, barbital, phenobarbital." The bill proposes, however, that it shall not be unlawful for any licensed pharmacist to have in his possession any of the said drugs or derivatives of said plants for sale on the written prescription of a physician, osteopathic surgeon, dentist or veterinary surgeon licensed to practice in the state. H. 288, to amend the cosmetology practice act, proposes to permit licensed cosmetologists, among other things, to remove "superfluous hair by means other than electricity about the body of any person." H. 295, to amend the medical practice act, proposes to empower the state board of health to require the attendance of witnesses and the production of such books, records and papers as it may desire at any hearing or any matter concerning which the board has authority to investigate. The bill further proposes to authorize the board and accused physicians to employ counsel. The secretary of the board is also to have power to administer oaths to witnesses.

New Hampshire

Bill Introduced.—H. 366 proposes to enact what purports to be the Uniform Narcotic Drug Act.

New Jersey

Bill Introduced.—A. 353 proposes to authorize the state board of medical examiners until Nov. 30, 1943, to grant the degree of doctor of medicine and surgery to any person who is licensed to practice medicine and surgery.

New York

Bills Introduced.—S. 1145 proposes to appropriate \$30,000 for the suppression of poliomyelitis. The bill proposes to require every local board of health and every health officer to exercise proper and vigilant medical inspection of all persons 21 years of age or over infected with poliomyelitis and to provide at the remedial stage of the disease suitable surgical, medical or therapeutic treatment or hospital care and necessary appliances and devices. S. 1392 and A. 1837, to amend those provisions of the medical practice act relating to the practice of physiotherapy, propose that any person holding a registered license to practice physiotherapy, who satisfies the board of regents that he has received sufficient instruction and training, may be granted the right to use the physiotherapy modalities of actino-therapy, hydro-therapy, mechano-therapy, thermotherapy and electrotherapy, exclusive of the x-ray. A. 1797 proposes to prohibit a person having a communicable or contagious disease transmissible through food from working or being permitted to work in a factory wherein a food product is manufactured. Whenever required by a medical inspector of the department of health, a person working in such factory must submit to a physical examination and, if found to be suffering from such a disease or condition, shall not be deprived of his employment but shall be given sick leave until he has been cured. A. 1893 proposes to authorize the state department of health to render free of charge to all inhabitants of the state "all medical, surgical, dental, nursing care and treatment and all other services and facilities known to science and designed or adapted for use in all cases of sickness, accidents and childbirth . . . maintenance in hospitals, the furnishing and supplying without cost of medicines, drugs" and all other necessary equipment and supplies. The bill proposes so to increase the staff of the department as to include all registered physicians, dentists, pharmacists, technicians, research and laboratory workers and all other persons practicing allied professions who elect to serve and to

pay them salaries in accordance with the schedule fixed in the bill. The department is to be authorized to exercise exclusive control over all public hospitals and is to have complete supervisory powers over all private hospitals in the staff, officers and employees thereof.

Ohio

Bills Introduced.—H. 329, to amend those provisions of the medical practice act relating to the practice of osteopathy, proposes to strike the provision in the present law permitting the state medical board, on the recommendation of the Ohio osteopathic society, to appoint the persons who constitute the state osteopathic examining committee and in its place to substitute a provision authorizing the governor with the advice and consent of the senate, to appoint a state osteopathic examining committee. The bill also proposes that two members of the state osteopathic examining committee shall be designated by the governor as members of the state medical board. H. 442 proposes that the body of a person whose death occurs in the state shall not be removed to any autopsy room or to any place where embalming is done, nor shall any mutilation of any kind be permitted, until the body has been subjected to scientific life tests to determine whether or not death is complete. The nature and character of such life tests are to be ascertained from year to year by the head of the state public health service from the tests advocated by the American Medical Association and National Selected Morticians. H. 582 proposes to prohibit the maintenance and operation of a boarding home for the aged and physically infirm without a license from the department of public welfare. H. 459 proposes to require every physician who attends any woman, pregnant with child for conditions relating to pregnancy, during gestation or at delivery to take or cause to be taken a sample of the woman's blood at the time of the first examination or within fifteen days thereafter and to submit the sample to an approved laboratory for a standard serologic test for syphilis.

Pennsylvania

Bill Introduced.—H. 759 proposes to prohibit any hospital receiving aid from the commonwealth from denying any licensed doctor of medicine practicing in the community served by the hospital the use of the facilities of the hospital for the care, maintenance, treatment and attendance of his patients or for the performance by such doctor of medicine in such hospital by the use of its facilities thereof of surgical operations on patients.

Rhode Island

Bills Introduced.—S. 138 proposes to require any physician or any hospital having under his or its care any patient suffering from cancer, carcinoma, lymphoma, sarcoma, leukemia or other malignant growth to report the facts within seven days after first ascertaining such intelligence to the state department of public health. H. 818 proposes to establish the Special Health Insurance Fund Commission, which is to undertake an extensive study of sickness and ill health in the state, the lack of adequate resources by individual workers to meet unforeseen illnesses, and other pertinent matters. The commission is to study all pending federal legislation so that, if Congress should initiate or pass any federal health insurance laws that will require appropriate action by the state, the commission will be in a position to recommend to the general assembly such action as it shall deem expedient for the medical care of such workers.

Texas

Bills Introduced.—H. 701 proposes to authorize the establishment and operation of nonprofit medical and surgical care plans on a regular, periodic prepayment basis. H. 720, to amend the workmen's compensation act, proposes, among other things, to permit an injured employee to employ any physician or surgeon and to secure necessary hospital services of his own choice. S. 306 proposes to enact a separate act authorizing the licensing of individuals to practice "Dieto-therapy" by an examining board to consist of "three of the teachers of Dieto-therapy, in the state chartered Texas School of Dieto-therapy, chosen among themselves." The bill provides: "For the purposes of this act, Dieto-therapy is the practice of restoring health to humans by the means of trained guidance in the proper use of: air, in controlled breathing to some extent; water, used in proper moderation internally and externally; common foods, as

are sold in any well stocked grocery, used in compatible combinations, with no patented or processed foods being required, sunshine, taken in exposures to aid metabolism, yet supervised to prevent deep burns; exercise to aid circulation, yet not to the point of exhaustion of nervous energy; rest, for recuperative purposes, yet never to the point of stagnation; and training in mental control, recognizing that the mind and the body are unalterably linked together. The teaching of how to combine these seven natural qualities for the health-aid of any human shall constitute, and is, the teachings of Dieto-therapy. The graduate who teaches this method of health-aid to any person shall be entitled to the title of Dietopath, and may charge for his teachings or services." S. 340 proposes to enact a separate chiropractic practice act and to create an independent board of chiropractic examiners to examine and license applicants for licenses to practice chiropractic. Such a licentiate, apparently, is to be authorized to "undertake to locate and adjust the cause of interference with the normal transmission of nervous energy of the spinal column and adjacent tissues, without the use of drugs or surgery." A licensed chiropractor is not to prescribe medicine or to perform surgery but is to be permitted to render first aid, sign health cards and death certificates and to enter hospitals within the state for the purpose of adjusting their patients or inmates thereof.

Vermont

Bills Introduced.—S. 70 proposes to condition the issuance of a license to marry on the presentation by each party to the proposed marriage of a physician's certificate that the party has been given such examination as may be necessary for the discovery of syphilis, including a standard serologic test, made not more than thirty days prior to the date of the application for license to marry, and that in the opinion of the physician the party is either not infected with syphilis or if so infected is not in a stage of that disease which is or may become communicable to the marital partner. H. 217, to amend the workmen's compensation act, proposes to extend the period during which the employer must furnish an injured employee necessary medical services and supplies to the first thirty days of disability. The present law requires the employer to furnish such services only during the first fourteen days of disability. H. 263 proposes that "A licensed physician or surgeon shall not be permitted to testify in court to any communication of a confidential character, which he may have acquired in attending any patient in a professional capacity, and which was necessary for him to service such patient professionally, except (1) in trials for felony, where such disclosure relates directly to the fact or immediate circumstances of felony, (2) in all lunacy inquiries, (3) in all actions against the physician or surgeon for mal-practice, or (4) with the express consent of the patient, or in case of his death or disability, of his personal representative or other person authorized to sue for personal injury, or of the beneficiary of an insurance policy on his life, health or other physical condition."

Wisconsin

Bills Introduced.—S. 235, to amend the workmen's compensation acts, proposes that "Any employee submitting himself to examination at the request of his employer or the commission shall be furnished with a detailed report in writing of the examining physician's findings and conclusion, which shall include a history of the case, diagnosis, and opinion of the physician. An exact copy of such report shall be furnished to the employee or his attorney within ten days after the examination." S. 258 proposes so to amend the medical practice act as to authorize the issuance of licenses to practice naturopathy and to provide for naturopathic representation on the state board of medical examiners. A. 501 proposes to create an interim committee on the cost of medical care. The proposed committee is to investigate the general subject of cost of medical care and the ways and means of lightening the burden thereof and is to report its findings and recommendations to the 1943 session of the legislature or, if prepared to do so, at any intervening special session that may be called. With this report the committee is to submit drafts of bills to carry out its recommendations.

Medical News

MEDICAL NEWS

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ALABAMA

State Medical Meeting in Mobile.—The Medical Association of the State of Alabama will hold its annual session at the Battle House, Mobile, April 15-17, under the presidency of Dr. Samuel A. Gordon, Marion, and with the Mobile County Medical Society as host. Out of state speakers will include: Dr. Luther L. Terry, Galveston, Texas, The Problem of Brucellosis; Dr. Samuel Buford Word, Camp Shelby, Miss., Medical Problems Initiated by the Mobilization of Man Power; Dr. Champ Lyons, Boston, Clinical Objectives in Chemotherapy; Dr. Andrew B. Rivers, Rochester, Minn., Recognition of the Complications of Peptic Ulcer and Their Medical Treatment; Dr. Joseph C. Birdsall, Philadelphia, Diagnosis, Pathology and Treatment of Obstructions of the Urinary Tract. The Jerome Cochran Lecture will be delivered Wednesday morning by Dr. Marye Y. Dabney, Birmingham, on "The Story of Breast Cancer." Many Alabama physicians will participate in the program.

CALIFORNIA

The George Dock Lecture.—Dr. Elizabeth Mason Hohl, Los Angeles, will give the second George Dock lecture before the Barlow Society for the History of Medicine, Los Angeles, March 31. Her subject will be "The Practice of Medicine in the Eleventh Century." The lecture will mark Dr. Dock's eighty-first birthday. Last year the lectureship was created by the Barlow society in honor of Dr. Dock, who gave the first lecture on "A Dictionary of Medical Biography." Since 1931 Dr. Dock has been honorary professor of medicine at the University of Southern California School of Medicine, Los Angeles.

National Youth Program.—Newspapers reported recently that \$102,000 will be expended within six months to benefit the health of the twenty thousand unemployed youths in California. Lorne W. Bell, executive secretary of the Y. M. C. A., Los Angeles, has been selected as state health supervisor and Dr. Wilton L. Halverson, health officer of Pasadena, has been named consultant. Their work will be coordinated with that of the state department of all the major cities in the state. The campaign for health improvement will include health examinations, preventive and reparative care and dental work. Recommendations for diet, recreation and types of employment for each youth will be given.

Dr. Evans Makes Good Will Trip.—Dr. Herbert M. Evans, Herzstein professor of biology and director of the Institute of Experimental Biology, University of California, Berkeley, recently left on a good will tour around South America as an envoy of Secretary of State Cordell Hull and the government of Uruguay and the Guggenheim Foundation, and the main objective of the trip was the second Pan American Congress of Endocrinology at Montevideo, Uruguay, March 5-8. Dr. Evans will lecture at universities in Brazil, Argentina, Chile, Peru and Mexico. Dr. Evans graduated at Johns Hopkins University School of Medicine, Baltimore, in 1908. He was a member of the staff of his alma mater from 1908 to 1915, when he joined the University of California Medical School as professor of anatomy. He was awarded the John Scott Medal by the city of Philadelphia for his work on vitamin E in 1928.

COLORADO

Society News.—At a meeting of the Pueblo County Medical Society, February 4, action was taken to abrogate all local dues and pay state nonresident dues out of the treasury for all members called to military service during the present emergency. A symposium on nephritis was presented by Drs. Carl W. Maynard, Pueblo, and Thad P. Sears, Denver, at this meeting. The Medical Society of the City and County of Denver devoted its February 4 meeting to a symposium on tuberculous tracheobronchitis; the speakers were Drs. James J. Waring, Paul R. Weeks, Herman I. Laff and Frederick R. Harper. All are from Denver.

CONNECTICUT

Library Given to Neuropsychiatric Institute.—Dr. Smith Ely Jelliffe, New York, has given his library of fifteen thousand volumes and more than twenty-five thousand reprints on nervous and mental diseases to the Neuro-Psychiatric Institute of Hartford Retreat, Hartford. Included are some rare works dating back to the fifteenth century, as well as many important psychiatric monographs from the time of Pinel and Esquirol to the present. According to the New York Times, the reprints include contributions from practically every civilized country. All concerning a specific subject or disease entity have been combined in one group so that a research worker can trace more easily the development of treatment and historical aspects. Arrangements are under way at the institute to make the library available not only to the medical and research staffs of the institute but to qualified workers throughout the country.

ILLINOIS

Case of Smallpox.—The first case of smallpox in Cook County in nearly three years was reported in a man, aged 57, according to the newspapers March 14. He was placed under quarantine in his home. The patient's son, aged 11, was removed from school in Park Ridge. Vaccination was ordered for all children in the school.

New Director of State Medical Board.—Mr. Frank G. Thompson has been appointed director of the Illinois Department of Registration and Education, Springfield, succeeding John J. Hallihan. Mr. Thompson is a native of Golconda and for the past thirty-two years has been a resident of Mount Vernon, where he has been practicing law. He was state's attorney of Jefferson County from 1918 to 1924 and was a member of the state legislature from his district in 1931-1932. He is 55 years of age. The State Central Committee sponsored a banquet in his honor on his induction into office and presented him with a watch.

Chicago

Dr. Brennemann Goes to California.—Dr. Joseph Brennemann has been appointed professor of pediatrics in the University of Southern California School of Medicine, Los Angeles, and superintendent of the Children's Hospital of Los Angeles, according to an announcement from the dean. After serving three years beyond the retirement age, Dr. Brennemann resigned, January 1, as chief of staff of the Children's Memorial Hospital, a position he had occupied since 1921. Dr. Brennemann had also been professor of pediatrics at the University of Chicago, the School of Medicine, since 1921.

New Dean at Loyola.—Dr. Francis J. Braceland, associate clinical professor of psychiatry, Woman's Medical College of Pennsylvania, Philadelphia, has been appointed dean of Loyola University School of Medicine, effective in June. He succeeds Dr. Louis D. Moorhead, who has held the position since 1918 and who resigned to devote his time to private practice. Dr. Braceland graduated at Jefferson Medical College, Philadelphia in 1930. He was a Rockefeller fellow in psychiatry at Burgholzlee Anstalt, Zurich, Switzerland, and National Hospital, Queens Square, London, during 1935 and 1936. He has been clinical director of the Pennsylvania Hospital for Mental and Nervous Diseases since 1937 and at present is assistant professor of psychiatry in the Graduate School of Medicine, University of Pennsylvania. Dr. Moorhead graduated at Rush Medical College in 1917 and in the following year became dean and associate professor of surgery at Loyola and in 1928 professor and head of the department of surgery.

IOWA

State's Program to Supply Human Serum.—In a release, February 24, Dr. Eugene C. Wagner, director of the serum center of the state department of health, announced that it will soon be possible to maintain a supply of pooled normal blood serum for immediate distribution to any point in the state. Donor clinics are scheduled at monthly intervals to obtain blood from which the serum is made. Since the state department's program was launched in December 1940 twenty-six hospitals, district, county and city health services throughout the state have received serum shipped in special containers. In addition, rush orders have been supplied to physicians requesting serum for emergency use.

LOUISIANA

Officers of Special Societies.—Dr. Edmund M. Connely has been elected president of the New Orleans Society of Neurology and Psychiatry; Dr. Lewis A. Golden is the secretary-treasurer.—Dr. William H. Perkins, New Orleans, was reelected president of the Tuberculosis and Public Health Association of Louisiana at its annual meeting January 29. Shreveport was selected as the place for the 1942 meeting.

Courses in Obstetrics and Pediatrics.—The state department of health is planning a series of refresher courses in obstetrics and pediatrics at the Louisiana State University Medical Center and Tulane University of Louisiana School of Medicine, New Orleans, May 19-31. Ten physicians will offer the course in pediatrics at Tulane and eight physicians the one in obstetrics at Louisiana State. Applications to take a course should be directed to the Supervisor, Maternal and Child Health Services, 223 Civil Courts Building, New Orleans, on or before April 15. They will be reviewed by a committee from the state medical society, who will select the physicians to take the courses. Social security funds to finance the project have been received from the U. S. Children's Bureau. Other courses were under consideration by the state department of health to be held throughout Louisiana during March, April and May.

MARYLAND

Society News.—The Baltimore City Medical Society was addressed, March 21, by Drs. Charles W. Wainwright and Thomas McP. Brown on "The Use of Gold in the Treatment of Rheumatoid Arthritis" and George E. Bennett, "Surgical Treatment of Rheumatoid Arthritis." The society was addressed, March 7, by Drs. Louis Hanman on "Pain in Relationship to Pulmonary Disease," and John T. King, "Cardiac Pain."—The Osler Historical Club was addressed, March 11, by Col. Harold W. Jones, medical corps, U. S. Army, on "The Medicofilm Service of the Army Medical Library," and Dr. Joseph E. Raycroft, Princeton, N. J., "Old Wine in New Bottles."—The orthopedic section of the Medical and Chirurgical Faculty of Maryland met jointly with the Philadelphia Orthopedic Club, March 24, at Baltimore; the speakers included Dr. Allen F. Voshell, Baltimore, on "Anatomical Relations and Functions of the Tibial Collateral Ligament."

MASSACHUSETTS

Dr. Ladd Appointed to New Professorship.—Dr. William E. Ladd, clinical professor of surgery at Harvard Medical School, Boston, has been named the first incumbent of the William E. Ladd professorship of surgery. The new chair was recently endowed by a group of friends of Dr. Ladd and named in recognition of his contributions to the field of surgery in children. A native of Milton, Dr. Ladd graduated at Harvard in 1906. He has been clinical professor at his alma mater since 1931.

New England Health Institute.—The eleventh New England Health Institute will be held at the Hotel Statler, Boston, April 2-4. "Public Health in National Defense" will be its theme. The program has been divided into the following sections: administration, cancer and chronic diseases, communicable diseases, crippled children, environmental sanitation, food and drugs, genitoinfectious diseases, health education, laboratory, maternal and child hygiene, nutrition, occupational hygiene, public health nursing, school health, tuberculosis and vital statistics. Many nationally prominent speakers are included in the preliminary announcement.

MICHIGAN

Courses on Industrial Medicine and Surgery.—Designed for the general practitioner, a course of ten weekly lectures on industrial medicine and surgery will begin, April 3, under the sponsorship of the Continuation School of Medicine of the Wayne County Medical Society, Detroit. Sessions will be held at the Wayne University College of Medicine.

Society News.—Dr. Stanley P. Reimann, Philadelphia, addressed a meeting of the Wayne County Medical Society, Detroit, March 3, on "Normal Intracellular Constituents in Relation to Growth."—William J. Burns, Lansing, executive secretary, Michigan State Medical Society, discussed recent trends in legislation before the Highland Park Physicians' Club, March 6.—The Detroit Ophthalmological Society was addressed, March 5, by Dr. Benjamin Rones, Washington, D. C., on "Senile Changes in the Eyes."

Community Preparedness Program.—A special committee on medical mobilization of the Wayne County Medical Society, Detroit, has conducted a survey on industry, police, county sheriff, fire, transportation, supplies and bibliography as a preliminary program of community preparedness. The committee believes that a program for the whole community entails such extensive equipment, personnel and experience that an organization such as the Wayne County Medical Society does not have the necessary authority to undertake the development of the complete setup. It recommends, however, that the society continue its general study and formulate suggestions for presentation to the proper authorities for their consideration and to organize in detail the medical, hospital and first aid portion of the program. In compiling the report, information was obtained from other large industrial centers to secure experience elsewhere on community disaster programs. The committee consulted all local plants with war orders, and the list is being expanded to include every concern of fifty or more employees. The committee worked through eleven special divisions, each concerned with acquiring data on a specific problem. It will continue with the organization of a functional program in its special field, coordinating its efforts as part of the general program undertaken in the area by the American Red Cross.

NEW JERSEY

Hospital News.—The cornerstone for a new wing which will add a capacity of one hundred beds at Cooper Hospital, Camden, was laid, February 18. The addition was made possible by a gift of \$320,000 from the Campbell Soup Company, Camden, in memory of the late John Thompson Dorrance, president and one of the founders of the company. A recent donation of \$30,000 for equipment was announced at the ceremony.

Society News.—Dr. Jay Arthur Myers, Minneapolis, addressed the Hudson County Medical Society, Jersey City, March 4, on "The General Practitioner's Part in the Program of the Prevention and Control of Tuberculosis."—A symposium on "Carcinoma of the Female Genital Organs" was presented before the Union County Medical Society, Elizabeth, March 12, by Drs. Arthur R. Casilli, William O. Wuester, Elizabeth, and James G. Boyes, Plainfield.—Dr. Richard A. Kern, Philadelphia, addressed the Cumberland County Medical Society, Bridgeton, March 11, on allergy.

NEW YORK

Scarlet Fever Traced to Milk.—Thirty cases of scarlet fever in thirteen families in and near the hamlet of Pulteney in Steuben County recently were traced to the use of raw milk from one dealer in all but two instances. The first eight cases appeared between Dec. 22, 1940 and January 15, and 22 cases in the next nine days. The earliest case occurred on one of three farms that supplied the suspected dealer, and a cow was found to have acute mastitis. Milk from the infected cow showed hemolytic streptococci of the group commonly encountered in human infection, and the same organisms were found in throat cultures from some of the patients. Pasteurization of the suspected milk supply was begun January 23 and no more cases occurred after January 25, *Health News* reports. The infected cow was slaughtered.

New York City

Seventh Harvey Lecture.—Dr. Leo Loeb, professor emeritus of pathology and research professor of pathology, Washington University School of Medicine, St. Louis, will deliver the seventh Harvey Society Lecture of the current series at the New York Academy of Medicine, April 10. Dr. Loeb will speak on "Hormones and the Process of Aging."

Measles Prevalent.—The New York City Department of Health reported, March 13, that 1,401 new cases of measles had been reported for March 12, about a third more than the number for the previous day, 1,049. The incidence has been rising steadily since January 1. The total number of cases for January and February was 20,152, more than there were in 1939 and 1940 combined. There were only six deaths among the cases in the first two months of the year, it was said.

Graduate Course in Ophthalmology.—A three year full time graduate course in ophthalmology is announced by New York University College of Medicine, to be given under the direction of Dr. Conrad Berens, recently appointed associate professor of ophthalmology. The first year of nine months will include didactic, practical, seminar and laboratory courses,

and the last two years comprise an internship during which the student will be required to investigate some problem and report on his research. For further information address the Office of the Assistant Dean, College of Medicine, New York University, 477 First Avenue.

Lectures on the Steroid Hormones.—Mount Sinai Hospital is presenting a series of lectures on the steroid hormones. The first was delivered, March 7, by Harry Sobotka, Ph.D., chemist to the hospital, on "The Biological Role of Steroids in Clinical Medicine." Lectures in the series include:

- Dr. George W. Thorn, Baltimore, Desoxycorticosterone, March 14.
- Dr. Siegfried J. Thannhauser, Boston, Diseases of Cholesterol Metabolism, March 24.
- Dr. Robert T. Frank, New York, The Estrogens, April 7.
- Carl R. Moore, Ph.D., Chicago, Testosterone, April 28.
- Dr. Edwin C. Hamblen, Durham, N. C., Some Clinical Observations on the Metabolism and Utilization of Progesterones: Their Application to Gynecic Practice, April 30.
- Dr. Cornelius P. Rhoads, New York, The Carcinogens, May 12.

Graduate Courses.—The New York Post-Graduate Medical School has announced the following graduate courses that are being given during the spring:

- Recent advances in pediatrics, March 17-22, under the direction of Dr. Adolph G. G. De Sanctis.
- Seminar in pediatrics, one month beginning April 1, under Dr. De Sanctis.
- Clinical pediatrics, one month course offered in May and June, under Dr. De Sanctis.
- Neurology in general practice, one month beginning April 1, under Dr. George A. Blakeslee.
- Seminar in internal medicine, two months beginning April 1, under Dr. Irving S. Wright.
- Arthritis and rheumatic diseases, April 14-18, under Dr. Edward F. Hartung.
- Seminar in gynecology, one, two or three months beginning April 1, under Dr. Walter T. Dannreuther.
- Allergy, April 14 to May 2, under Dr. William C. Spain.

Hospital News.—Mr. Harold M. Salkind, recently superintendent of the Beth Abraham Home for Incurables, has been appointed executive director of the Beth David Hospital. He succeeds Mr. Samuel G. Ascher, who resigned to enter active service with the Medical Administrative Section, U. S. Army Medical Corps, at the Army and Navy Hospital, Hot Springs National Park, Ark.—A new roentgen ray department was recently presented to Knickerbocker Hospital in memory of the late Mrs. Bernard M. Baruch by her daughters, Miss Belle W. Baruch and Mrs. Renee B. Samstag. The new department, which occupies one wing on the second floor of the hospital, was dedicated on January 16. Dr. Samuel A. Brown, former dean of New York University College of Medicine, made the presentation on behalf of the family.

Medicolegal Meetings.—The second of a series of four joint meetings of the Association of the Bar of the City of New York and the Medical Society of the County of New York was held, January 28, with the following speakers: Drs. Henry W. Cave on "Role of Trauma in the Activation and Aggravation of Cancer, Hernia and Ulcers"; Arthur H. Terry Jr., "Effect of Trauma with Relation to Tuberculosis, Pneumonia, Pernicious Anemia and Related Conditions," and Alan DeForest Smith, "Injuries to the Lower Back in Relation to Compensation and Accident Cases." At the third meeting, February 4, the speakers were Drs. Arthur C. DeGraff on "Disability in Diseases of the Heart and Circulatory System"; Arthur M. Master, "Effort, Trauma, Occupation and Compensation," and John Kirkland Clark, Esq., "Legal Aspects of Disability in Diseases of the Heart and Circulatory System."

OHIO

Changes in Health Officers.—Dr. Marshall J. Thomas, Cambridge, has been appointed health commissioner of Guernsey County on a part time basis to succeed the late Dr. David L. Cowden.—Dr. Robert L. Lawwill, Seaman, has been appointed health commissioner of the Adams-Brown counties health district, succeeding Dr. Otto K. Engelke, West Union, resigned.—Dr. George Winthrop Bassow, Woodstock, N. Y., has succeeded Dr. John P. Young, Empire, as health commissioner of Jefferson County. Dr. Young had served for many years.

Society News.—Dr. Murray M. Copeland, Baltimore, will address the Mahoning County Medical Society, Youngstown, April 30, on "Practical Treatment of Tumors and Diseases of the Mammary Gland."—Dr. Edward A. Strecker, Philadelphia, addressed the Academy of Medicine of Cleveland, February 21, on "Dangers of Crowd Mindedness, a Psychiatric Prospective of World Chaos."—Dr. Donald R. McKay, Buffalo, addressed the Stark County Medical Society, Canton,

February 20, on "Diagnosis and Treatment of Common Diseases of the Chest."

Northern Tri-State Meeting.—The sixty-eighth annual meeting of the Northern Tri-State Medical Association (Indiana, Michigan and Ohio) will be held in Tiffin, April 8, at the Tiffin Theater. The speakers will be:

- Dr. Frederick F. Yonkman, Detroit, Emergency Drugs.
- Dr. Carl D. Camp, Ann Arbor, The Neurological Examination and What It Shows.
- Dr. Albert D. Ruedemann, Cleveland, The Eye in General Medicine.
- Dr. Ernest Perry McCullagh, Cleveland, Recent Advances in Endocrinology.
- Dr. Roy W. Scott, Cleveland, The Bedside Diagnosis of Certain Cardiovascular Diseases.
- Dr. George M. Curtis, Columbus, Recent Developments in Thoracic Surgery.
- Dr. Willis D. Gatch, Indianapolis, Abdominal Pain.
- Dr. William N. Wishard Jr., Indianapolis, Urinary Antiseptics from the Viewpoint of General Practice.

Dr. Elliott P. Joslin, Boston, will be the guest speaker at a banquet at the Shawhan Hotel on "The Application of Recent Physiological Studies of the Treatment of Diabetes Mellitus."

OREGON

Society News.—Dr. Edwin E. Osgood, Portland, addressed the Marion-Polk Counties Medical Society in January on "Practical Aspects of Chemotherapy." The name of the society was changed at this meeting from Polk-Yamhill-Marion Counties Medical Society. Yamhill County has a separate organization.—Dr. Cyrus C. Sturgis, Ann Arbor, Mich., addressed the Umatilla County Medical Society, Pendleton, recently on "Anemias of Pregnancy."—Members of the staff of Portland Sanitarium and Hospital presented the program of the Multnomah County Medical Society, February 19, in Portland, on "Causes of Death in the Newborn." The speakers were Drs. Clarence Roderick Blatchford, Warren C. Hunter and Samuel G. Henricke. Prof. Henrik Dam of the Biochemical Institute, Copenhagen, Denmark, was the speaker March 5 on "The Present State of Knowledge of Vitamin K," under the auspices of the Portland Academy of Medicine.

PENNSYLVANIA

Society News.—Dr. Harrison F. Flippin, Philadelphia, addressed the Northampton County Medical Society at the Northampton Country Club near Easton, February 21, on "Chemotherapy in Pneumonia."—Dr. Theodore R. Fetter, Philadelphia, addressed the Lycoming County Medical Society, Williamsport, February 14, on "Urogenital Infections with Particular Emphasis on Their Treatment with the Drugs of the Sulfonamide Series."

Philadelphia

Gift for Research and Treatment.—Jefferson Hospital was recently awarded \$330,522.76 from the estate of the late Mrs. Emily Barton Pendleton to be used for treatment of cancer and tuberculosis and for research into their causes, according to the *Pennsylvania Medical Journal*. Mrs. Pendleton was a member of a family that has given Philadelphia two eminent surgeons, John and William Barton, several medical scholarships and medical research funds, the *Journal* says.

Annual Health Institute.—The Woman's Auxiliary of the Philadelphia County Medical Society will present its eleventh annual health institute, April 8, at the society's auditorium on "Medicine and the National Crisis." The speakers will include:

- Major James B. Mason, U. S. Army, The Doctor in the Army.
- Capt. John B. Kaufman, U. S. Navy, The Doctor in the Navy.
- Dr. Malcolm W. Miller, Are You Allergic?
- Mrs. Maxwell J. Lick, Erie, president of the state auxiliary, History of Health Organizations.
- Dr. Leon H. Collins Jr., The Magic of the New Medicine.
- Dr. Edward A. Strecker, Mind Over Matter.
- Dr. Edward L. Bortz, Selecting Your Doctor.

Doctors' Hospital Opened.—The Doctors' Hospital, a nonprofit institution organized by Philadelphia physicians to use a building formerly owned by the University of Pennsylvania and once known as the Orthopedic Hospital, was opened, January 11. Dr. Arthur P. Keegan is chairman of the board of directors, and other members are Drs. George M. Dorrance, John M. Cruice, John G. Manley, Eugene C. Murphy, John W. Bransfield, David N. Kremer, Daniel J. McCarthy, William H. Spencer and Yasohichi Frank Yoshida. The new hospital will be staffed entirely by practicing physicians and surgeons and graduate nurses. It has two hundred beds, three operating rooms and three delivery rooms.

Pittsburgh

Memorial Lecture.—Dr. Virgil H. Moon, Philadelphia, delivered the R. W. Stewart Memorial Lecture of the Pittsburgh Academy of Medicine, March 11. His subject was "The Origins, Early Recognition and Management of Shock."

Society News.—Speakers before the Pittsburgh Surgical Society, March 7, included Drs. Harold A. Kipp, on "Surgical Treatment of Lung Abscess and Chronic Bronchiectasis" and Samuel M. Dupertuis, "Problems in Plastic Surgery About the Face."—At a meeting of the Allegheny County Medical Society, March 25, the speakers included Drs. Yale D. Koskoff on "Clinical Importance of Electroencephalography"; Sidney A. Rosenberg and Norman M. Wall, "Treatment of Diffuse Peritonitis by Direct Peritoneal Introduction of Sulfanilamide."

SOUTH CAROLINA

State Medical Meeting at Greenville.—The annual meeting of the South Carolina Medical Association will be held in Greenville, April 16-17, at the Poinsett Hotel. Dr. Frank H. Lahey, Boston, President-Elect of the American Medical Association, will deliver an address Wednesday morning, April 16, when the president of the state association, Dr. William L. Pressly, Due West, will give his official address. Dr. A. Benson Cannon, New York, will lead a round table discussion on "Common Skin Diseases"; Dr. Oscar L. Miller, Charlotte, N. C., one on "Management of the Commoner Fractures for the General Practitioner." Dr. David T. Smith, Durham, N. C., will speak Thursday on "Subacute and Chronic Nontuberculous Lung Infections." South Carolina physicians on the program include:

- Dr. Olin B. Chamberlain, Charleston, Arthritis of the Cervical Vertebrae.
- Drs. LeGrand Guerry and George T. McCutchen, Columbia, A Composite Operation for the Radical Cure of Inguinal Hernia.
- Dr. Ernest B. Saye, Spartanburg, Sudden Death from Natural Causes.
- Dr. John F. Rainey, Anderson, Hypertension: Experimental and Clinical Observations.
- Dr. Sol B. McLendon, Columbia, Diagnostic and Therapeutic Value of the Lumbar Puncture and Cerebrospinal Fluid Examination.
- Dr. Frank P. Coleman, Columbia, Surgical Treatment of Bronchiectasis.
- Dr. William H. Prioleau, Charleston, Complications Connected with the Treatment of Varicose Veins.
- Dr. Jesse W. Kitchin, Liberty, Some Considerations of Constipation.
- Dr. William Weston Jr., Columbia, The National Physicians' Committee.
- Dr. George R. Dawson Jr., Charleston, Low Back Pain and Sciatica Caused by Faulty Mechanics at the Lumbosacral Area.

VIRGINIA

Society News.—Dr. Eugene M. Landis, Charlottesville, addressed the Albemarle County Medical Society, Charlottesville, February 6, on "Practical Aspects of Kidney Function Tests."—Speakers at a meeting of the Augusta County Medical Association in Waynesboro, February 5, were Drs. Marshall J. Payne, Staunton, on "Metastases in Malignant Diseases"; John H. Guss, Churchville, "Recent Studies on Hypertension" and Byrd S. Leavell, Charlottesville, "Anemias."

State Neuropsychiatric Meeting.—Dr. William Gayle Crutchfield, Richmond, was elected president of the Neuropsychiatric Society of Virginia at its winter meeting in Richmond, January 29; Dr. Howard R. Masters, Richmond, was made vice president and Dr. Edward H. Williams, Richmond, was reelected secretary. The speakers were Drs. James Asa Shield, Richmond, on "Yeast Infection of the Nervous System"; Ernest H. Alderman, Richmond, "Mental Deterioration in the Psychoses"; George B. Arnold, Colony, "Problem of the Psychopathic Personality in the Feebleminded," and Patrick H. Drewry Jr., Richmond, "Suicidal Attempts as Seen in a General Hospital."

University Hospital Addition.—A new \$375,000 addition to the University of Virginia Hospital, Charlottesville, was opened recently. The five story building provides for new administrative quarters, six operating rooms, treatment rooms, more space for medical research and a capacity of one hundred and seventy-one beds. This gives the hospital a total of five hundred beds, with three hundred and seventy-five for teaching purposes. On the ground floor are new quarters for the orthopedic outpatient department, additional quarters for the department of urology and storage space. On the first floor are administrative offices and two surgical wards; on the second the operating rooms and two surgical wards; on the third are two medical wards, a clinical laboratory and the office of the department of internal medicine; on the fourth are quarters and wards for the departments of ophthalmology and otolaryngology.

WASHINGTON

Surgical Meeting.—Dr. Idys Mims Gage, associate professor of surgery, Tulane University of Louisiana School of Medicine, New Orleans, was the guest at the annual meeting of the Puget Sound Surgical Society in Seattle, March 15. Clinics were held during the day at the King County Hospital and the annual banquet at the Rainier Club in the evening. Dr. Gage's subject was "Surgery of Acute Cholecystitis."

Physician Honored.—The Spokane County Medical Society gave a banquet at the Desert Hotel, Spokane, February 17, in honor of Dr. Erich T. Richter in celebration of his fiftieth anniversary in the practice of medicine. Dr. Richter, now 75 years old, graduated from the Julius-Maximilians-Universität Medizinische Fakultät, Würzburg, Germany, in 1890 and was licensed to practice in Germany in 1891. He came to Washington in 1893. He is a former president of the Spokane County Medical Society.

GENERAL

Society News.—At the recent meeting of the Western Surgical Association in Topeka, Kan., Dr. Albert H. Montgomery, Chicago, was chosen president and Dr. Arthur R. Metz, Chicago, was made secretary. The next meeting will be in St. Paul, December 5-6.—At the third meeting of the National Conference of Governmental Industrial Hygienists, in Washington, D. C., February 18, Dr. Carl A. Nau, Austin, Texas, was elected chairman; Mr. M. F. Trice, Raleigh, N. C., vice chairman, and John J. Bloomfield, U. S. Public Health Service, secretary.—The annual meeting of the American Red Cross will be held in Washington, D. C., April 21-24.

Physicians' Art Association.—A prize of \$100 is being offered by the president of the American Physicians' Art Association, Dr. Edward E. Woldman, Cleveland, for the best painting depicting some particular epoch in medical history. If the painting is acceptable to the Cleveland Academy of Medicine, \$100 or more will be paid to purchase it. The work should be about 30 by 40 inches in size, so that it may be used in a panel measuring 30 by 44 inches in the academy's building. The exhibit of the American Physicians' Art Association will be held during the annual session of the American Medical Association in Cleveland. Instructions will be announced later concerning material to be exhibited. All art work is to be sent direct to Cleveland and will be returned to members after the exhibition.

Association of Anatomists.—The American Association of Anatomists will hold its fifty-seventh annual session at the University of Chicago, Chicago, April 9-11, as a part of the celebration of the fiftieth anniversary of the university. The Hotel Shoreland will be the headquarters. Philip E. Smith, Ph.D., New York, is president. The program includes the following speakers:

- Oliver P. Jones, Ph.D., Buffalo, The Degree of Macrocytosis in Blood from Newborn Rats as Related to the Time of Implantation.
- Edgar Allen, Sc.D., New Haven, Conn., Studies of Differential Growth of Genital Tissue in Response to Ovarian and Pituitary Gonadotropic Hormones.
- Rollin H. Denniston, Ph.D., Chicago, Roentgen Irradiation Studies on Pituitary and Sex Glands.
- Warren O. Nelson, Ph.D., Detroit, Renewal of Sperm Formation in Hypophysectomized Rats.
- William W. Greulich, Ph.D., Cleveland, and Dr. Edward S. Morris, Laconia, N. H., An Attempt to Determine the Value of Morning Rectal Temperature as an Indication of Ovulation in Women.

Accidental Deaths in Coal Mines.—Secretary of the Interior Ickes recently reported that 1,337 men were killed outright or succumbed to injuries received in or around coal mines in 1940. Secretary Ickes sent his report to Representative Joe L. Smith of West Virginia, chairman of the House Committee on Mines and Mining, which is considering legislation calling for federal inspection of coal mines. The 1940 record for coal mines was worse than that for any single year since 1928, the Secretary reported. There were 276 fatalities in six major disasters. Analysis of the principal causes showed that 45.9 per cent of the deaths were caused by falls of roof or coal, 22 per cent by gas and dust explosions, 16.5 per cent by accidents along haulage ways, 2.8 per cent by electricity, 2.6 per cent by explosives, 2.1 per cent by machinery and 8.1 by other causes.

Positions Available in Los Angeles County.—The Los Angeles County Civil Service Commission is holding examinations to fill residencies in four services at the Los Angeles County General Hospital: otorhinolaryngology, ophthalmology, neurosurgery and anesthesiology. Monthly salaries for the first three are \$50, uniform and medical care and, in anesthesiology, \$115, uniform and medical care. The usual three year county residence requirement has been waived for these examinations.

There will be no written examination. Candidates will be rated on their scholastic record in medical school, their internship record, and their aptitude and personal suitability for advanced training in the specialty as evidenced by investigation and interview. Interviews may be arranged outside of Los Angeles County if a sufficient number of applications are accepted in a particular locality. Additional information and application blanks may be obtained from the Los Angeles County Civil Service Commission, Room 102, County Hall of Records, Los Angeles, Calif. Application blanks must be filed by April 24.

Meeting of Pathologists and Bacteriologists.—The forty-first annual meeting of the American Association of Pathologists and Bacteriologists will be held at New York University College of Medicine, New York, April 10-11, under the presidency of Dr. Stanhope Bayne-Jones, New Haven, Conn. Included on the program will be:

- Dr. Stuart Mudd, Katherine Polevitzky, Harry E. Morton, Sc.D., Philadelphia, and Thomas F. Anderson, Camden, N. J.: The Structure of Bacteria as Shown by the Electron Microscope.
- Drs. Edward M. Butt and Arthur M. Hoffman, Los Angeles, A Study of Latent Lesions of Coccidioidomycosis Correlated with Coccidioidin Skin Tests.
- Drs. Robert A. Moore, St. Louis, Tom D. Spies, Cincinnati, Zola K. Cooper, Ph.D., St. Louis, and Dr. Harry Goldblatt, Cleveland, Histopathology of Pellagra.
- Drs. Rolf Katzenstein, Milton C. Winternitz and Ernst Mylon, New Haven, Coagulation Time of the Blood and Mural Vascular Lesions as Determinants of Thrombosis.
- Dr. George H. Whipple, Rochester, N. Y., Shock—Plasma Protein Building in Emergencies as Influenced by Intravenous Digests.
- Dr. Virgil H. Moon, Philadelphia, The Cellular and Vascular Dynamics of Shock.
- Dr. Frank W. Foote, Jr., New York, Lobular Carcinoma in Situ—One of the Rare Forms of Mammary Cancer.

Natality and Mortality, 1937-1939.—The U. S. Bureau of the Census has issued a special report on natality and mortality data showing the number of births and deaths and the birth and death rates for each state for the three years 1937-1939. The rates are based on provisional population figures from the 1940 census and therefore they differ in some cases from rates previously published, the report points out. The 1939 death rates were all lower than or were the same as those of 1937. Some had risen after declining slightly in 1938. Rates of more than 12 per thousand of population were found in Delaware, Maine, New Hampshire, Vermont and the District of Columbia. Rates less than 9 were in North Dakota, which had a rate of 8.4, Arkansas 8.5, South Dakota 8.5, Utah 8.6 and Oklahoma 8.7. Birth rates of 20 and over were reported for Alabama, Arizona, District of Columbia, Georgia, Idaho, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, North Dakota, South Carolina, Utah, Virginia, West Virginia and Wyoming. Lowest rates were in New Jersey 13.6, Connecticut 13.8, New York 14.1, Massachusetts 14.7 and Rhode Island 14.8. This report also shows trends of birth and death rates for the registration areas from their establishment through 1939. The death rate for the death registration area has fallen from 13.6 in 1915 to 10.6 in 1939. During the same period the birth rate in the birth registration area declined from 25.1 to 17.3.

FOREIGN

Physicians Prisoners of War.—A report made to the British Medical Association early in January indicated that ninety-two British physicians are prisoners of war in Germany, sixty of them members of the British Medical Association. The Council of the British Medical Association voted to waive their subscription costs during the period of captivity and also, if possible, to send them copies of the *British Medical Journal*.

New Health Officials in England.—Mr. Malcolm MacDonald, minister of health in the British cabinet, has been appointed high commissioner to Canada and Mr. Ernest Brown, who has been junior minister of health, has succeeded him. Sir George Chrystal, secretary of the British Ministry of Health, has retired on account of reaching the age limit, *Science* reports, and Sir Evelyn John Maude, deputy secretary, has succeeded him. In addition, Sir Arthur S. MacNalty, chief medical officer of the ministry of health and of the board of education, has retired on reaching the age limit, and Sir William Wilson Jameson has succeeded him. Sir William Wilson Jameson has been secretary of state for the colonies, dean of the London School of Hygiene and Tropical Medicine and professor of public health in the University of London.

Chinese Medical Schools Move.—Recent information from China relates that several institutions have had to be moved from Kunming in Yunnan Province to safer locations. National College of Medicine of Shanghai is now in Chungking working in cooperation with the Central Hospital and

the Central Field Health Station of Weishengshu. Other moves are as follows: National Chungshan Medical College to Nanhshing in Kwangtung, Tung Medical Department of Chi University to Yiping in Szechwan and Chungcheng to Chenning, Kweichow not far from Kweiyang. Yunnan University Medical College is the only one left in the vicinity of Kunming. Chungking, it is pointed out, is becoming an important medical center with the presence of the National College of Medicine of Shanghai, National Kiangsu Medical College, National College of Pharmacy, National Midwifery School and the Central School of Nursing.

Cancer Prizes to British Scientists.—The Katherine Berkan Judd prizes for 1939 and 1940, awarded for important contributions to knowledge of the cause and cure of cancer, will be presented to Dr. Ernest L. Kennaway and James W. Cook, Ph.D., of the Royal Cancer Hospital, London, according to *Science*. The 1939 award was postponed to assure careful consideration of various research projects here and abroad, it was said. The Judd prize was established by the will of Katherine Berkan Judd, wife of Lewis B. Judd of New York, who died in 1934. Mrs. Judd made Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York, the trustee of a fund of \$30,000. The current prizes of \$1,000 each are for a project on which Dr. Kennaway and Dr. Cook are working together, the action of specific chemical substances, particularly coal tar derivatives, in the causation of cancer. Dr. Kennaway, according to the citation, established the facts that coal tar is more active at high temperatures and that it is the fluorescent element which is damaging. Dr. Cook, a chemist, discovered the molecular structure of the cancer-producing agent. Previous recipients of this award were Dr. Robert Meyer of the University of Berlin in 1937 and Prof. Claude Regaud of the Curie Institute of Paris in 1937.

CORRECTION

Births in Mount Carmel Mercy Hospital.—In the Hospital Number of *THE JOURNAL* March 15, page 1106, the number of births in Mount Carmel Mercy Hospital, Detroit, should have been 1,587 instead of 215, as printed.

Government Services

Dr. Durrett Appointed to Federal Trade Commission

Dr. James J. Durrett, chief of the drug division of the Food and Drug Administration and principal technical adviser of the Food and Drug Administration since 1936, has been appointed a special expert to the Federal Trade Commission with the designation of director of the medical advisory division, vice Dr. Knox E. Miller. Dr. Durrett had previously served as chief of the drug division of the Food and Drug Administration in the U. S. Department of Agriculture from 1928 to 1931, when he resigned to become director of professional relations for E. R. Squibb & Sons. Dr. Durrett is a native of Alabama and graduated from Harvard Medical School, Boston, in 1914. He served in various positions as a health administrator from 1915 to 1927 and during that period was for seven years superintendent of the department of health of Memphis, Tenn., and professor of public health at the University of Tennessee College of Medicine.

Physicians Needed for CCC in Third Corps Area

Applications are invited from physicians for medical service in the Civilian Conservation Corps in the Third Corps Area, which includes Pennsylvania, Maryland, Virginia and the District of Columbia. The initial salary is \$3,200 a year. No quarters for families are provided, and the physicians are required to pay for their own food at the camps and to supply their own uniforms. The principal duties consist of the medical care of the enrollees and the practice of preventive medicine and supervision of sanitation. To be eligible, a physician must be a citizen of the United States, must be a graduate of an accredited medical school, must possess a license to practice and must be physically able to perform the duties required. All physicians interested in this type of work are requested to submit their applications to the Commanding General, Third Corps Area, Post Office Building, Baltimore, Md.

Foreign Letters

LONDON LETTER

(From Our Regular Correspondent)

Jan. 25, 1941.

Air Raid Casualties

The Ministry of Home Security has announced that, during December, 3,793 civilians were killed and 5,044 injured and detained in hospitals as a consequence of air raids. The 147 persons not included in the table were killed. The December

Classification of Air Raid Casualties

	Men	Women	Children Under 16
Killed	1,691	1,434	521
Detained in hospitals.....	2,962	1,775	307

total is a decrease over the preceding months. In November the number killed was 4,588; in October, 6,344. German airmen have killed 2,351 children under 16 years of age and injured 2,457.

American Red Cross Aid to Britain

Mr. Daniel B. Grant, chairman of the American Red Cross Committee in Great Britain, has released figures showing the extent of its operations up to the end of 1940. Expenditure and commitments by the American Red Cross in Washington for British war relief purposes totaled \$11,900,000. This sum includes direct expenditure, contracts entered into and the total value of the supplies produced or given by the three thousand seven hundred chapters of the American Red Cross in the United States. Since the formation of the American Red Cross Committee in Great Britain last July a total of \$5,300,000 in cash and supplies has been handled through the accounts of the committee. The operation is in charge of Mr. Bowen McCoy, executive officer, directly assigned by the American Red Cross national headquarters in Washington, aided by two assistants similarly assigned. The general detail work of the committee is handled by a paid staff of nine persons. In addition there are five on a volunteer basis. Among the supplies provided have been some thousands of garments for evacuees and those who have lost their homes through bombardment; hospital and medical supplies of all kinds, particularly those not readily obtainable in this country; fleets of ambulances and canteens, and \$750,000 for the immediate purchase in this country of goods urgently needed.

A Polish University in Edinburgh

The University of Edinburgh has offered the Polish government facilities, which have been accepted, for the establishment of a Polish school of medicine. This will be staffed by professors and teachers now serving with the Polish army in this country and by professors of the faculty of medicine of the Edinburgh University in such subjects as may not be represented among the Polish professors. Discussions are now proceeding with the Polish government to settle details. The Polish forces in this country include medical officers, of whom many are of high academic standing. There are also medical graduates of Polish universities who have lost for the present almost all opportunities for maintaining the standards of their professional skill. Finally there are in this country Polish medical undergraduates, the value of whose studies will be seriously affected unless something is done to mitigate their situation.

The destruction or closure of the Polish universities and other institutions and the barbarous treatment of their professors and teachers by the Germans are well known. It is the proclaimed intention of Germany to abolish all higher education in Poland. When freed from the German yoke that

country will be found destitute of all means for university teaching. With this in mind the University of Edinburgh has established the nucleus of the Polish Faculty of Medicine, so that an important branch of Polish learning—medical research and teaching—may be kept alive.

Drug Supplies in Wartime

In a lecture before the Wholesale Drug Association Mr. A. Mortimer, secretary and chairman of the Pharmaceutical Export Group, said that British chemists were manufacturing products which before the war were made exclusively in enemy countries. The addendum to the British pharmacopeia, which had just been published, contained monographs on some preparations which had in the past been sold in this country under trade names. The pharmacopeia commission had given them new names, and it was expected of prescribers that they should use these names and not the proprietary ones. It was also important that British exporters should supply to their customers abroad the products which were now being made in this country under designations official in the pharmacopeia.

The Cost of Workmen's Compensation

It has been pointed out (*THE JOURNAL*, Aug. 24, 1940, p. 626) that the workmen's compensation acts, which entitle a workman or his dependents to compensation for incapacity due to an accident "arising in or out of his employment" have been so widely interpreted as to cover anything which can happen to him in any way connected with his employment. Thus a workman collapsed and died while turning a nut. Death was found to be due to rupture of an aneurysm which might have occurred at any moment, but the court held it to be an "accident" within the meaning of the acts. According to a government return just published, workmen's compensation for accidents and industrial diseases in the seven great groups of industries—mines, quarries, railways, factories, docks, constructional work and shipping—amounted during 1938 to \$38,000,000. These groups do not cover the whole field and exclude in particular building, road transport, agriculture and commercial and domestic employments. The total compensation paid in respect to two thousand four hundred and ninety-eight fatal accidents was \$456,725 and of nonfatal accidents \$30,000,000. The industrial distribution of the payments was as follows: shipping \$1,560,000, factories \$13,000,000, docks \$1,400,000, constructional work \$1,400,000, railways \$1,400,000. But these were only what was paid to workmen or their dependents. To them must be added administrative expenses and medical and legal costs of employers and insurance companies. It is estimated that the cost is something like \$17,000,000. Under the special schemes for compensation for silicosis and asbestosis \$1,150,000 was paid in 2,739 cases.

C. T. Holland, Pioneer Radiologist

Mr. C. T. Holland, F.R.C.S., a pioneer in the use of roentgen rays, has died at the age of 77. He was educated at University College Hospital and settled in Liverpool as a general practitioner but soon made his reputation as a radiologist. He was appointed honorary radiologist to the Royal Liverpool Southern Hospital in 1896, which position he held until 1904, and from that year until 1923 he held a similar appointment at the Liverpool Royal Infirmary. During the war of 1914-1918 he was radiologist to the First General Hospital of the Army with the rank of major and consultant radiologist to the Western Command. He developed a new technique for the localization of bullets. Applying the principle of the gunner's height finder he devised a depth finder, which has proved most valuable in radiography. Among many honors he was elected in 1923 president of the first International Congress of Radiology, which was held in London. He was twice president of the Roentgen Society. He was lecturer in radiology to the University of Liverpool. America honored him with a fellowship of the College of Radiology.

PARIS

(From Our Regular Correspondent)

Dec. 2, 1940

The Corporate Health Idea

More information can now be given regarding the reorganization of public health and the place of the physician in the new social scheme. The creation of a health corporation which is to include the medical profession seems to thoughtful minds to give to medicine its fullest scope of service to the public. Since the medical syndicates have been dissolved there has been need of something to take their place. In spite of the good things for which the medical syndicates stood, certain defects clung to them from the beginning which paralyzed their best intentions. First of all, the electoral system under which they worked impeded the initiative of their officers, whose interest centered on reelection. Again, the physicians who were members of the syndicates were concerned a great deal with the protection of their professional interests and showed little desire to rise above their professional routine and try to place the healing art on a rational and national foundation. Moreover, syndicate affiliation was not compulsory. Scarcely half of the physicians were members. The medical syndicates could not enforce their decisions on nonmembers unless these had at the same time the sanction of the law. Under these circumstances the medical syndicates could hardly in reality control abuses which might reflect on the profession. One of the principal factors in the corporate organization is that it will include all the members of the profession and that its decisions will carry the weight of civil tribunals.

The organization of the corporate system presents serious problems. Should it include only physicians or all connected with public health, such as veterinarians, druggists, dentists, midwives, nurses and social welfare assistants? It seems that the more inclusive conception will prevail and that the health corporation will include all who can present the educational evidence of competent training and are engaged in public health service. Even hygienists and health technicians may be included.

The individual features of the corporate health organization have not yet been worked out. Among these are whether it is to control the hospitals and medical education; whether its supreme council is to have authority over the administration of public health. On the other hand, this health corporation may simply constitute an interprofessional council uniting the various groups that have to do with public health. The corporation would then act in the capacity of health adviser to the state, with three tasks imposed on it: (1) family welfare, (2) organization of preventive medicine and (3) control of social phenomena (syphilis, falling birth rate, tuberculosis, alcoholism and the coordination of all health activities). It would then comprise the order of physicians and the orders of various professional health workers, exercising moral supervision over these professions and their members. This council would be designated either by the government or by the members of the departmental or regional councils, who would be elected on the basis of a plurality vote. Each health profession would have charge of its own affairs. The interprofessional committee would regulate common interests, coordinate activities and arbitrate differences. A census would be made of all engaged in health work. They would be furnished with a card of identification. It has even been proposed that physicians stamp their prescriptions with a legal seal in order to suppress fraud.

Whatever the arrangement finally adopted, the health corporation will simply be the prolongation of the syndicates, if the protection of privileges and the insistence on rights control the picture. The principal role of the corporation must be to establish ethical standards for physicians and associated health workers. The usefulness of the corporation will depend on whether men of intelligence and probity are left free to make of their profession an effective instrument of public health.

Scarcity of Drugs

The war has made drugs scarce in France. Last year the French army had accumulated, through requisition, an abundance of stocks which would have been returned to the trade. Much of it disappeared after the invasion. The difficulties arising from the disorganization of transportation and the division of the country into two zones under military control aggravated the situation still more. There is no hope of improvement as long as both parts of France are isolated from each other and the world. Before the war France imported many vegetable products, which might have been grown here but which it was advantageous and convenient to buy abroad. *Atropa belladonna*, for example, came from Egypt, put up in standardized form. The atropine content was fixed, whereas French *belladonna* was not so carefully controlled. Opium and its derivatives are scarce. Opium used to be derived from Turkey, Yugoslavia and Persia. Present supplies will not last long. Japan used to furnish France with camphor and synthetic menthol. Spain sent ephedrine and mercury. From America came hamamelis, ipecac, kola and quinine. Caffeine and theobromine were extracted from imported coffee and cacao. Rhubarb came from America, *strophanthin* from Cameroun, *nux vomica* from the Indies. There will be a shortage of all these before long. *Digitalis* was cultivated in the eastern part of France now under the heels of the invaders.

Ingenuity has been exercised to replace the products of foreign origin. *Digitalis* will be replaced by maize and bearberry, hamamelis by *cupressus* and *Aesculus hippocastanum*. Purgatives and antispasmodics of national manufacture are numerous, but the scope of therapeutics will become more limited. Indigenous cultivation will take time. Besides, it will be as difficult to require the practicing physician to familiarize himself with drugs which are little known at present as it is to expect the French peasant to undertake the cultivation of unknown products on a large scale.

In certain products, such as alcohol, ether, acetic acid and the salicylic acids and especially for benzene and its derivatives, such as sulfanilamide, the situation is less critical. Synthetic products, for example epinephrine, can be manufactured in sufficient quantities. Metals are not lacking. Bromine and iodine derived from kelp were produced in France, but mobilization interfered with the harvest. Cacao, paraffin and mazout may be replaced by hydrogenated oils, but oils and soaps are scarce. Cotton no longer arrives from Egypt and the United States. This caused a dearth of dressing material. Gauze may be replaced by bran and absorbent sawdust.

Vitamins are becoming so scarce that some of them will soon be exhausted. Vegetables from which carotene is derived are grown in France. Vitamin A might be obtained from the tunny and a kind of shark found in abundance on the coasts of France, but cod liver oil and halibut liver oil will be seriously missed. Vitamin B can be produced from beer yeast. However, this also requires the creation of a new organization and new equipment. Vitamin C is a synthetic product of which sugar is the base. Vitamin D is derived from cholesterol. Wheat germ will furnish vitamin E. The greatest need is in therapeutic extracts. Most of these were imported. France cannot supply her needs, for her live stock is reduced by half.

To prevent speculation and increased prices, already formidable, the government may have to issue drug cards.

Scarcity of Food

The weekly ration allowed the French people makes allowance for 1,224 calories a day and consists of meat 360 Gm., butter and fats 100 Gm., bread 2,450 Gm. (inclusive of flour), pâtes alimentaires 250 Gm., potatoes 1 Kg., sugar 700 Gm., coffee, composed three fourths of roasted grains, 300 Gm. and cheese 25 Gm. This ration is clearly insufficient for most age levels. In the case of nurslings the sugar content is too low.

Children from 7 to 14 years require, on the average, 1,900 calories. A child of 12 years weighing 34 Kg. needs calories equal to those of adults; children weighing 44 Kg. need even more than adults. Workers engaged in hard manual labor should have 3,000 to 3,500 calories. The food restrictions exceed by far the severest rationing to which the Germans were subjected in 1916. The rations likewise are not balanced. Animal and vegetable proteins, of which the former contain the amino acids indispensable to growth, instead of being represented in equal proportions, show the ratio of 36:13 Gm. The potassium and calcium levels are likewise altered. There is vitamin deficiency. It is true that eggs, fish, horsemeat, legumes, fruit, wild game and chocolate are not rationed, but they are difficult to obtain in towns or else command a prohibitive price. The supplementary calories which agriculture could produce would give every Frenchman 570 additional calories, amounting to about 1,800 calories a day. The consequent loss in body weight is estimated at one tenth.

Milk production has been greatly diminished and its transportation, like that of the other foodstuffs, hindered. Paris now receives about 500,000 liters of milk daily instead of the customary 900,000. Normal milk containing from 36 to 38 Gm. of butterfat per liter has to be reserved for children and the milk skimmed for all others, thus reducing the butter content to 2 or 3 Gm. per liter. The nutritional value of the milk is diminished by half, but the casein, the value of which is estimated at three times that of meat, as well as its lactose, salts and vitamins B and C, is retained. Curdled milk, white cheese and buttermilk will have to be used on a larger scale. The vitamin needs are critical, especially for provitamin and vitamin A, derived from cod and halibut livers and butter. Synthetic vitamins can also be counted on, provided they can be manufactured.

Many suggestions have been made, notably by Lesné, Chouart and Pozerski de Pomiane, to meet the conditions. Housewives are taught the art of preparing appetizing and balanced dishes from remnants and waste products. They are to get along without butter, fats or oils and use new substances such as lucerne, which contains 20 per cent of proteins and vitamins A, B and C, and sunflowers and peanuts. Breast feeding will be stressed. Attempts will be made to produce oil from grape seeds or pumpkin seeds. Martel, before the academy, called attention to the fact that out of 5,000 tons of blood collected daily from the slaughterhouses of Paris only 130 tons was used for food purposes. The remainder could be recovered provided the abattoirs are modernized. Likewise, every year more than 2 million Kg. of tuberculous meat is thrown away. This might be sterilized and prepared for consumption.

Sulfonamides in Cerebrospinal Meningitis

Rathery and his collaborators reported to the Medical Society of the Hospitals the observations made in 61 cases of cerebrospinal meningitis treated in the Center of Contagious Diseases of the Army during the first five months of 1940. In 60 cases the micro-organism was identified as the meningococcus A, in 1 case as the meningococcus B. In 8 cases there was also found a pseudomeningococcus of the crassus and flavus types. Eleven cases presented an acute, purpuric and comatose condition. Three patients died. The first patient was moribund on admission; the second succumbed to renal block, the third to grave lesions of pachyarachnoiditis. The low mortality rate (5 per cent as compared with 40 per cent during the preceding twenty years at this hospital) is attributed to the use of sulfonamides.

Two forms of sulfonamides were used: sulfanilamide and sulfapyridine. In certain cases of extreme gravity, serum therapy was employed adjuvantly. The classic routes of administration were used. The best route seemed to be the oral route. The drug can also be used nasally in powdered form.

In severe cases accompanied with vomiting the rectal route was used. Massive doses were given and the toxicity was noted. The threshold of therapeutic effectiveness varied somewhat according to the form of medication and to the cases. The mechanism of sulfonamide action is obscure. In serious cases, indicated by refractiveness to the drug, serum therapy must be added. (Two of the deaths were cases of refractiveness.) No untoward effects were observed. Generally a slight anemia, accompanied by dissociated icterus and massive urobilinemia, was observed. Rathery's conclusions are that the sulfonamides cure so many cases of cerebrospinal meningitis that the prognosis of this disease is that of a relatively benign disorder.

BUENOS AIRES

(From Our Regular Correspondent)

Dec. 6, 1940.

Tuberculosis in South America

There has been a decline in the death rate from tuberculosis in Buenos Aires, according to data for 1939 presented by A. A. Raimondi in the *Archivos argentinos de fisiología* (16:55 [Jan.-March] 1940).

The construction of the tuberculosis institute in Buenos Aires to house 1,373 beds is progressing. The complete cost of construction is set at 10,000,000 pesos (about \$2,975,000). For the present a division comprising 482 beds is to be completed. In this institute for tuberculosis 290,000 examinations were made in 1939.

Córdoba, capital of a province of the same name and seat of the oldest university of the country, has a tuberculosis institute housed in the Hospital Tránsito Cáceres de Allende, where the central policlinic for the control of tuberculosis also is housed. Dr. Gumersindo Sayago, professor of tuberculosis, is in charge of these activities. The hospital has 200 beds.

In the university of La Plata, in the province of Buenos Aires, the erection of an institute for tuberculosis is planned, to cost 800,000 pesos (nearly \$240,000), one fourth of which is for equipment. The institute will have 150 beds and divisions for surgery, radiology and physical therapy, also clinics, policlinics, laboratories, a school for the training of personnel, a kindergarten and a placement bureau for cured persons.

The Center for Tuberculosis Research was organized in 1934, in accordance with law. The center was given the pavilion "Las Provincias" of the Hospital Tornu, where patients from the whole country are received. The center is not merely an imitation of similar institutions of European origin but is adapted to the special needs of Argentina. It is concerned not only with research, social welfare and training of personnel but with prophylaxis and popular education with regard to tuberculosis. In the absence of funds for follow-up work in the homes, the patients are called in periodically. A museum is also being organized.

In Peru the control of tuberculosis is now a state function. The department of tuberculosis, founded in 1939, has already made considerable headway. It has organized a policlinic in Lima and another in El Callao, arranged serial examinations for school children and members of the teaching staff in these two cities and promoted the erection of a hospital for tuberculous children. The government in the next five years expects to organize additional policlinics and a mobile policlinic to be able to isolate infected, antisocial and incurable persons and to construct a hospital for the surgical treatment of tuberculosis.

In an article by O. Téllez Sarzola in the *Reforma Médica* (June 1, 1940, p. 351), tuberculosis is shown as leading all diseases in Peru in its mortality. Among Spanish-American capitals, Lima had the highest mortality rate for tuberculosis, namely 400 per hundred thousand inhabitants. Most of the deaths occurred between the years of 15 to 29 and affected chiefly natives and mestizos.

In Colombia, 10,000,000 pesos (\$2,977,000) has been bequeathed by the deceased Gustavo Restrepo, the wealthiest man in the country, for the construction of a tuberculosis sanatorium, to be called San Carlos. This sanatorium promises to be the largest in South America.

Chile's Bacteriologic Institute

The Institute of Hygiene in Santiago de Chile, founded in 1892, was replaced in 1929 by a new bacteriologic institute directed, until his death in 1932, by the Austrian bacteriologist Rudolf Kraus and since then by Dr. Eugenio Suárez H., who had been associated with Kraus. The institute is now autonomous, governed by its director and a council. Its chief functions are research, the training of bacteriologists and hygienists, the carrying out of diagnostic examinations and the manufacture of serums, vaccines and biologic products. Since 1932 its chief research activities have been concentrated on typhoid, rabies, anthrax and bacterial antigens. The institute periodically arranges courses for laboratory assistants. Its facilities are open also to hygienists of neighboring countries such as Bolivia, Peru, Ecuador and Venezuela. The institute has seven divisions: immunology, filtrable viruses, chemotherapy, organotherapy, pharmacology, a diagnostic central laboratory and controls. It prepares all biologic products required. The proceeds of the sales revert to the institute for research. For the last two years the institute has been experimenting with the extraction and purification of vitamins derived from the viscera of Chilean fish to be used in the control of malnutrition. At the time of the earthquake near Concepción in January 1939 the institute was able to furnish in one week 25,000 doses of tetanus, anaerobic and gas gangrene antitoxins and 2,000 doses of scarlet fever antitoxin. Within the period of two weeks 480,000 doses of typhoid vaccine were shipped and an equal number held in readiness. Two hundred thousand persons were successfully vaccinated under the direction of the institute. The personnel of the institute comprises two hundred and five members, of whom twenty-four are physicians and ten chemists on full time. The annual budget for 1938 amounted to 5,000,000 Chilean pesos (\$200,000). The institute publishes the *Revista del Instituto bacteriológico de Chile*.

Society News

The seventh Argentine National Congress of Medicine will take place in November 1943 in La Plata, under the presidency of Prof. Orestes E. Adorni, dean of the faculty of medicine of the University of La Plata.

Personals

Dr. Lewis W. Hackett and Dr. Richard M. Taylor of the division of international hygiene of the Rockefeller Foundation were in Buenos Aires to organize a center for ultravirus studies in the bacteriologic institute directed by Prof. Alfredo Sordelli. Thirty thousand dollars has been given to this center, which is to serve Argentina, Uruguay, Paraguay, Chile, Peru, Bolivia and Ecuador. It will be conducted by Dr. Taylor under the direction of Dr. Sordelli.

Dr. Ross A. McFarland of Harvard University, director of medical research for the Pan American Airways, has delivered a series of lectures in Buenos Aires in the physiologic institute of the university. Prof. José Arce was chosen president of the Argentine Academy of Sciences for the coming year.

Deaths

Prof. José da Costa Cruz, director of the Oswaldo Cruz laboratory and a pupil of Bordet-Bruessel, died in Rio de Janeiro.

Prof. E. S. Chagas, who, like his father, Carlos Chagas, specialized in tropical and infectious diseases and who recently lectured in Buenos Aires, lost his life in a collision of two airplanes over Rio de Janeiro.

Marriages

WILLIAM RICHARD SMART, Norfolk, Va., to Miss Hazel Christina Irwin of Leedey, Okla., in Oklahoma City, Oct. 26, 1940.

ANTON S. YUSKIS, San Diego, Calif., to Miss Alberta J. Frederickson of Stratford, Iowa, in La Jolla, Calif., Nov. 28, 1940.

WILLIAM H. GARNIER to Miss Florence Lee Tomblinson, both of Madisonville, Ky., in St. Louis, Dec. 28, 1940.

ELIOT N. FREEMAN JR., Pottsville, Pa., to Miss Jeanne P. Chaapel of New York in Philadelphia, Dec. 14, 1940.

WILLIAM LE GRAND HUNTER, Lakeland, Fla., to Miss Katherine Brittingham at Portsmouth, Va., Dec. 28, 1940.

HERBERT GORDON BARBER, Fort Riley, Kan., to Miss Sylvia June Jorgensen of Carroll, Iowa, Dec. 21, 1940.

VICTOR H. PRUSA, Banner Elk, N. C., to Miss Nellie Sue Metcalf of Johnson City, Tenn., Nov. 13, 1940.

MASON DAVID BRYANT JR., Lowell, Mass., to Miss Emma Joice Gleason of Boulevard, Va., Dec. 21, 1940.

WILLIAM ALLEN SMITHSON, Goodman, Miss., to Miss Empress Hooper of Kosciusko, Dec. 22, 1940.

JOHN EDWARD HAMNER, Petersburg, Va., to Miss Augusta Louise Johnson of Richmond, Dec. 14, 1940.

DAVID R. MINTER, Rochelle, Miss., to Miss Mary Sue Wootton of Evansville, Ind., Dec. 11, 1940.

PATRICK M. COCKETT JR., Wailuku, Hawaii, to Miss Clella Clananah of Brownfield, Ill., Dec. 29, 1940.

GEORGE LESLIE PORTER, Dallas, Texas, to Miss Margaret Upschulte at San Antonio, Dec. 23, 1940.

RICHARD D. KRAFT to Miss Louise F. Hartley, both of Johnstown, Pa., in Greensburg, Nov. 2, 1940.

ROBERT CREGOR BATEMAN to Miss Charlotte Almada Wible, both of Lexington, Ky., Dec. 19, 1940.

THOMAS DUVAL WATTS, Richmond, Va., to Miss Ruby Alice Lake of Jackson, Tenn., Nov. 30, 1940.

SAMUEL S. LOMBARDO, Chicago, to Miss Marguerite Britz of Winston-Salem, N. C., Dec. 25, 1940.

HENRY MASON MORFIT, Baltimore, to Miss Phyllis Childs of Englewood, N. J., Dec. 28, 1940.

GEORGE Y. GILLESPIE JR. to Miss Emma Louise Horne, both of Greenwood, Miss., Dec. 15, 1940.

DAVID IVAN RUTLEDGE, Herman, Neb., to Miss Marian Wilkerson of Omaha, Dec. 28, 1940.

ROBERT RICHARDSON EASON, Buena Vista, Va., to Miss Mabel Nash of Blackstone, Dec. 21, 1940.

THOMAS S. WEAVER to Miss Elizabeth Moore, both of Morristown, Tenn., Dec. 27, 1940.

WILLIAM S. KNOX to Miss Marilyn Mary Blair, both of Waynesburg, Pa., Sept. 30, 1940.

ROBERT A. ORR, Memphis, Tenn., to Miss Ann E. Robertson of Mayfield, Ky., Dec. 25, 1940.

OTTO F. L. PROCHAZKA to Miss Susan Furlong, both of Wichita, Kan., Dec. 31, 1940.

DAVID KIMBERLY JR. to Miss Willene Glenn, both of Hot Springs, N. C., Dec. 7, 1940.

EDWARD STEWART ORGAIN to Miss Ann Lewis, both of Durham, N. C., Dec. 28, 1940.

JOSEPH NEV, Harrisonburg, Va., to Miss Carol Smith Straus of Richmond, Dec. 5, 1940.

SAMUEL MILCHIN, Bishop, Va., to Miss Virginia Macom of Pocahontas, Nov. 22, 1940.

ALBERT C. STUTSMAN, St. Louis, to Miss Helen Eades of Urbana, Ill., Dec. 21, 1940.

ADOLPH B. CIMFEL, Scotia, Neb., to Miss Celeste Ann Couial of Howells, Nov. 16, 1940.

JOHN ALLEN JONES, Opelika, Ala., to Miss Lucile Lewis of Tuskegee, Dec. 10, 1940.

ALFRED L. VADHEIM to Mrs. Gladys Donovan, both of Tyler, Minn., Nov. 13, 1940.

ROSS D. WRIGHT to Miss Kathryn Bruner, both of Tacoma, Wash., Dec. 24, 1940.

PAUL M. SZUTOWICZ to Miss Louise Norse, both of Berwick, Pa., Nov. 21, 1940.

Deaths

Francis Edward Stewart, Philadelphia; Jefferson Medical College of Philadelphia, 1879; secretary of the Section on Materia Medica and Pharmacy of the American Medical Association from 1892 to 1894 and chairman, 1895-1896; formerly demonstrator of materia medica and pharmacy at his alma mater and at the Woman's Medical College; for many years lecturer on jurisprudence and patent laws and quiz master in pharmacy and theoretical chemistry at the Philadelphia College of Pharmacy; was professor of materia medica, botany and physiology at the Medico-Chirurgical College; was on the staff of the Glen Springs Sanitarium, Watkins, N. Y., from 1892 to 1894; a member from Delaware of the Convention for Revision of the United States Pharmacopeia in 1890; honorary president of the American Pharmaceutical Association, honorary life member of the Pennsylvania Pharmaceutical Association, fellow of the American College of Physicians, honorary fellow of the Seaboard Medical Association, fellow of the American Therapeutic Association and of the American Academy of Medicine; at one time member of the hospital committee of the New York State Charities' Aid Association and chairman of its committee on almshouses; organized scientific departments in several pharmacological companies; author of "Stewart's Compend of Pharmacy," now in its tenth edition; aged 87; died, February 20, of uremia and heart disease.

Horace G. Wetherill, Monterey, Calif.; University of Pennsylvania Department of Medicine, Philadelphia, 1878; chairman of the Section on Obstetrics and Gynecology of the American Medical Association, 1910-1911, and member of the House of Delegates, 1910, 1912, 1917 and 1918; past president of the Colorado State Medical Society, Mercer County (N. J.) Medical Society, Denver County Medical Society and the Western Surgical Association; member of the Pacific Coast Surgical Association; fellow of the American College of Surgeons; served during the World War; professor of gynecology and abdominal surgery at the Medical Department, University of Denver, from 1897 to 1905; served at various times on the staffs of St. Francis Hospital and the Mercer Hospital, Trenton, N. J., St. Luke's Hospital, Mercy Hospital, City and County Hospital and the Children's Hospital, Denver; aged 84; died, January 24, at Huntington Memorial Hospital, Pasadena, of coronary thrombosis, arteriosclerosis and bronchopneumonia.

John William Scott McCullough, Toronto, Ont., Canada; Trinity Medical College, Toronto, 1890; chief health officer, department of health of Ontario, from 1910 to 1935; examiner in clinical surgery for the College of Physicians and Surgeons of Ontario from 1904 to 1908; lecturer of public health administration, University of Toronto, from 1924 to 1936; formerly member of the school board and mayor of Alliston; served with the Canadian Army during the World War; formerly secretary of the Royal Commission on Cancer; past president of the Canadian Public Health Association; aged 72; died, January 5.

Kennedy Crawford McIlwraith, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, 1894; professor emeritus of obstetrics at his alma mater, where he served from 1899 to 1933; formerly chairman of the maternal welfare committee of the Toronto Academy of Medicine, and a member of the advisory board of the board of health of Toronto; on the staff of the Toronto General Hospital from 1899 to 1933; at one time on the staff of St. Michael's Hospital; aged 72; died, January 22.

Charles Alexander Wilson, Detroit; Detroit College of Medicine and Surgery, 1917; member of the American Academy of Pediatrics; instructor of pediatrics at the Wayne University College of Medicine; associate physician, New Mexico Cottage Sanatorium, Silver City, 1917-1918; superintendent, Detroit Tuberculosis Sanatorium, 1918-1919; on the staff of the Merrill-Palmer School and attending physician, Children's Hospital of Michigan; aged 49; died, January 2, of coronary thrombosis.

John Croom Rodman, Washington, N. C.; Bellevue Hospital Medical College, New York, 1892; member of the Medical Society of the State of North Carolina; past president and secretary of the Beaufort County Medical Society; at one time member of the state board of medical examiners; formerly acting assistant surgeon, United States Public Health Service; aged 70; died, January 24, of carcinoma of the larynx.

Henry Reed Searle ♂ Rockford, Ill.; State University of Iowa College of Medicine, Iowa City, 1925; fellow of the American College of Surgeons; member of the board of directors

and past president of the Winnebago County Tuberculosis Association; served during the World War; aged 41; president of the staff of the Rockford Hospital, where he died, January 21, of carcinoma of the colon.

James Matthews Oliver, Portland, Tenn.; Vanderbilt University School of Medicine, Nashville, 1911; member of the Tennessee State Medical Association; served during the World War; at one time superintendent of the Davidson County Tuberculosis Hospital, Nashville; past president of the Summer County Medical Society; aged 53; died, January 11, of coronary disease.

Francis Lee Thurman, Buena Vista, Va.; University of Virginia Department of Medicine, Charlottesville, 1894; member of the Medical Society of Virginia; president of the Rockbridge County Medical Society; was chairman of the board of health; aged 74; died, January 19, in the University of Virginia Hospital, Charlottesville, of arteriosclerosis and diabetes mellitus.

Abram Pott Seligman, Mahanoy City, Pa.; Jefferson Medical College of Philadelphia, 1892; Hahnemann Medical College and Hospital of Philadelphia, 1894; member of the Medical Society of the State of Pennsylvania; on the staff of the Locust Mountain State Hospital, Shenandoah; aged 70; died, January 22, of coronary thrombosis.

George Benjamin Potter, Omaha; University of Nebraska College of Medicine, Omaha, 1905; member of the Nebraska State Medical Association and the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; associate professor of ophthalmology at his alma mater; aged 63; died, January 24.

Edward Frederick Murphy ♂ Boston; McGill University Faculty of Medicine, Montreal, Que., Canada, 1899; served during the World War; chief medical examiner for the law department of the city of Boston; president of the Forest Hills Hospital; formerly on the staff of St. Elizabeth's Hospital; aged 63; died, January 15.

Oscar A. Mockridge ♂ Montclair, N. J.; Columbia University College of Physicians and Surgeons, New York, 1906; served during the World War; on the staff of the Babies Hospital and Presbyterian Hospital, Newark, and the Community Hospital; aged 57; died, January 25, in the Neurological Institute, New York.

George Edward Teehan ♂ Cranston, R. I.; Yale University School of Medicine, New Haven, 1907; on the staff of the Homeopathic Hospital and assistant visiting ophthalmologist, St. Joseph's Hospital, Providence; consulting specialist, Veterans Administration; aged 60; died, January 4, of coronary thrombosis.

Tarpley W. West, Shannon, Ga.; University of Nashville (Tenn.) Medical Department, 1903; at one time county physician and member of the board of education of Cherokee County; on the associate staff of the McCall Hospital, Rome; aged 70; died, January 24, of carcinoma of the prostate with metastases.

James Eugene Roberts, Lansdowne, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1899; member of the Medical Society of the State of Pennsylvania; on the staff of the Joseph Price Memorial Hospital, Philadelphia; aged 64; died, January 4, of coronary occlusion.

Henry Towne Safford Jr. ♂ El Paso, Texas; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1929; member of the American Society of Anesthetists; aged 35; died, January 12, in Roswell, N. M., of an incised wound of the throat, self inflicted.

John J. Wickham, Rochester, Pa.; Medical College of Ohio, Cincinnati, 1885; member of the Medical Society of the State of Pennsylvania; past president of the Beaver County Medical Society; on the staff of the Rochester General Hospital; aged 78; died, January 5, of coronary heart disease.

Hugo Robinson, Albany, Ga.; University of Louisville (Ky.) Medical Department, 1890; member of the Medical Association of Georgia; past president of the Georgia Health Officers' Association; for many years county health officer; aged 86; died, January 8.

James William Crow, Decatur, Ala.; Chattanooga (Tenn.) Medical College, 1905; member of the Medical Association of the State of Alabama; on the staff of the Benevolent Society Hospital; aged 62; died, January 14, of lobar pneumonia and cerebral hemorrhage.

George Leon Williamson, Jackson, Tenn.; Vanderbilt University School of Medicine, Nashville, 1904; member of the Tennessee State Medical Association; on the staff of the Webb-Williamson Hospital; aged 59; died, January 6, of myocarditis and hypertension.

Bureau of Investigation

CEASE AND DESIST ORDERS

Abstracts of Certain Federal Trade Commission Releases

The work of the Federal Trade Commission, in helping to protect the public against misrepresentation or fraud in the medical as well as other fields, has been greatly extended by the provisions of the Wheeler-Lea Amendment to the Federal Trade Commission Act. The Food, Drug and Cosmetic Act of 1938 added to the Food and Drug Administration's control of the advertising claims and statements made on the labels of medicines or on the carton or in the accompanying leaflet, whereas what might be termed collateral advertising, that which appears in newspapers and magazines and over the air, comes more actively under the purview of the Federal Trade Commission, by virtue of the Wheeler-Lea Amendment.

THE JOURNAL has at various times commented on the activities of the Federal Trade Commission in this connection, even before the Wheeler-Lea Amendment gave it its added rights. In some cases the Commission may accept from the person or concern involved a stipulation that the objectionable practices or claims cited will be discontinued. In other cases the Commission issues what is known as a Cease and Desist Order, in which the individual, manufacturer or distributor cited is ordered to cease and desist from practices which have been declared objectionable.

Abstracts of some of the orders issued during 1940 follow:

Ave Maria Products.—These are put out by one Fred C. Mattia, doing business as the Premier Color Works and as the Mattia and Briganti Company, New York. On Jan. 4, 1940, the Federal Trade Commission ordered Mattia to cease representing that his products, "Ave Maria," "Ave Maria Effervescent Preparation" and "Ave Maria Laxative Preparation," are "Made in U. S. A. from a highly recommended formula of Dr. Arnaldo Piuetti," referred to as "Director of the Pharmaceutical Institute of 'Reggio Università di Napoli' (Italy)." Mattia also was ordered to cease representing, through the use of medals or any other decoration shown on his packages, that his products have been awarded any medals, prizes or other recognitions of merit by any exposition until this is true.

Buford & Owens Preparations.—Various products are put out by an Oklahoma City concern run by George and Gussie Buford and Mary Owens Boone Wellingham, under the misleading name "Buford and Owens College." On Feb. 28, 1940, the Federal Trade Commission ordered these persons to cease advertising that their "Buford and Owens Hair Oil," "Buford and Owens Pressing Oil," "Buford and Owens Special Oil" and "Buford and Owens Shampoo" are cures or remedies for dandruff, falling hair or scalp diseases or will promote hair growth or prevent hair from falling out, and to discontinue using the word "college" as part of the corporate name or representing that the respondents conduct an institution of higher learning.

Crazy Mineral Water, Crazy Water Crystals and Crazy Fiz.—These are put out by the Crazy Water Company, Mineral Wells, Texas. On Dec. 21, 1940, the Federal Trade Commission ordered this concern and four of its executives, Carr P. Collins, chairman of the board, H. H. Collins, president, W. M. Woodall, secretary, and J. A. Pondrom, treasurer, to cease and desist from certain misrepresentations in the advertising of the products named. Among these were that these preparations "are a cure or remedy for certain diseases or symptoms of diseases of the alimentary tract and certain conditions involving the urinary tract, kidneys and gall duct, or constitute an effective treatment therefor in excess of the extent to which the product, by temporarily relieving constipation and gastric acidity, may be beneficial in treating such disorders when constipation and gastric acidity are contributing factors; and that such diseases or symptoms are necessarily caused by, or associated with, or that the respondents' products are a competent treatment for, constipation, faulty elimination, or excess gastric acidity. The Commission also directed the respondents to cease representing that such products possess any therapeutic properties beyond those of a cathartic or laxative and an antacid with a tendency temporarily to neutralize excess gastric acidity; or are a cure, remedy for, or possess any beneficial therapeutic properties in the treatment of, urticaria, cirrhosis of the liver, chronic metritis, parametric exudations; diabetes mellitus, gravel and calculous concretion in the bladder and gall duct; fevers, toxic conditions, typhoid, influenza, anaphylaxis, nephritis, pyelitis, catarrhal jaundice, cholecystitis, Bright's disease, kidney trouble, obesity, irregularities of the liver, gall duct and bladder, rheumatism, arthritis, neuritis, high blood pressure, acidosis, lumbago, gout, poisonous system, affected vision, colds, scarlet fever, aching joints, and numbness of limbs, and that these ailments and conditions are caused by, or generally associated with, excess gastric acidity or constipation." An article on Crazy Crystals appeared in THE JOURNAL March 11, 1933, page 760. The summary of this pointed out that a \$1.50 package of Crazy Crystals could accomplish nothing that could not be effected equally well with a few cents worth of Glauber's salt. Crazy Mineral Water was the subject of actions under the old Pure Food and Drugs Act of 1906 in no fewer than seventeen cases between April 1913 and October 1928. Fourteen of these involved not simple misbranding but adulteration, charging that the

specimens seized contained filthy, decomposed and putrid substances. The last three cases charged misbranding because of the false and fraudulent curative claims on the bottle labels—claims that might have led the public to believe that Crazy Water was curative in rheumatism, functional stomach diseases, cystitis, diabetes, Bright's disease and some other things. One of these latest three cases was reported in THE JOURNAL, July 28, 1928, page 266.

Curl-O-Wave.—On Feb. 27, 1940, the Federal Trade Commission ordered the Curl-O-Wave Company of Chicago to cease and desist from representing that "Curl-O-Wave" will make the straightest hair naturally curly, transform obstinate hair into dainty curls and improve the texture of the hair, and that their product is odorless, beneficial to the hair and not an ordinary hair curling fluid but a new discovery. The Commission charged that the product would not accomplish the results claimed and that it is not a new discovery but an ordinary curling fluid.

Correspondence

EARLY HISTORY OF ANESTHESIOLOGY

To the Editor:—A few men are still living who gave anesthetics in the late years of the nineteenth century. I know some personally, among them Dr. Ferguson, living in South Orange, N. J., approaching his ninetieth year; others are out of my sight but in my heart. To bring both the living, our Silver Greys, and the dead who were the pioneers into the ken of that ever increasing host which is the American Society of Anesthetists, Inc., has become my task at the direction of the parent society. Of the three societies which were organized long ago, the London one was absorbed by the British Medical Association, the Scottish one is still active and the American is—well it is growing. But now what of earlier times and the men into whose labors we have entered? If you are an ancestor or an early son please write to me to set the records correctly; and will any one who knows about the days of the nineties or earlier cooperate in writing this history for the boys who will follow us.

A. FREDERICK ERDMANN, M.D., Lisbon, N. H.
Historian, American Society of Anesthetists, Inc.

ORAL SURGERY

To the Editor:—In the January 4 issue of THE JOURNAL, Francis P. McCarthy, in an article entitled "A Clinical and Pathologic Study of Oral Disease," detracts from an otherwise splendid and valuable presentation by including the following statement: "The oral cavity has always been a 'no man's land' as far as any group of physicians or dentists can claim a special knowledge of the multitude of lesions found in this domain."

The oral cavity may be a "no man's land" from the standpoint of the general medical and dental practitioner, because neither gets sufficient training along this line in medical or dental school, each school apparently expecting the other to take care of this situation.

There is a specialty, however, which covers the field of diseases of the oral cavity and associated parts in as competent a manner, generally speaking, as any other specialty of medicine covers its field. It has had a national organization for almost twenty-five years. I refer to the specialty of oral surgery.

The oral surgeon may have both medical and dental degrees but, if he does not have the medical degree he, if competent, has pursued postgraduate studies covering all phases of medicine that may have relation to the mouth, including focal infection and the oral manifestations of systemic disease.

Medical publications have a paucity of articles on oral surgery because medical organizations have not, in the past, thought the mouth to be of sufficient importance to invite oral surgeons to read papers. The preponderance, therefore, of oral surgery articles will be found in the dental literature.

EARLE H. THOMAS, M.D., D.D.S., Chicago.

Medical Examinations and Licensure

NATIONAL BOARD OF MEDICAL EXAMINERS

EXAMINING BOARDS IN SPECIALTIES

Examinations of the National Board of Medical Examiners and Examining Boards in Specialties were published in THE JOURNAL, March 22, page 1317.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: Montgomery, June 17-19. Sec., Dr. J. N. Baker, 519 Dexter Ave., Montgomery.
ARKANSAS: * Medical, Little Rock, June 5-6. Sec., Dr. D. L. Owens, Harrison. Eclectic, Little Rock, June 5-6. Sec., Dr. Clarence H. Young, 1415 Main St., Little Rock.

CALIFORNIA: Oral examination (required when reciprocity application is based on a state certificate or license issued ten or more years before filing application in California), San Francisco, April 16. Written, San Francisco, June 30-July 3. Sec., Dr. Charles B. Pinkham, 1020 N St., Sacramento.

DELAWARE: July 8-10. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, 229 S. State St., Dover.

DISTRICT OF COLUMBIA: * Washington, May 12-13. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: Jacksonville, June 23-24. Sec., Dr. William M. Rowlett, Box 786, Tampa.

GEORGIA: Atlanta, June. Sec., State Examining Boards, Mr. R. C. Coleman, 111 State Capitol, Atlanta.

HAWAII: Honolulu, July 14-17. Sec., Dr. James A. Morgan, 48 Young Bldg., Honolulu.

IDaho: Boise, April 1. Dir., Bureau of Occupational License, Mr. H. B. Whittlesey, 335 State Capitol Bldg., Boise.

ILLINOIS: Chicago, April 1-3. Superintendent of Registration, Department of Registration and Education, Mr. Lucien A. File, Springfield.

INDIANA: Indianapolis, June 17-19. Sec., Board of Medical Registration and Examination, Dr. J. W. Bowers, Citizens Trust Bldg., Fort Wayne.

KANSAS: Kansas City, June 17-18. Sec., Board of Medical Registration and Examination, Dr. J. F. Hassig, 905 N. 7th St., Kansas City.

KENTUCKY: Louisville, June 5-7. Sec., State Board of Health, Dr. A. T. McCormack, 620 S. Third St., Louisville.

MARYLAND: Medical, Baltimore, June 17-20. Sec., Dr. John T. O'Mara, 1215 Cathedral St., Baltimore. Homoeopathic, Baltimore, June 17-18. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MICHIGAN: * Ann Arbor and Detroit, June 11-13. Sec., Board of Registration in Medicine, Dr. J. Earl McIntyre, 202-4 Hollister Bldg., Lansing.

MINNESOTA: Minneapolis, April 15-17. Sec., Dr. Julian F. Du Bois, 350 St. Peter St., St. Paul.

MISSISSIPPI: Jackson, June. Asst. Sec., State Board of Health, Dr. R. N. Whitfield, Jackson.

MONTANA: Reciprocity, Helena, March 31. Written, Helena, April 1. Sec., Dr. S. A. Cooney, 216 Power Block, Helena.

NEBRASKA: * Omaha, June 12. All applications must be on file not later than May 29. Dir., Mrs. Jeanette Crawford, 1009 State Capitol Bldg., Lincoln.

NEVADA: Carson City, May 5. Sec., Dr. Fred M. Anderson, 215 N. Carson St., Carson City.

NEW JERSEY: Trenton, June 17-18. Sec., Dr. Earl S. Hallinger, 28 W. State St., Trenton.

NEW MEXICO: Santa Fe, April 14-15. Sec., Dr. Le Grand Ward, 135 Sena Plaza, Santa Fe.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 23-26. Chief, Bureau of Professional Examinations, 315 Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 16-20. Sec., Dr. W. D. James, Hamlet.

NORTH DAKOTA: Grand Forks, July 1-4. Sec., Dr. G. M. Williamson, 4½ S. Third St., Grand Forks.

OHIO: Columbus, April 1. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

OKLAHOMA: * Oklahoma City, June 11-12. Sec., Dr. James D. Osborn Jr., Frederick.

OREGON: Portland, April 3. Exec. Sec., Miss Lorianne M. Conlee, 608 Failing Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July. Act. Sec., Bureau of Professional Licensing, Department of Public Instruction, Mrs. Marguerite G. Steiner, 358 Education Bldg., Harrisburg.

SOUTH DAKOTA: * Pierre, July 15-16. Dir., Medical Licensure, Dr. J. F. D. Cook, State Board of Health, Pierre.

VERMONT: Burlington, June 17-19. Sec., Dr. F. J. Lawless, Richford.

VIRGINIA: Richmond, June 17-20. Sec., Dr. J. W. Preston, 30½ Franklin Road, Roanoke.

WISCONSIN: * Milwaukee, June 24-27. Sec., Dr. H. W. Shutter, 425 E. Wisconsin Ave., Milwaukee.

WYOMING: Cheyenne, June 2-3. Sec., Dr. M. C. Keith, Capitol Bldg., Cheyenne.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

CONNECTICUT: June 14. Address State Board of Healing Arts, 1945 Yale Station, New Haven.

DISTRICT OF COLUMBIA: Washington, April 21-22. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: De Land, June 7. Applications must be on file not later than May 24. Sec., Prof. J. F. Conn, John B. Stetson University, De Land.

IOWA: Des Moines, April 8. Dir., Division of Licensure and Registration, State Department of Health, Mr. H. W. Greffe, Capitol Bldg., Des Moines.

MINNESOTA: Minneapolis, April 1-2. Sec., Dr. J. Chanley McKinley, 126 Millard Hall, University of Minnesota, Minneapolis.

NEBRASKA: Omaha, May 6-7. Dir., Mrs. Jeanette Crawford, 1009 State Capitol Bldg., Lincoln.

OKLAHOMA: Oklahoma City, May 22. Sec. of State, Hon. C. C. Chidester, State Capitol, Oklahoma City.

OREGON: Corvallis, July 12. Sec., State Board of Higher Education, Mr. Charles D. Byrne, University of Oregon, Eugene.

RHODE ISLAND: Providence, April 3-4. Sec., Division of Examiners, Rev. Nicholas H. Serror, Providence College, Providence.

SOUTH DAKOTA: June. Sec., Dr. G. M. Evans, Yankton.

WISCONSIN: Madison, April 5. Sec., Prof. Robert N. Bauer, 3414 W. Wisconsin Avenue, Milwaukee.

Kansas December Report

Dr. J. F. Hassig, secretary, Kansas State Board of Medical Registration and Examination, reports the written examination for medical licensure held at Topeka, Dec. 10, 1940. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Twelve candidates were examined, all of whom passed. Six physicians were licensed to practice medicine by reciprocity. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
Northwestern University Medical School.....	(1936)		81.6.
(1940) 85.5, 94.2			
University of Illinois College of Medicine.....	(1940)		85.9
University of Minnesota Medical School.....	(1934)		88.6
Creighton University School of Medicine.....	(1939)		88.6.
(1940) 85.5, 85.8			
University of Nebraska College of Medicine.....	(1931)		89.5
Columbia University College of Physicians and Surgeons.....	(1938)		84.6
University of Wisconsin Medical School.....	(1938)		84.1
University of Toronto Faculty of Medicine.....	(1939)		82.8

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Colorado School of Medicine.....	(1938)		Colorado
St. Louis University School of Medicine.....	(1938)		Missouri
Western Reserve Univ. School of Medicine.....	(1938), (1939)		Ohio
University of Tennessee College of Medicine.....	(1937)		Tennessee
Wisconsin College of Physicians and Surgeons.....	(1912)		Missouri

Missouri October Report

Dr. Harry F. Parker, secretary, State Board of Health of Missouri, reports the written examination for medical licensure held at Kansas City, Oct. 29-31, 1940. Eighteen candidates were examined, all of whom passed. Thirty-one physicians were licensed to practice medicine by reciprocity and 4 physicians so licensed by endorsement. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
University of Arkansas School of Medicine.....	(1939)		87.3
Loyola University School of Medicine.....	(1940)*		81.5
Northwestern University Medical School.....	(1940) 85.8, 86.9		86.9
Rush Medical College.....	(1940)		86.4
University of Minnesota Medical School.....	(1940)		86.4
St. Louis University School of Medicine.....	(1937) 85, (1940)		87.8
Washington University School of Medicine.....	(1940)		90.3
New York University College of Medicine.....	(1940)		87.6
Hahnemann Med. College and Hospital of Philadelphia.....	(1940) 82.2,		86.4
University of Wisconsin Medical School.....	(1939)		85.7
Queen's University Faculty of Medicine.....	(1939)		85.6
Regia Università di Napoli Facoltà di Medicina e			
Chirurgia.....	(1933)		82.4
University of Moscow Faculty of Medicine.....	(1916)		77.1
Universität Bern Medizinische Fakultät.....	(1939)		87.6%

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas School of Medicine.....	(1938), (1939, 2)		Arkansas
Stanford University School of Medicine.....	(1940)		Illinois
Loyola University School of Medicine.....	(1940)		Illinois
University of Illinois College of Medicine.....	(1939)		Illinois
Indiana University School of Medicine.....	(1939)		Indiana
University of Kansas School of Medicine.....	(1936), (1937), (1938), (1940) Kansas		
University of Louisville School of Medicine.....	(1937)		Kentucky
Louisiana State University School of Medicine.....	(1940)		Louisiana
University of Michigan Medical School.....	(1938)		Michigan
Creighton University School of Medicine.....	(1939)		Kansas
Long Island College of Medicine.....	(1937)		New York
Univ. of Rochester School of Medicine and Dentistry.....	(1932)		California
McHarty Medical College.....	(1939, 7)		Tennessee
University of Tennessee College of Medicine.....	(1938, 2)		Tennessee
University of Wisconsin Medical School.....	(1933)		Wisconsin
Medizinische Fakultät der Universität Wien.....	(1934)		New York
Thüringische Landesuniversität Medizinische Fakultät, Jena.....	(1917)		Wisconsin
Licentiate of the Royal College of Physicians and Member of the Royal College of Surgeons, London.....	(1925)		Illinois

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Harvard Medical School			B. M. Ex.
University of Minnesota			B. M. Ex.
St. Louis University School of Medicine			B. M. Ex.

* This applicant has completed four years' medical work and will receive the M.D. degree on completion of internship. License has not been issued.

† This applicant has received the M.B. degree and will receive the M.D. degree on completion of internship. License has not been issued.

‡ License has not been issued.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Optometry Practice Acts: Right of Licensed Physician to Issuance of License to Practice Optometry Without Examination.—The plaintiff, a physician, was licensed to practice medicine in Colorado in 1914 and had engaged in the practice of that profession from that time until 1936, specializing in diseases of the eye. From 1936 to 1939 he practiced "as an optometrist" in the employ of laymen. In 1939 he was notified by the state board of medical examiners that such practice was illegal. He then applied to the defendant, the state board of optometric examiners, for a certificate of competency to practice optometry. The optometry practice act in force in 1914, enacted in 1913, provided that it did not apply to physicians lawfully entitled to practice medicine in the state, and the same provision was retained in the new act enacted in 1925. The 1925 act further provided that persons licensed under the 1913 act were entitled to be licensed under the 1925 act without taking an examination, but that "every optometrist licensed or entitled to practice optometry *hereunder* who desires to continue in the practice of optometry in this State" must renew his license within thirty days after the act became effective and annually thereafter. On the refusal of the state board of optometric examiners to issue to him the requested certificate of competency to practice optometry, the plaintiff filed a petition in the district court, city and county of Denver, for a writ of mandamus to compel the defendant to do so. From an adverse ruling of the court, the board appealed to the Supreme Court of Colorado.

The board contended that the plaintiff was not entitled to a certificate of competency to practice optometry without first passing an examination therefor. It reasoned that the plaintiff was licensed under the 1913 act; that he had not applied for a renewal of his license within thirty days after the 1925 act became effective; that his license therefore became automatically canceled, and that he could reestablish it only by taking an examination. The plaintiff contended that he was not required to take an examination under either act because of his being a regularly licensed physician. It was undisputed that the practice of optometry is but one branch of the practice of medicine and that a license to practice medicine therefore also covers the practice of optometry. But, under the rule in *People v. Painless Parker Dentist*, 85 Colo. 304, 275 P. 928, a physician cannot practice generally as the employee of a layman, whereas an optometrist may do so by reason of section 20 of the 1925 optometry practice act. If the practice of optometry under a layman is excluded from the ban of the *Painless Parker* case, the fact that the practitioner is a licensed physician will not raise the ban against him. For purposes of argument the Supreme Court assumed, as did counsel for both parties, that in order to practice optometry as the employee of laymen the plaintiff was required to have an optometrist's license. The court then pointed out that the 1925 optometry practice act only requires an examination of all persons "except as herein otherwise provided," and expressly exempts physicians. Furthermore, continued the court, the "renewal" provision in that act applied only to those licensed under the 1913 optometry practice act, and the plaintiff, being a physician licensed under the medical practice act, was not licensed under that optometry practice act. The court concluded, therefore, that the plaintiff was entitled either to practice optometry as the employee of laymen by virtue of his physician's license or, by virtue of that license, to obtain a license to practice optometry without an examination on the payment of the statutory fee. Accordingly, the judgment of the lower court ordering the board to issue to the plaintiff a certificate of competency to practice optometry was affirmed.—*Bebber et al. v. Fisher*, 102 P. (2d) 741 (Colo., 1940).

Society Proceedings

COMING MEETINGS

- Alabama, Medical Association of the State of, Mobile, Apr. 15-17. Dr. D. L. Cannon, 519 Dexter Ave., Montgomery, Secretary.
- American Association for the Study of Neoplastic Diseases, Washington, D. C., Apr. 3-5. Dr. Eugene R. Whitmore, 2139 Wyoming Ave., N.W., Washington, D. C., Secretary.
- American Association of Anatomists, Chicago, Apr. 9-11. Dr. E. R. Clark, Dept. of Anatomy, University of Pennsylvania School of Medicine, Philadelphia, Secretary.
- American Association of Pathologists and Bacteriologists, New York, Apr. 10-11. Dr. Howard T. Karsner, 2085 Adelbert Road, Cleveland, Secretary.
- American Association of the History of Medicine, Atlantic City, N. J., May 4-6. Dr. Henry E. Sigerist, 1900 East Monument St., Baltimore, Secretary.
- American College of Physicians, Boston, Apr. 21-25. Mr. E. R. Loveland, 4200 Pine St., Philadelphia, Executive Secretary.
- American Dermatological Association, New Orleans, Apr. 7-11. Dr. Harry R. Foerster, 208 East Wisconsin Ave., Milwaukee, Secretary.
- American Gastro-Enterological Association, Atlantic City, N. J., May 5-6. Dr. Thomas T. Mackie, 16 East 90th St., New York, Secretary.
- American Physiological Society, Chicago, Apr. 16-19. Dr. Philip Bard, 710 North Washington St., Baltimore, Secretary.
- American Psychiatric Association, Richmond, Va., May 5-9. Dr. Arthur H. Ruggles, 305 Blackstone Blvd., Providence, R. I., Secretary.
- American Society for Clinical Investigation, Atlantic City, N. J., May 5. Dr. Eugene M. Landis, University of Virginia Hospital, Charlottesville, Va., Secretary.
- American Society for Experimental Pathology, Chicago, Apr. 15-18. Dr. Harry P. Smith, Dept. of Pathology, University of Iowa, Iowa City, Secretary.
- American Society for Pharmacology and Experimental Therapeutics, Chicago, Apr. 15-19. Dr. G. Philip Grabfield, 319 Longwood Ave., Boston, Secretary.
- American Society of Biological Chemists, Chicago, Apr. 15-19. Dr. C. G. King, Dept. of Chemistry, University of Pittsburgh, Pittsburgh, Secretary.
- American Surgical Association, White Sulphur Springs, W. Va., Apr. 28-30. Dr. Charles G. Mixer, 319 Longwood Ave., Boston, Secretary.
- American Urological Association, Colorado Springs, Colo., May 19-22. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.
- Arizona State Medical Association, Phoenix, Apr. 16-19. Dr. W. Warner Watkins, 15 East Monroe St., Phoenix, Secretary.
- Arkansas Medical Society, Little Rock, Apr. 14-16. Dr. William R. Brooksher, 602 Garrison Ave., Fort Smith, Secretary.
- Association for the Study of Internal Secretions, Atlantic City, N. J., May 2-3. Dr. E. Kost Shelton, 921 Westwood Blvd., Los Angeles, Secretary.
- Association of American Physicians, Atlantic City, N. J., May 6-7. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.
- California Medical Association, Del Monte, May 5-8. Dr. George H. Kress, 450 Sutter St., San Francisco, Secretary.
- Connecticut State Medical Society, Bridgeport, May 21-22. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.
- Federation of American Societies for Experimental Biology, Chicago, Apr. 15-19. Dr. D. R. Hooker, 19 West Chase St., Baltimore, Secretary.
- Florida Medical Association, Jacksonville, Apr. 28-30. Dr. Shaler Richardson, P. O. Box 1018, Jacksonville, Secretary.
- Georgia, Medical Association of, Macon, May 13-16. Dr. Edgar D. Shanks, 478 Peachtree St., N.E., Atlanta, Secretary.
- Illinois State Medical Society, Chicago, May 20-23. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.
- Iowa State Medical Society, Davenport, May 14-16. Dr. R. L. Parker, 3510 Sixth Ave., Des Moines, Secretary.
- Kansas Medical Society, Topeka, May 13-15. Mr. C. G. Munns, 112 West Sixth St., Topeka, Executive Secretary.
- Louisiana State Medical Society, Shreveport, Apr. 21-23. Dr. P. T. Talbot, 1430 Tulane Ave., New Orleans, Secretary.
- Maryland, Medical and Chirurgial Faculty of, Baltimore, Apr. 22-23. Dr. Richard T. Shackelford, 1211 Cathedral St., Baltimore, Secretary.
- Massachusetts Medical Society, Boston, May 21-22. Dr. Robert N. Nye, 8 Fenway, Boston, Secretary.
- Mississippi State Medical Association, Biloxi, May 13-15. Dr. T. M. Dye, Box 295, Clarksdale, Secretary.
- Missouri State Medical Association, St. Louis, Apr. 28-30. Mr. E. H. Bartelsmeyer, 634 North Grand Blvd., St. Louis, Executive Secretary.
- National Gastroenterological Association, New York, May 13-16. Dr. G. Randolph Manning, Room 319, 1819 Broadway, New York, Secretary.
- National Tuberculosis Association, San Antonio, Tex., May 5-8. Dr. Charles J. Hatfield, 1790 Broadway, New York, Secretary.
- Nebraska State Medical Association, Lincoln, May 5-8. Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln, Secretary.
- New Hampshire Medical Society, Manchester, May 13-14. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.
- New Jersey, Medical Society of, Atlantic City, May 20-22. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.
- New York, Medical Society of the State of, Buffalo, Apr. 28-May 1. Dr. Peter Irving, 292 Madison Ave., New York, Secretary.
- New York State Association of Public Health Laboratories, Syracuse, May 19. Miss Mary B. Kirkbride, New Scotland Ave., Albany, Secretary.
- North Carolina, Medical Society of the State of, Pinehurst, May 19-21. Dr. I. H. Manning, Chapel Hill, Secretary.
- North Dakota State Medical Association, Grand Forks, May 19-21. Dr. L. W. Larson, 221 Fifth St., Bismarck, Secretary.
- Northern Tri-State Medical Association, Tiffin, Ohio, Apr. 8. Dr. E. Benjamin Gillette, 320 Michigan St., Toledo, Ohio, Secretary.

Oklahoma State Medical Association, Oklahoma City, May 19-22. Dr. L. S. Willour, 210 Plaza Court Bldg., Oklahoma City, Secretary.
Philippine Medical Association, Manila, Apr. 22-26. Dr. Candido M. Africa, 547 Herran St., Manila, Secretary.
Post Graduate Institute of the Philadelphia County Medical Society, Philadelphia, Mar. 31-Apr. 4. Dr. Rufus S. Reeves, 301 South 21st St., Philadelphia, Director.
Society for the Study of Asthma and Allied Condition, Atlantic City, N. J., May 3. Dr. W. C. Spain, 116 East 53d St., New York, Secretary.
South Carolina Medical Association, Greenville, Apr. 15-17. Dr. Julian P. Price, 105 West Cheves St., Florence, Secretary.
South Dakota State Medical Association, Mitchell, May 18-20. Dr. Clarence E. Sherwood, 107½ Egan Ave., Madison, Secretary.
Tennessee State Medical Association, Nashville, Apr. 8-10. Dr. H. H. Shoulders, 706 Church St., Nashville, Secretary.
Texas, State Medical Association of, Fort Worth, May 12-15. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.
West Virginia State Medical Association, Charleston, May 12-14. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

American Review of Tuberculosis, New York

43:1-150 (Jan.) 1941

- Epidemiology of Tuberculosis: Principles of Programs of Tuberculosis Associations. E. S. Godfrey Jr., Albany, N. Y.—p. 1.
*Chronic Cor Pulmonale: Its Relation to Pulmonary Tuberculosis. L. V. Ackerman and K. Kasuga, San Francisco.—p. 11.
Treatment of Tuberculosis and Diabetes: Ten Year Experience. R. M. McKean, G. C. Thosteson and N. Brooks, Detroit.—p. 31.
Primary Tuberculosis in Adolescents and Young Adults. H. L. Israel and E. R. Long, Philadelphia.—p. 42.
*Continuous Arrest of Lung Movement: Treatment of Pulmonary Tuberculosis in Equalizing Alternating Pressure Chamber. A. L. Barach, New York.—p. 56.
Alternating Equalizing Pressure Chamber and Control Pressure Panel: Its Technical Description and Operation. A. L. Barach, with technical assistance of M. Eckman, New York.—p. 91.
Tuberculin Testing in Chicago Schools: Tuberculin Tests on 167,345 Children with X-Ray Films of 27,401 Tuberculin Reactors. F. Tice, Chicago.—p. 96.
Miniature X-Ray Film of Chest. B. H. Douglas and C. C. Birkelo, Detroit.—p. 108.
Acute Silicosis: Occurring in Employees of Abrasive Soap Powder Industries. R. J. Ritterhoff, Cincinnati.—p. 117.
Education of the Tuberculous Patient: From the Point of View of the Social Worker. Adele Shiman Trobe, New York.—p. 132.

Chronic Cor Pulmonale.—Ackerman and Kasuga believe that consideration of chronic cor pulmonale or hypertrophy of the right side of the heart, with or without failure, has been neglected. Chronic cor pulmonale may be primary or secondary. The secondary type is more common and is caused by any condition resulting in failure of the left side which by further back pressure also involves the right side. The primary type may be due to changes in the vascular arterial system of the lung or to widespread alterations in the pulmonary parenchyma and the thoracic cage. The causes of primary chronic cor pulmonale due to changes in the pulmonary parenchyma include bronchiectasis, silicosis, bronchogenic carcinoma or any disease which by its widespread involvement and its chronicity compresses enough of the pulmonary arterial bed to cause the condition. Diagnosis of the primary type in its relation to tuberculosis depends on the demonstration of enlargement of the pulmonary artery and the right ventricle. The authors conclude that: 1. The incidence of hypertrophy of the right side of the heart with marked failure is low in uncomplicated pulmonary tuberculosis. 2. Hypertrophy of the right side without failure occurs in about 6 per cent of all patients dying of pulmonary tuberculosis. (This varies with the type of patient.) 3. In several types,

hypertrophy of the right side with or without failure tends to develop. These include cases of chronic productive tuberculosis of long duration with secondary emphysema (common), chronic productive miliary tuberculosis (rare) and pulmonary lesions complicated by silicosis or anthraco-silicosis. Pneumothorax of long duration with marked collapse and thickened pleura at times causes cardiac hypertrophy of the right side. Thoracoplasty may cause this hypertrophy. The existence of chronic cor pulmonale should be considered before collapse therapy is instituted. Pleural adhesions are not important in the pathogenesis of cor pulmonale. 4. If cardiac and pulmonary diseases, which cause pulmonary hypertension, are coexistent failure of the right side of the heart will appear early. 5. The changes in the pulmonary arterial tree are usually degenerative and rarely hyperplastic. 6. The cause of occasional cardiac hypertrophy of the left side associated with pulmonary disease which should cause only hypertrophy of the right side remains unexplained.

Continuous Arrest of Lung Movement.—Barach describes the treatment of 5 patients with pulmonary tuberculosis in whom collapse measures were contraindicated. The method adds to general body rest a new type of local rest of the lung in which excursion of the lung margins is not appreciable. It requires the patients' complete cooperation and a special apparatus. It is free from the risk and the complications of collapse therapy and is feasible when pneumothorax cannot be used. The apparatus is called an equalizing alternating pressure chamber with an inner box. By equalizing the pressures on the inner and outer sides of the chest, as well as on the upper and lower surface of the diaphragm, it was possible to pass air in and out of the lungs without discernible movements of the costal margins or the diaphragm. For from two to four months 4 patients showed a consistent response to equalizing pressure therapy, marked decrease in cough and sputum, fall in sedimentation rate and temperature to normal, definite clearing of shadows on roentgen study (including cavities), marked gain in weight and subjective improvement, well being and loss of malaise. Improvement of the first, partially treated, patient was less marked; the large walled off cavities persisted, and subsequent attempts at collapse were unsuccessful. In the second patient an extensive tuberculous process resolved; this was characterized by honeycombing in both lungs and a persistently negative sputum for more than one year. The patient is now engaged in part time work which requires mild physical activity. In the third patient unmistakable progressive improvement followed the first course of equalizing pressure therapy, with clearing of dense inflammatory exudate and cavities of considerable size in both lungs. However, five months after treatment a small residual cavity in the left upper lobe enlarged and after five months of subsequent bed rest was more than double its former size. A second course of equalizing pressure resulted in abrupt shrinking, which has continued to the present time. The fourth patient, with rapidly advancing tuberculosis and high intermittent fever, showed clinical improvement during the first month of equalizing pressure treatment. This included decided retrogression of lesions in the right lung. A subsequent tuberculous pneumonia resulted in extension of the disease and ultimate death. The fifth patient, a man with a known tuberculous cavity for ten years, experienced clinical and roentgen improvement. The sputum and gastric lavage have been negative for two months after discharge. The author attributes the gain in weight to the lack of work on the part of the respiratory musculature and the special body rest and relaxation which cessation of voluntary respiration and residence in the equalizing chamber engendered. The response of the patients suggests that immobilization of the lung with complete body rest aids tuberculous resolution. Since the 5 patients who received treatment had advanced tuberculosis that did not respond to bed rest, the author believes that the suggested procedure may be justifiably tried in cases of less severe involvement. Subsequent treatment must still utilize the known valuable measures.

Annals of Surgery, Philadelphia

113:1-160 (Jan.) 1941

- Surgical Treatment of Intractable Ulcerative Colitis. J. H. Garlock, New York.—p. 2.
- *Acute Diverticulitis and Sigmoiditis. C. Eggers, New York.—p. 15.
- Lymphogranuloma Venereum. W. H. Barber and W. B. Murphy, New York.—p. 30.
- Gastric Secretory Depressant in Extracts of Achlorhydric Carcinomatous Stomachs. A. Brunschwig, T. H. Clarke, J. van Prohaska and R. Schmitz, Chicago.—p. 41.
- Surgical Emergencies During Childhood Caused by Meckel's Diverticulum. L. Chaffin, Los Angeles.—p. 47.
- Acute Thrombocytopenic Purpura Haemorrhagica Associated with Tuberculosis (Miliary) of Spleen: Splenectomy—Recovery. J. J. Weiner and R. F. Carter, New York.—p. 57.
- *Use of Ergotoxine and Ergotamine in Surgical Management of Thyrotoxicosis. D. E. Brace and L. C. Reid, New York.—p. 62.
- Coexisting Carcinomas of Thyroid and Aberrant Thyroid with Regional Metastases. A. S. W. Touroff, New York.—p. 73.
- Papillary Adenoma of Aberrant Thyroid. M. K. Smith, New York.—p. 77.
- Substernal Thyroid. W. B. Parsons, New York.—p. 82.
- Osteoplastic Neurolysis Operation for Cure of Meralgia Paresthetica. F. C. Lee, Baltimore.—p. 85.
- Extraskelatal Ossifying Tumors. H. Wilson, Memphis, Tenn.—p. 95.
- Treatment of Staphylococcal Cavernous Sinus Thrombophlebitis with Heparin and Chemotherapy. C. Lyons, Boston.—p. 113.
- Intranasal Granuloma of Sporo-thrix Type Producing Marked Nasal Deformity. Marie Ortmyer and Eleanor M. Humphreys, Chicago.—p. 118.
- Vari-coele and Its Treatment. H. L. Skinner, Baltimore.—p. 123.
- *Indelible Pencil Injuries to Hands. M. L. Mason and H. S. Allen, Chicago.—p. 131.
- Ameloblastoma. T. E. Wyatt and R. R. Buchholz, Nashville, Tenn.—p. 140.

Acute Diverticulitis and Sigmoiditis.—Eggers discusses acute diverticulitis and sigmoiditis observed among 65 private and 17 ward patients. All but 3 of the patients, who already had had a colostomy, were seen as primary cases during the acute stage. In 1 of them an acute attack of diverticulitis had developed in the remaining segment of sigmoid and required drainage, 1 was admitted with thoracic empyema and pyonephrosis eighteen years after the sigmoid resection and 1 wished to have the colostomy closed. Most of the patients recovered under conservative management, some, admitted as surgical emergencies, had to be operated on at once and others were operated on for relief of symptoms or to rule out a malignant condition. Many have had no subsequent serious symptoms, while others have been seen several times with recurrent attacks. Forty-six of the patients had no complications and were treated conservatively. After the acute symptoms subsided they were instructed in the pathologic changes underlying their complaints. They were also made familiar with the measures calculated to avoid recurrence—daily evacuation, restriction of food with much residue and avoidance of overeating. That these measures have some success is apparent, as most of the patients have remained free from recurrence. However, several recurrences have shown that there is no positive safeguard against acute inflammation in diverticulosis. The condition must be considered serious, and one must be prepared at any time for a recurrence or a complication requiring surgical intervention. Despite definite instruction, 2 patients failed to apply for treatment promptly on return of symptoms and were finally admitted with a neglected abscess from which they died. Some type of surgical intervention was indicated or imperative for the remaining 36 patients; in 2 operation was not carried out; 1 had an associated carcinoma and refused operation, and 1 had general peritonitis with multiple abscesses and was practically moribund when admitted and died within twenty-four hours. Of the thirty-four operations twelve were done because of acute perforations with peritonitis. Only 4 of these patients recovered completely. Six died at the hospital and 2 recovered temporarily and died later of complications or sequelae. One of these had an associated carcinoma. Among 7 cases of acute perforations with an abscess there were 5 recoveries and 2 deaths. In 1 of these neglected cases the abscess dissected retroperitoneally in spite of drainage and pointed in the opposite groin. There were fifteen operations for obstruction, persistent symptoms, tumor or because of a suspected carcinoma. The simplest operation was an exploratory celiotomy in 3 cases and combined with separation of adhesions in 4 others. Of eight resections, two

were performed for carcinoma, two for a painful recurrent mass with inflammation or suppuration in the wall and four because the lesion suggested carcinoma. All the patients recovered from the operation. The patients with carcinoma have since died, but those with benign lesions remain well. Among the 34 patients the total immediate mortality was 23.5 per cent restricted entirely to acute perforations. There were in addition 2 late deaths from complications and 4 deaths due to carcinoma. One patient died of carcinoma and 1 of peritonitis without operation. This makes a mortality rate of 19.5 per cent, or 16 among the 82 patients, which may be attributed directly to diverticulitis or one of its complications or associated conditions. If the 5 carcinoma cases are excluded, the death rate is 13.4 per cent with or without operation.

Ergotoxine and Ergotamine in Thyrotoxicosis.—Brace and Reid report studies on the ergotoxine-ergotamine—epinephrine relationship. The most distressing phenomenon in the surgical management of thyrotoxicosis is tachycardia. In an effort to minimize this reaction the authors evolved the following rationale, which led to the use of ergotoxine and ergotamine. There are two periods in the surgical treatment of thyrotoxicosis during which tachycardia becomes an alarming manifestation: during operation and from twenty-four to seventy-two hours postoperatively—the period of so-called crises. The tachycardia occurring during operation would seem best explained by an increased output of epinephrine as a result of the subjective sensations of anxiety, fear and the like and those objective considerations of trauma, blood loss, anoxia and so on. This excess would have the most pronounced effect on cardiac rate because thyroxine specifically potentiates the action of epinephrine on the specific tissue or the myocardium. The tachycardia occurring during the crises might be explained on the basis of a thyroxine effect because of its operative release from twenty-four to seventy-two hours previously and the potentiation of a relatively normal epinephrine production. Therefore in the operative reaction epinephrine is a major factor and thyroxine a minor one, while in the crises thyroxine is the major factor and epinephrine the minor one. Accordingly, the authors find that operative tachycardia is susceptible of more efficient control by ergotoxine and ergotamine than that of the postoperative period. In their cases ergotoxine and ergotamine had no effect on the anoxic tachycardia, illustrating the necessity for a supplemental oxygen supply in postoperative cases of thyrotoxicosis. They have obtained a favorable response in all of their 15 cases.

Indelible Pencil Injuries to Hands.—Mason and Allen present 2 cases of injuries from indelible lead pencils, 1 of the index finger and 1 of the palm with injury to the tendon sheath. The dye of indelible pencils is increasingly toxic with its increasing alkalinity; in order of its increasing toxicity it is green, yellow, red, brown, blue, violet and black. The difference in toxicity is only one of degree, as all cause chemical necrosis. It seems that they produce a disturbance in cellular metabolism, owing to the chemical affinity of the alkaline dye for nucleic acids in the nuclei of the cells. When introduced into the tissues the dye at once begins to dissolve and leads to a necrosis of the adjacent cells. When blood vessels are subjected to a high concentration of the dye they become totally necrotic and thrombosed. This thrombosis and associated secondary infection may aid in producing extensive necrosis, which may involve whole digits or phalanges. When the dye is diluted beyond the point of toxicity, has been altered by local metabolism or has been carried away by the blood and lymph, the process comes to a standstill, the protective wall of leukocytes (that are no longer pushed onward) liquefies and the necrotic central mass is cast off, leaving an ulcer which heals slowly by granulation. Superficial areas may separate and heal spontaneously in five or six weeks. If the dye has penetrated deeply, months or even years may elapse. The clinical manifestations of indelible wounds of the hand may be minimal. At the time of the injury there is some pain for an hour or so, and along with it there is edema of the surrounding tissues. As the dye becomes more widely diffused the reaction becomes more marked; the pain may recur and may radiate distally or peripherally. The puncture wound con-

tinues for a long time to secrete a purple fluid. If the fistulous tract is incised and an attempt is made to remove the lead, the incision refuses to heal and an ulcer with a violet base and borders results. If the penetration has been deep the puncture wound heals and a tumor-like mass develops which, if incised, leaves a purple ulcer that persists for weeks or months before healing. General symptoms are not always present, but headache, malaise, anorexia, gastrointestinal upsets and general weakness are frequent complaints. These symptoms do not often come on until several weeks after the injury. In the authors' second case anorexia, weakness, lassitude and a brief postoperative febrile reaction seemed due to toxemia from the dye rather than to a concurrent local infection. The toxic symptoms did not develop until seven weeks after the injury, and the anorexia and lassitude persisted for several weeks after the local process subsided. The treatment of indelible pencil injuries is complete, immediate excision of all stained tissue. If this is effected at once the wound may be sutured with the assurance that primary healing will ensue. The "lead" should never be picked out with forceps. This breaks it up and scatters bits of the dye throughout the tissues. In the late case, when bones, tendons and other essential structures are involved, complete excision may be impossible although indicated. In such instances the wound is left open and allowed to heal by granulation. Complete excision and primary closure were accomplished as late as two and one half months after the injury to the authors' first patient. At times the necrotizing action may be so severe and extensive that amputation is necessary. The dye is slowly excreted by the kidneys, but gastrointestinal symptoms and an occasional instance of icterus seem to indicate that the liver must also play a part in its excretion. Therefore it seems logical to administer dextrose and to prescribe a liberal carbohydrate diet.

Indiana State Medical Assn. Journal, Indianapolis

34:1-56 (Jan.) 1941

- Prognosis and Treatment in Peptic Ulcer. C. A. Flood, New York.—p. 1.
New Sulfanilamide Derivatives and Their Mode of Action. R. R. Mellon, Pittsburgh.—p. 8.
Indications for Cesarean Section. N. J. Eastman, Baltimore.—p. 14.
Meningioma of Choroid Plexus: Case Report. R. D. Woolsey and R. M. Klemme, St. Louis.—p. 18.
Paroxysmal Auricular Tachycardia Complicating Pregnancy. J. S. Browning and C. J. Clark, Indianapolis.—p. 21.
Sedimentation Rate of Red Blood Cells: Simple Office Procedure, with Some Observations from 1,000 Consecutive Office Tests. G. B. Wilder, Anderson.—p. 24.
Pain in Feet. P. M. Davis, New Albany.—p. 27.

Iowa State Medical Society Journal, Des Moines

31:1-50 (Jan.) 1941

- Clinical Types of Hepatic Insufficiency and Their Treatment. A. M. Snell, Rochester, Minn.—p. 1.
Results After Thoracoplasty for Pulmonary Tuberculosis. V. W. Petersen, Iowa City.—p. 7.
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Acute Surgical Conditions in Abdomen and Their Treatment. A. Q. Johnson, Sioux City.—p. 22.
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Journal-Lancet, Minneapolis

61:1-34 (Jan.) 1941

- Convulsions in Childhood. C. A. Stewart, Minneapolis.—p. 1.
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Opportunities for Mental-Emotional Health Guidance for Atypical Cases. G. T. Stafford, Urbana, Ill.—p. 19.
Peripheral Neuritis Following Disulfanilamide Treatment: Case. E. R. Hodgson, Madison, Wis.—p. 22.
Endometriosis. J. M. Waugh, Rochester, Minn.—p. 24.
Relation of Self Support to Male Student Health at the University of Michigan. R. M. Perlman, Ann Arbor, Mich.—p. 28.

Journal of Nutrition, Philadelphia

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- Bioassay of Vitamin K. S. Ansbacher, New Brunswick, N. J.—p. 1.
Effect of Quantity of Basal Food Intake on Utilization of Vitamin A. Kathleen Dietrich Muelder and Eunice Kelly, East Lansing, Mich.—p. 13.
Manner of Acquisition of Fluorine by Mature Teeth. Mabel W. Perry and W. D. Armstrong, Minneapolis.—p. 35.
Nutritional Requirements During Latter Half of Life. C. M. McCay, L. A. Maynard, Gladys Sperling and H. S. Osgood, Ithaca, N. Y.—p. 45.
Severe Calcium Deficiency in Growing Rats: I. Symptoms and Pathology. Muriel D. D. Boelter and D. M. Greenberg, Berkeley, Calif.—p. 61.
Study of Need for Cobalt in Dogs on Milk Diets. D. V. Frost, C. A. Elvehjem and E. B. Hart, Madison, Wis.—p. 93.

Journal of Pediatrics, St. Louis

18:1-144 (Jan.) 1941

- *Promin in Treatment of Some Acute Infections. J. A. Toomey and F. E. Roach, Cleveland.—p. 1.
Blood Promin Levels in Man. J. A. Toomey and Miriam E. Dice, Cleveland.—p. 6.
Attempts to Produce Urinary Concretions in Monkey with Promin. J. A. Toomey and W. S. Takacs, Cleveland.—p. 10.
Diet in Malnutrition and Celiac Disease, with Special Reference to Use of Dextrose and Bananas. Genevieve Stearns, P. C. Jeans, Ruth Catherwood and J. B. McKinley, Iowa City.—p. 12.
Validity of Etiologic Diagnosis of Pneumonia in Children by Rapid Typing from Nasopharyngeal Mucus. H. E. Alexander, H. R. Craig, R. G. Shirley and C. Ellis, New York.—p. 31.
Obesity in Childhood and Endocrine Treatment. Hilde Bruch, New York.—p. 36.
Creatine and Creatinine Metabolism in Hypothyroidism, with Special Reference to Limitations of Using Creatinine in Urine as Standard of Basal Energy Metabolism. C. Fan, Peking, China.—p. 57.
*Treatment of Graves' Disease in Children. N. Nixon, Los Angeles.—p. 71.
*Pick's Syndrome as Basis for Study of Hypoproteinemia: Case. H. Stadler and Dorothy Stinger, Iowa City.—p. 84.
*Calcification of Arteries of Infant: Report of Case. A. H. Baggenstoss and H. M. Keith, Rochester, Minn.—p. 95.
Renal Rickets. P. G. Danis and J. A. Rossen, St. Louis.—p. 103.
Asthma Complicated by Subcutaneous Emphysema in Children: Report of Case. H. H. Skinner, Yakima, Wash.—p. 117.
Integration of Psychiatric Teaching with Pediatrics. E. K. Clarke and R. A. Jensen, Minneapolis.—p. 121.

Promin for Acute Infections.—Toomey and Roach used promin [a sodium salt of p, pi-diaminodiphenyl-sulfone-N, N'-di (dextrose sulfonate)] intravenously in the treatment of 154 patients who had a variety of streptococcal infections. All the patients regardless of age or sex received 5 Gm. of the drug three times a day for three days. Some of the infections treated were erysipelas, complications of scarlet fever, infections of the upper part of the respiratory tract and bronchial or lobar pneumonia. Excluding the 10 patients who were not very ill on admission, 84 per cent of the remaining 144 obtained immeasurable improvement from the drug. Momentary nausea was experienced by 20 per cent of the patients while the drug was still being injected. If the administration was prolonged over ten minutes, the percentage became distinctly smaller. Only an occasional patient vomited at the time of injection, and when vomiting did occur the authors felt that it happened because the drug was injected too rapidly. The immediate nausea and vomiting is not to be confused with that occurring later. Complications were rash in 3, cyanosis in 3, nausea in 3, vomiting in 3, nausea and vomiting in 2 and headache in 2. The rashes were maculopapular scarlatiniform lesions, sparse in number but generally distributed. Almost every patient had slight cyanosis, but it was not remarkable except of those mentioned. Ten of the patients died; the deaths were expected despite the use of drugs. The authors state that, grain for grain, they found promin to be less toxic than sulfanilamide. Patients seemed to tolerate it better than either sulfanilamide or sulfapyridine. It did not destroy hemoglobin or erythrocytes in the recommended dosage when injected intravenously. When it was used in the presence of erythrocytes in the urine caused by some infection, it did not aggravate the condition. Its disadvantage is that it has to be injected intravenously, its advantage that it does not seem to produce urinary crystals or concretions. Promin has been given simultaneously with sulfapyridine or sulfanilamide with no apparent synergistic reactions.

Treatment of Exophthalmic Goiter in Children.—Nixon believes that subtotal thyroidectomy for exophthalmic goiter is not desirable in children if it is at all possible to treat the condition conservatively. In the adult the occasional post-operative myxedema can be controlled by adequate medication with desiccated thyroid, but in the child the relationship of the thyroid to other endocrine glands and the all-important part it plays in the normal processes of mental and physical growth make its removal undesirable. The hyperthyroid child should first be given a carefully planned and executed medical regimen. Mental and complete physical rest is as important for the child as for the adult. It may be necessary to remove the child temporarily from his home and family. A convalescent or boarding home where the rest regimen can be continued is preferable to the hospital. Psychotherapeutic measures and an individualized approach are important. Acute symptoms may subside only with the disappearance of the inciting infection. Abscessed teeth, infected tonsils and other foci should be removed but not until the child has shown considerable improvement. Various gland preparations have been recommended, but their efficacy in children has not been proved. Small doses of iodine can lower the increased metabolic rate with a corresponding gain in weight and improvement in general condition. One should advise thyroidectomy at the proper time if the patient's response is not optimal. It is not required in mild cases, and in moderate and severe cases it should be postponed until one is certain that the patient will not improve without it. Iodine reduces the oxygen requirements of the tissues many times to a normal level, so that the demand for thyroid hormone is decreased. The percentage of cases treated by iodine alone is increasing, suggesting that a greater effort should be made to treat the disease medically. If in spite of perseverance and patience in carrying out the conservative treatment the disease progresses, subtotal thyroidectomy will alleviate the toxic symptoms in most instances. Prolonged rest and medical care, usually with temporary iodine administration, are necessary even after operation. The tendency to residual and recurrent thyrotoxicosis is greater in children than in adults, and therefore a generous subtotal thyroidectomy is usually performed. To prevent a disturbance of the parathyroids, at least a portion of the posterior surface of both lobes must remain. While the immediate effect of subtotal thyroidectomy on the hyperthyroid symptoms is beneficial, in many instances it is difficult to predict changes in the future development of the child. Only after carefully controlled cases are observed for many years following thyroidectomy and irradiation will satisfactory answers be had to these and many other questions concerning this problem.

Pick's Syndrome and Hypoproteinemia.—Stadler and Stinger studied the origin of the hepatic involvement in an ultimately fatal case of Pick's disease. The child, a boy of 13, absorbed, retained and catabolized protein yet was not able to maintain plasma albumin at its normal level even though ample building components were available. Hepatic function tests on a large intake of protein showed the total cholesterol to be 170 mg., free cholesterol 39.8 mg. and cholesterol esters 130.2 mg. per hundred cubic centimeters of blood. The blood prothrombin was 73 per cent of normal. The galactose tolerance showed 1.056 Gm. of galactose in a four hour urine specimen following the administration of 40 Gm. of the sugar. The bromsulphalein test showed slight retention of the dye in a two hour period. While the patient suffered frequent gastrointestinal upsets, apparently because of decreased gastric capacity and duodenal ulcer, his daily protein intake was approximately 50 to 75 Gm. It appeared that a nutritional disturbance could not have been the major factor. An attempt to demonstrate proteolytic enzymes in the blood failed; a mixture of a specimen of the patient's plasma with that containing normal protein level showed no appreciable protein changes before and after forty-eight hours of incubation. The authors believed that suppression of plasma protein formation was the result of hepatic disease. The backing up of a column of blood to the liver from the heart occasions an amount of hepatic damage which is irreparable in that one vital function, which was for the most part destroyed. The child was unable to elaborate plasma albumin. The rate of formation of other

plasma proteins and other hepatic function tests appeared to be normal. It was only comparatively late in the course of the disease that the marked increase in serum phosphatase concentration in the plasma and the depression of prothrombin indicated that other activities were being placed in jeopardy. The last fibrinogen determination of the plasma was normal. The depressed serum calcium accompanied the depressed blood proteins, but the patient at no time manifested any sign of tetany, indicating that the serum calcium was largely in the ionized form and the decrease was almost entirely in the calcium bound to protein. The carbon dioxide combining power of the blood, which was slightly toward the acid side, may have also been operative in preventing tetany. The disturbance in the serum albumin level brought about by pseudocirrhosis is comparable, if not identical, with idiopathic hypoproteinemia including generalized edema without demonstrable cause, since at necropsy of such patients minimal hepatic changes described as interstitial hepatitis are found. The data from the patient support the view that the edema resulting in this type of disease did not differ from that due to hypoproteinemia of starvation or excessive protein loss, and that hypoproteinemia in the absence of albuminuria or protein starvation should be regarded as presumptive evidence of hepatic failure. Since in this patient the formation of serum albumin was markedly affected, while other hepatic functions were maintained at nearly normal levels, it appears that the formation of serum albumin is one function of the liver most likely to be damaged by chronic passive congestion of the liver.

Calcification of Arteries of Infant.—Baggenstoss and Keith present an analysis of 9 reported cases of extensive arterial calcification in infants and cite a case of their own. Their patient was an infant of 8 weeks with extensively calcified arteries and calcium deposits in the heart and kidneys. The calcium was deposited mainly in the inner half of the media and was particularly prominent in the arteries of the heart, mesentery, periadrenal tissue and kidneys. The calcification of the media was accompanied by marked intimal proliferation. The cause of the calcification is unknown, but the most likely possibilities are (1) an abnormality in the arterial wall and other tissues owing to infection or incomplete development, (2) a severe disturbance in calcium metabolism produced by overdosage of vitamin D (such cases have been reported by Pulschar and by Thatcher) and (3) a combination of these two possibilities. The data from the reported cases show all the patients to be young (from 2 days to 2½ years). This suggests that the arterial lesions may have been congenital. Infection was present in 4 of the cases (congenital syphilis in 1). Renal disease was described as having been present in 4. The inner portion of the media was the site of predilection for the calcium deposition. In 4 of the reported cases and in the authors' patient, calcium deposits were present in various organs as well as in the blood vessels.

Minnesota Medicine, St. Paul

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- Causes of Blindness in Minnesota. C. E. Stanford, Minneapolis.—p. 1.
- Glaucoma. A. C. Hilding, Duluth.—p. 4.
- Senile Cataract. E. W. Hansen, Minneapolis.—p. 7.
- Squint in Relation to Loss of Vision. H. W. Grant, St. Paul.—p. 9.
- Common Behavior Problems Encountered in the Preschool Period. E. K. Clarke, Minneapolis.—p. 12.
- Mental Hygiene in the School. A. Challman, Minneapolis.—p. 16.
- Emotional Factors in Organic Disease. P. L. Schroeder, Chicago.—p. 20.
- Treatment of Mental Disorders with Pharmacologic and Electrical Shock Methods. N. J. Berkwitz, Minneapolis.—p. 25.
- Feeding the Premature Baby. A. V. Stoesser, Minneapolis.—p. 30.

New Jersey Medical Society Journal, Trenton

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- Urology in General Office Practice. M. F. Campbell, New York.—p. 12.
- Newer Developments in Quality Milk Production. J. G. Hardenbergh, Plainsboro.—p. 20.
- Sciatic and Low Back Pain, Diagnostic Value of Air Myelography. M. Scott and B. R. Young, Philadelphia.—p. 24.
- The Care of the Chronically Ill in New Jersey. Ellen C. Potter, Trenton.—p. 27.
- Vocational Rehabilitation of the Tuberculous Patient. H. H. Cherry, Paterson.—p. 30.
- Vitamin K in Obstetrics. A. W. Bingham, East Orange.—p. 32.

New Orleans Medical and Surgical Journal

93:331-386 (Jan.) 1941

- Significance and Surgical Management of Ulcerating Lesions of Stomach. H. K. Gray, Rochester, Minn.—p. 331.
Gastroscopy in Hemorrhage of Stomach. D. C. Browne and G. McHardy, New Orleans.—p. 338.
Present Status of Chemotherapy in Urology: Clinical Evaluation. H. W. E. Walther and R. M. Willoughby, New Orleans.—p. 342.
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Present Status of Therapeutic Shock in Psychiatry. E. Connely, New Orleans.—p. 357.
X-Ray Treatment of Subacromial Bursitis. O. O. Jones, Shreveport, La.—p. 363.
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Encephalography and the Neuropsychiatrist. D. H. Echols, New Orleans.—p. 370.

Ohio State Medical Journal, Columbus

37:1-104 (Jan.) 1941

- Analysis of Fatal Vehicle Accidents in Cuyahoga County for Period of Three Years. S. R. Gerber, Cleveland.—p. 17.
One Hundred Drunken Drivers. E. B. Mozes and L. J. Katonak, Canton.—p. 21.
Clinical Use of Sulfamethylthiazole in Pneumococcal Pneumonia. J. M. Ruegger and M. Hamburger, Cincinnati.—p. 25.
Experiences in Treatment of Pneumonia. R. A. Reading and C. H. Millikan, Cleveland.—p. 28.
Arterial Changes in Diabetes: Case Report, Monckeberg's Sclerosis. C. A. LaMont, Canton.—p. 30.
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Newer Concepts in Treatment of Glaucoma. L. V. Johnson, Cleveland.—p. 36.
Polyps of Lower Sigmoid and Rectum. W. W. Green, Toledo.—p. 38.
Treatment of Hemorrhagic Disease of Newborn. W. R. Barney, Cleveland.—p. 41.
Genitourinary Diseases in Childhood. E. O. Swartz, Cincinnati.—p. 46.

Psychiatric Quarterly, Utica, N. Y.

15:1-202 (Jan.) 1941

- *Alzheimer's Disease (Attempt at Establishing Adult Type of Disease). A. Ferraro and G. A. Jervis, New York.—p. 3.
Comparison of Nonpsychotic Women with Schizophrenics with Respect to Body Type, Signs of Autonomic Imbalance and Menstrual History. Helen E. Elliott, Binghamton, N. Y.—p. 17.
Paranoid Reactions in Three Generations. H. G. Rainey and W. R. Carson, Ogdensburg, N. Y.—p. 23.
Changes in Vascular Pattern of Brain in Experimental Trauma. M. Helfand, New York.—p. 33.
Objective Sign (Gans-Rodiet) in Chronic Alcoholism. M. K. Amdur, Coatesville, Pa., and S. T. Ginsberg, Augusta, Ga.—p. 42.
Studies in Senile Nocturnal Delirium. D. E. Cameron, Albany, N. Y.—p. 47.
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Alcoholism and Hallucinations. S. C. Karlan, Dannemora, N. Y.—p. 64.
Intravenous Sodium Amytal Medication as Aid to Rorschach Method. D. M. Kelley, Kate Levine, W. Pemberton and K. K. Lillian, New York.—p. 68.
Eye Grounds in Functional Psychoses Given Insulin Shock Therapy: Review of Literature. A. Gralnick, Central Islip, N. Y.—p. 74.
Metrazol Shock Therapy: Report of Case with Activation of Latent Diabetes. I. Greenfield, Brooklyn.—p. 86.
Psychosis with Huntington's Chorea. D. Rosenbaum, Ogdensburg, N. Y.—p. 93.
Schizophrenic-like Reactions in Children: Preliminary Report: Studies by Electroencephalography, Pneumoencephalography and Psychologic Tests. E. R. Clardy, L. N. Goldensohn and Kate Levine, Orangeburg, N. Y.—p. 100.
Factors in Psychotherapy: Psychoanalytic Evaluation. M. R. Kaufman, Boston.—p. 117.
Psychotic Manifestations Associated with Pernicious Anemia. F. J. De Natale, Poughkeepsie, N. Y.—p. 143.
Use of Curare in Modifying Metrazol Therapy. R. W. Gray, F. L. Spradling and A. H. Fechner, Lincoln, Neb.—p. 159.
Psychophysiologic Action of Beta-Erythroidin Hydrochloride. S. R. Rosen and M. V. Borenstein, Albany, N. Y.—p. 163.
Paranoid and Compulsive Symptoms Associated with Oculogyric Crises: Report of Two Cases. M. W. Brody and H. Freed, Philadelphia.—p. 170.
Insulin Shock Therapy in Older Patient with Schizophrenia or Schizophrenic-like Reaction. G. W. Robinson Jr., Kansas City, Mo.—p. 177.

Alzheimer's Disease.—Ferraro and Jervis report 2 cases in which the histories coincided in all clinical details but age (33 and 38 years of age respectively). The mental reaction in both cases was organic in type and its course was progressive and rapid. Speech defects, aphasia, anisocoria, overactivity of deep reflexes, muscular hypertonicity and involuntary movements were

present. General convulsions completed the clinical picture. The classic pathologic picture of the disease was present in all its features in both cases. The literature discloses 5 similar cases and 3 doubtful ones in which all the details but age of onset were those of Alzheimer's disease. All these cases have been included in the juvenile type of Alzheimer's disease. To the authors this term appears hardly justified. In only 1 of these instances did the symptoms occur during the juvenile period. Although the pathologic changes were those of Alzheimer's disease, the uncharacteristic mental picture, the absence of cortical focal signs and the long remission make the classification of this case as Alzheimer's disease doubtful. With this exception, all the other cases reported in the literature occurred between the twenty-fifth and the fortieth year. The term "adult type" appears more appropriate. If a borderline period of a few years is set aside between adulthood and the onset of the presenium, generally considered at 45 years, cases that develop after 40 would be considered presenile, those that develop during the third and fourth decade adult, and those before the third decade juvenile. This last type is not yet justified by actual clinicopathologic material. The subdivision is of far-reaching importance in studying the etiology of the disease. According to Braunnühl, aging of the brain is essentially a manifestation of primary changes of the unstable brain colloids from a highly dispersed to a less dispersed condition, eventually resulting in condensation and coagulation. The process syneresis is highly characteristic of the aging of any colloidal system. On the basis of this theory it is conceivable that syneretic mechanisms operative during physiologic aging may act at an earlier age and with particular intensity on colloidal, constitutionally predisposed, systems. In the authors' first case, constitutional familial factors can be surmised as two siblings were mentally affected. Additional factors are likely to play a part in early colloidal changes. Among others are vascular mechanisms. In cases of widespread cerebral arteriosclerosis extreme cortical atrophy may be found, caused by diffuse interference with the blood supply of the cortex. Morphologic changes of the cerebral blood vessels are usually absent in Alzheimer's disease, but it can be conceived that transitory impairment of the cerebral circulation due to vasomotor disturbances may have some bearing in the interplay of various factors bringing about the pathologic changes. A better knowledge of the nature of both presenile and adult types of Alzheimer's disease may be expected from the study of the causes and the mechanism of the physicochemical alterations occurring in the aging brain.

Tennessee State Medical Assn. Journal, Nashville

34:1-40 (Jan.) 1941

- Convulsions in Childhood. M. G. Peterman, Milwaukee.—p. 1.
Effect of Combined Fever and Deep X-Ray Therapy in Treatment of Far-Advanced Malignant Cases: Preliminary Report. H. S. Shoulders, E. L. Turner, L. D. Scott and W. P. Quinn, Nashville.—p. 9.
Prostatic Resection: Lantern Slide Demonstration. J. B. Neil, Knoxville.—p. 16.
Occupational Dermatoses. E. R. Hall, Memphis.—p. 22.

Yale Journal of Biology and Medicine, New Haven

13:293-428 (Jan.) 1941

- Some Effects Produced by Long-Continued Subminimal Intakes of Vitamin B₁. H. R. Street, H. M. Zimmerman, G. R. Cowgill, H. E. Hoff and J. C. Fox Jr., New Haven, Conn.—p. 293.
Early Years of Bacteriology in the Yale Medical School and in the City of New Haven. C. J. Foote, New Haven, Conn.—p. 309.
Secretion of Androgen by Sparrow Ovary Following Stimulation with Pregnant Mare Serum. C. A. Pfeiffer and A. Kirschbaum, New Haven, Conn.—p. 315.
Problems Related to Care of Epilepsy and Convulsive States, with Particular Reference to Nursing Aspects. O. A. Turner, New Haven, Conn.—p. 323.
Influence of Estrous Cycle and Decidual Reaction on Transplanted Intrauterine Tumors in Mice. B. V. Hall, Urbana, Ill.—p. 333.
Sulfapyridine and Vomiting: Experimental Study of the Mechanism in the Dog. J. F. Sadusk Jr., J. W. Hirschfeld and Anne Seymour, New Haven, Conn.—p. 351.
Prevention of Cancer. E. Polya, Budapest, Hungary.—p. 363.
Studies on Incidence and Development of Tumor 15091a in Susceptible and Resistant Strains of Mice. H. Bunting, L. L. Waters and H. W. Ryder, New Haven, Conn.—p. 387.
Some Aspects of Normal Personality Experiencing Disease. E. Kahn, New Haven, Conn.—p. 397.
Thermolability of Staphylococcus Toxins. G. H. Smith, New Haven, Conn.—p. 409.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Dermatology and Syphilis, London

52:353-386 (Dec.) 1940

Treatment of Pruritus Vulvae, Leukoplakia and Kraurosis. Agnes Savill.—p. 353.

Erythema Nuchae. F. R. Bettley.—p. 363.

British Medical Journal, London

2:855-890 (Dec. 21) 1940

Hospital Infection of War Wounds. A. A. Miles, Herta Schwabacher, A. C. Cunliffe, J. P. Ross, E. T. C. Spooner, R. S. Pilcher and Joyce Wright.—p. 855.

*Cerebrospinal Meningitis: Use of Sulfonamide Derivatives in Prophylaxis. R. W. Fairbrother.—p. 859.

Analysis of Hemorrhagic States with Snake Venom and Lecithin. L. J. Witts and Felicity C. G. Hobson.—p. 862.

*Polycythemia and Vitamin C. J. Deeny.—p. 864.

Solitary Nonparasitic Cyst of Liver: Report of Case. R. Maingot.—p. 867.

Cerebrospinal Meningitis and Sulfonamide Derivatives in Prophylaxis.—Fairbrother analyzes the 51 cases of cerebrospinal meningitis encountered in various parts of the East and West Lancashire areas of the Western Command. The symptoms of the disease have varied. The diagnosis was confirmed by examining the cerebrospinal fluid. Treatment usually consisted of early large doses of sulfanilamide or sulfapyridine. As much as 10 Gm. a day was used during the first few days. Soluble sulfapyridine was used for fulminating cases or for cases in which the diagnosis had been delayed. The mortality rate has been less than 5 per cent and sequelae slight. The spread of the meningococcus in the community is by droplet infection. Poor ventilation and overcrowding undoubtedly play an important part in its dissemination. Several of the 51 cases were associated with serious overcrowding, yet a second case of cerebrospinal meningitis did not develop, even though often such cases had not been isolated for some twenty-four hours after the onset of the disease. A carrier rate of 21 per cent was found among the patients of the hospital; these were living under ideal conditions, with good ventilation and no overcrowding, the distance between adjacent beds being at least 4 feet. Fatigue has been repeatedly found to be a contributing factor in the development of the disease. The outstanding success of treatment has directed attention to the value of the drugs in the treatment of carriers. Only from 1 of 139 persons receiving intensive chemotherapy was a meningococcus isolated, in contrast to 55 of 289 not treated with sulfanilamide compounds. Of 14 patients who recovered from cerebrospinal meningitis and were examined from seventeen to seventy-six days after the onset of symptoms, meningococci were not isolated in any instance. This observation, while of little value in itself, supports the view that intensive treatment with drugs of the sulfonamide series satisfactorily removes meningococci from the nasopharyngeal mucosa. An attempt was next made to obtain more direct evidence of the value of sulfapyridine in eliminating meningococci from the nasopharyngeal mucosa from persons harboring the meningococcus. They were segregated and given 4 Gm. of sulfapyridine on the first and second days and 3 Gm. on the third and fourth days. Nasopharyngeal swabs were collected before and after such treatment. After treatment none of 13 carriers harbored the organism. These figures, although small, further support the view that adequate treatment with sulfapyridine or allied drugs clears the nasopharyngeal mucosa of meningococci. In many instances the cultures prepared before chemotherapy gave an almost pure growth of the meningococcus. Sulfonamide drugs for the treatment of carriers are likely to have only a limited application; their wholesale administration is impossible. However, when carriers are identified the drugs should prove of great value. Other methods of treating carriers have proved unreliable.

Polycythemia and Vitamin C.—Deeny investigated the relation of vitamin C to polycythemia in 2 cases by determining the daily excretion of the vitamin in the urine before and after vitamin C saturation alone and with sodium bicarbonate. The vitamin by itself had little effect on the condition, but in con-

junction with sodium bicarbonate it caused an improvement in the general health and a marked fall in the erythrocyte count. In 1 case it rose after the experiment was concluded, but it fell again when vitamin C and sodium bicarbonate were readministered. A marked diuresis occurred after giving vitamin C and sodium bicarbonate. The method merits more extensive trial in the treatment of polycythemia. It would appear that vitamin C has some influence in regulating the number of erythrocytes in the circulation and that in polycythemia there is a defect in the metabolism of vitamin C. Both subjects had a definite polycythemia and excreted considerable amounts of vitamin C. They were deficient in the latter, as they did not excrete 40 per cent of the test dose (300 mg.) for several days. Neither was affected by the large doses, but when the threshold of excretion was raised by the sodium bicarbonate there was a fall in the erythrocyte count. There was a definite improvement in the patients' general condition. A fall in the blood pressure of both patients coincided with a fall in the erythrocyte count. Neither the blood fragility nor the blood uric acid varied with the fall in the erythrocytes.

Journal Obst. & Gynaec. of Brit. Empire, Manchester

47:597-716 (Dec.) 1940

Pathology of Heart Disease in Pregnancy. H. L. Sheehan and A. M. Sutherland.—p. 597.

Granulosa Cell Tumor of Ovary with Remarkable Hyperplasia of Uterus. P. M. G. Russell.—p. 669.

Unilateral Twin Tubal Pregnancy with Coincident Intrauterine Pregnancy. O. Browne.—p. 673.

Journal of Physiology, Cambridge

99:1-156 (Dec.) 1940. Partial Index

Influence of Diets Low in Magnesium on Chemical Composition of Incisor Tooth of Rat. J. Duckworth and W. Godden.—p. 1.

Influence of Diets Low in Magnesium on Histologic Appearance of Incisor Tooth of Rat. J. T. Irving.—p. 8.

Influence of Dietary Calcium and Phosphorus on Tooth Formation. W. E. Gaunt and J. T. Irving.—p. 18.

Action of Bee Venom, Cobra Venom and Lysolecithin on Adrenal Medulla. W. Feldberg.—p. 104.

Effects of Vasodilator and Vasoconstrictor Substances on Normal and Denervated Spleens. J. G. Stephens.—p. 127.

Relation Between Ureter, Venous and Arterial Pressures in Isolated Kidney of Dog. M. Grace Eggleton, J. R. Pappenheimer and F. R. Winton.—p. 135.

Experimental Cerebral Concussion. D. Denny-Brown and W. R. Russell.—p. 153.

Influence of Composition of Gastric Content on Effect of Histamine. C. L. G. Pratt.—p. 154.

Influence of Histamine on Absorption of Sodium Sulfate by Stomach. N. B. Myant.—p. 156.

Lancet, London

1:1-32 (Jan. 4) 1941

Medical Service in Industry. D. Hunter.—p. 1.

A Wartime Pharmacopoeia. M. H. Pappworth.—p. 3.

Parafinoma of Peritoneum. A. H. Cruickshank.—p. 4.

Species of Mosquito Infesting Deep Shelters in London. P. G. Shute.—p. 6.

Actinomycosis of Central Nervous System: Report of Two Cases. N. L. Eckhoff.—p. 7.

Auditory Apparatus and Aviation. E. Wodak.—p. 8.

Standard Pattern for Hip Spica. W. S. Creer.—p. 9.

Pellagra Following Chronic Alcoholism. E. Davis and E. Hinden.—p. 10.

Etiology of Erythema Nodosum: Note. A. L. Punch.—p. 10.

Diet of Anemic Women. N. U. Khan.—p. 11.

*Convulsion Therapy Without Convulsions. G. C. Young.—p. 12.

Convulsion Therapy Without Convulsions.—Young reports the case of a woman given subconvulsive doses of metrazol, after which no fits appeared but the patient made a good recovery. She was admitted to the hospital in an acutely confused, destructive and restless state with vivid auditory and visual hallucinations. The restlessness necessitated full sedative treatment, which had to be continued in bed. There was no sign of improvement after five weeks. After three subconvulsive treatments with metrazol, mental improvement began. Treatment was stopped three weeks after its inception, and three weeks later the patient was normal and had full insight. Her condition has never regressed. As there was regression in the interval between injections in the early days of treatment the evidence seems to be that the beneficial results were produced by the drug.

Presse Médicale, Paris

48:969-992 (Dec. 4-7) 1940

*Active Congestion in Pathogenic Mechanism of Tuberculous Hemoptysis. F. Bezançon.—p. 969.

Mixed Tumors of Parotid Gland. J.-L. Roux-Berger.—p. 971.

*Tuberculous, Anaphylaxis and Koch's Phenomenon. A. Besredka.—p. 973.

Pathogenic Mechanism in Tuberculous Hemoptysis.—Bezançon does not believe that the pathogenesis of tuberculous hemorrhages of the lung is fully explained by assuming vascular ulceration or diapedetic erythrosis. He thinks that disturbances of the sympathetic nervous system, shown in experimental investigations to be capable of producing visceral infarcts, can also elicit in the lung, perifocally or at some distance, a state of active congestion, a vasodilatation that leads to hemoptysic manifestations. The causative agent of this vasodilatation is histamine, producible in the lungs as well as in the skin. Vasodilative processes were observed either parallel with new vascular growths in the fibrous wall of the cavity or, more remotely, in the disease-free parenchyma. He himself found no vascular lesions in the wall of the lung cavity and calls attention to the fact that benign hemoptysis occurs in cases in which no tuberculous cavity exists and the tuberculous process resembles nothing more serious than an unimportant sclerosis. A special roentgen study made of the granite-like appearance of the morbid processes in the lung of hemoptysic persons disclosed its presence only after the hemorrhage and showed an uneventful evolution. This granite-like appearance is ascribed by the author to the sudden onset of neurovegetative imbalance. Rasmussen's aneurysm, at one time pathogenically exploited for tuberculous hemoptysis, was encountered on infrequent occasions by a number of clinical observers.

Tuberculous, Anaphylaxis and Koch's Phenomenon.—Besredka elaborates the view that tuberculin and anaphylactic reactions are similar in nature. The similarity between the anaphylactic reactions elicited in sensitized guinea pigs and those obtained in tuberculous guinea pigs injected with tuberculin is not affected by the violence of the reaction observed in ordinary procedures. For when anaphylactic reactions are provoked in sensitized rabbits intradermally or intramuscularly, no such intensity occurs but the same cutaneous lesions will appear as in Koch's phenomenon. That experimental animals cannot be directly sensitized by tuberculin is no argument against the anaphylactic nature of the tuberculin reactions. Specificity is a significant characteristic of both reactions. The immunity against tuberculin reactions, rapidly induced and of relatively short duration, is paralleled in guinea pigs sensitized to horse serum. Antianaphylactic immunity or serum tolerance is not due to the presence of antibodies but to a mechanism connected with desensitization that is wholly tissular, residing in the skin. The serum of guinea pigs sensitized to tuberculin injected into tuberculous noninoculated guinea pigs disclosed no cutaneous modifications. In no case were transmissible antibodies found in the blood. Similarly the serum of guinea pigs sensitized to horse serum injected into a new batch of guinea pigs was unable to induce an anaphylactic reaction when these were reinjected, thus indicating that sensitized guinea pigs were incapable of transmitting antibodies. Koch's phenomenon is interpreted by the author in keeping with the anaphylactic conception of the tuberculin reaction. By making the tuberculin reaction purely an anaphylactic reaction, the author takes it out of the allergies and gives it a place among other biologic phenomena.

Schweizerische medicinische Wochenschrift, Basel

70:1117-1136 (Nov. 23) 1940

Influence of One-Sided Nutrition on Mineral Content of Animal Organism. H. Kapp.—p. 1117.

Influence of Topographic-Anatomic Relations of Antrum Pylori, Pylorus and Duodenum on Their Roentgenogram in Different Exposures. E. Walder.—p. 1123.

*Wound Edge Excision According to Friedrich. M. Saegesser.—p. 1128.

Focal Infection and Neurosyphilis. O. Meyer.—p. 1129.

Clinical Critical Evaluation of New Synthetic Phosphorus Preparation as General Tonic. A. Alder.—p. 1130.

Wound Edge Excision According to Friedrich.—Saegesser, an assistant of Heller, who in turn studied wound therapy under Friedrich, discusses Friedrich's original paper on the subject. He finds that Friedrich did not employ the term "excision of wound edge" but used the term "freshening of

wounds." Friedrich observed that guinea pigs in which triceps wounds had been infected with anaerobic material survived when the wounds were completely excised within the first six hours. This process was designated by Friedrich as "freshening"; it was a sac-like excision of the entire wound. Saegesser points out that in the accidentally produced wounds in human subjects a complete sac-like excision is only rarely possible. The excision of human wounds is usually only partial, not continuous and sac-like as in the experiments. This verification would be of no significance were it not for the fact that the "wound edge excision according to Friedrich" is often thought to produce sterile wound conditions, permitting a primary closure of the wound, as far as the six hour interval is taken into account. Friedrich was under the influence of Schimmelbusch's investigations on anthrax infection. These gave the impression that, in view of the rapid absorption of bacteria from fresh wounds, local methods usually come too late and are powerless against infection. Friedrich pointed out that the results of Schimmelbusch's experiments were not borne out by experience, and he decided to investigate how long wound infection remains a local process. He found bacteria in the more proximal portions of the muscle only from the eighth hour on in all but one of the cases. This period Friedrich designated as the germination time of the infectious material. He found that by freshening the wound region from 1 to 2 mm. into the healthy tissue in the course of the first six hours the animals could be protected against general infection with malignant edema. Friedrich himself is partly responsible for the misinterpretation of the six hour interval, because in his concluding sentences he applied the results of his experiments on the incubation period of anaerobic infections to every type of wound infection. Saegesser emphasizes that the six hour limit is of no practical significance in the surgical treatment of wounds. Nobody refrains from the removal of soiled necrotic tissues just because the wound is more than six or eight hours old. Moreover, although for induced anaerobic infections the incubation period was from six to eight hours, for the coccic infections it is usually much longer. Friedrich never recommended primary wound suture explicitly. It can be implied from his report only that excision within six hours had the primary suture as its aim. The incorrect evaluation of the six hour interval is partly due to the fact that some are under the impression that primary suture is the aim of the surgical treatment of wounds. This is not the case; the purpose of the initial surgical care of a wound is not primary closure but the reduction of infection. Saegesser concludes that, although Friedrich's six hour limit is of no practical importance in the care of accidental wounds, his work was of lasting value in that he substituted surgical treatment of wounds for the then customary conservative treatment by means of wound antiseptics. Another service he had rendered was to stress the importance of leaving wounds open in the case of suspected infection.

Zeitschrift für Urologie, Leipzig

34:461-504 (No. 10) 1940

Treatment of Chronically Contracted Bladder, Dysmenorrhea and Pains in Pelvis. B. von Mezö.—p. 461.

*Uremic Acidosis and Its Treatment with Sodium Thiosulfate. N. Vondra and J. M. von Rudina.—p. 468.

Solitary Renal Cysts. A. Schmidt.—p. 476.

Multiple Urethral Calculi. Junker.—p. 494.

Lumbosacral Renal Dystopia. H. Waschulewski.—p. 498.

Ulcerous Urethritis of Right Side in Cavernous Renal Tuberculosis. Cremer.—p. 500.

Uremic Acidosis and Treatment with Sodium Thiosulfate.—Clinical observations on urologic disorders convinced Vondra and von Rudina that the degree of acidosis and the resistance of the organism depend on the site of the disease (extrarenal or intrarenal) and, when the kidney is diseased, on the severity and duration of the disorder. Acidosis is slight and the prognosis favorable if the increase in the rest nitrogen and the acidosis are caused by some extrarenal cause. In this connection the authors mention cases of hypochloremic uremias in which the disease was elicited by severe loss of fluid (vomiting and diarrhea). All cases of this type were cured within a few days; that is, the organism was able to eliminate the toxic

waste products as soon as the lost fluid was replaced. This is impossible in the presence of a severe renal lesion. After citing a case history illustrating this, the authors point out that death followed in all (except one) of the uremic patients in whom the reserve alkali value was below 30 per cent by volume. Realizing the important role of acidosis in uremia, the authors studied the behavior of acidosis during uremia that develops in surgical disorders. They made serial determinations of the reserve alkali according to the van Slyke method in 24 cases. They also determined the reduction in the freezing point of the blood, the rest nitrogen, the chloride value of the blood and the xanthoprotein reaction. They then discuss the prognostic significance of the changes in the alkali reserve and of relation of these changes to the other values. They present the theoretic justification for the use of sodium thiosulfate in the treatment of uremic acidosis and show that the results at least partly realize the theoretic conceptions. A 10 per cent solution of sodium thiosulfate was administered daily in quantities of from 20 to 60 cc. Of 7 patients with a moderately severe form of acidosis, 3 were cured in from four to six days; that is, the nitrogen rest as well as the alkali reserve were normalized within this period. In 2 others a permanent improvement was obtained, whereas the other 2 patients died after a slight symptomatic improvement. The thiosulfate was administered also to 5 patients with severe acidosis. The symptoms as well as the blood values showed a temporary improvement, but since the renal tissues were almost completely destroyed in these patients they died. In all the mild cases vomiting, nausea and singultus often decreased after the injection of 20 cc. of the solution, and at the end of three days it had ceased in all cases.

Taiwan Igakkai Zassi, Taihoku, Formosa

39:1557-1738 (Oct. 28) 1940. Partial Index

*Triboulet Reaction in Typhoid. S. Chin.—p. 1625.

*Serum Bilirubin in Malaria. S. Shinomura.—p. 1633.

*Endemic Goiter in Formosa. K. Kawaishi.—p. 1667.

Triboulet Reaction in Typhoid.—Triboulet's solution was prepared by dissolving 3.5 Gm. of mercury bichloride and 1 cc. of acetic acid in 100 cc. of distilled water. When 20 drops of this reagent is added to 3 cc. of dilute filtrate of feces from patients suffering from intestinal tuberculosis or enteritides due to typhoid, paratyphoid or dysentery, a brownish precipitate results in five to fifteen hours. Chin, after testing the diagnostic significance of this reaction in 29 cases of typhoid and, as controls, 22 normal adults, reports the percentage of positive reactions as follows: one week of illness, 66.6; two weeks, 86.2; three weeks, 90.0; four weeks, 85.7; five weeks, 47.8; six weeks, 25.0; seven weeks, 12.5, and eight weeks, 0. In none of the typhoid patients did the test give negative reactions during the active stage of the disease. In over 50 per cent of the patients whose stools gave early positive reactions (five hours) the prognosis was grave. Thus the Triboulet reaction can be used as an adjunct in the diagnosis and prognosis of typhoid.

Serum Bilirubin in Malaria.—Shinomura made determinations (Heilmeyer-Grebs method) of serum bilirubin in 19 cases of malaria at various stages of the disease, using 88 normal healthy adults as controls. The average serum bilirubin values in normal persons in Formosa varied from 0.40 to 0.52 mg. per hundred cubic centimeters, while in the malaria patients the variations were between 0.58 and 1.10 mg. per hundred cubic centimeters. When the values of serum bilirubin were compared with the urobilin quotient of Lichtenstein ($\frac{\text{Urobilin in urine}}{\text{Urobilin in feces}} \times 100$) the hyperbilirubinemia in malaria was found not to be the result of liver dysfunction but purely hemolytic in nature.

Endemic Goiter in Formosa.—Out of a total of 318,116 inhabitants of Formosa, Kawaishi and his associates discovered 26,979 persons with evidence of thyroid disease. These patients were examined either in the university clinic or by special investigation of the inhabitants of the entire island. Metabolic studies showed variable basal rates (increased in 27.8 per cent of cases), lowered vagotonia with consequent acceleration of sympatheticotony (76.9 per cent) and increased

iodine content of the blood. The urinary excretion of iodine was found to be below normal, and oral iodine tolerance tests revealed relatively low blood iodine levels. Chemical analyses of extirpated thyroid glands disclosed a low iodine content of the organs as compared with the average values for the normal gland. In most instances serum calcium was reduced, while as a rule serum potassium either remained normal or was but slightly diminished. Inorganic and total phosphorus also showed some reduction. The values of dextrose tolerance tests fell in the upper normal limits, while in nearly half of the cases the epinephrine hyperglycemic test tended to be depressed. Of the various vitamins the only factor suspected of any etiologic significance was vitamin C; the blood ascorbic acid showed somewhat low values in many instances. In severe cases the liver function was slightly impaired, as tested by the azorubin S. method. Goiter heart can be demonstrated by either unilateral or bilateral enlargement of the cardiac shadow on roentgenograms, the degree of such enlargement being in direct proportion to the extent of thyroid hypertrophy. Electrocardiographic studies in a limited number of the cases revealed such abnormalities as left axis preponderance and prolongation of ventricular contraction, of auricular conduction time and of QRS intervals. No disturbance of the T wave was noted. Blood pressure remained normal in most cases. Kawaishi denies the possibility of mendelian transmission, there being no hereditary relationship in the family trees which he analyzed. Evidence points strongly to the fact of a lack of iodine intake by many patients suffering from endemic goiter. Hypercalcemia is rather common and hence abnormalities in calcium metabolism may be an important predisposing cause of thyroid disease; phosphorus studies in this disease, however, reveal no uniform results. Likewise, the author discredits avitaminosis or infection as being the possible direct causes of endemic goiter. This observer believes that the condition is caused primarily by some etiologic agent closely bound to the geographic and climatic factors; a mere iodine deficiency is not responsible for the condition. Emphasis is placed on the prophylactic measures, especially on improving the general hygienic conditions and, where possible, the removal of mildly affected persons to more favorable surroundings.

Nordisk Medicin, Gothenburg

8:1751-1800 (Oct. 19) 1940. Partial Index

Hospitalstidende

*Myocardial Infarct: Comparison Between Results of Necropsy and Clinical Observations in Patients Over 60. E. Worsaae.—p. 1751.

Necropsy and Clinical Observations in Myocardial Infarct.—Worsaae reports 91 cases of recent myocardial infarct found at necropsy in patients aged from 63 to 88 (only 13 under 70), 60 per cent of whom were women. In all cases the infarct was due to coronary occlusion as a result of advanced atherosclerosis, either as thrombus formation or as the conglomeration of atheromatous masses. In 22 cases the infarct was accidentally found at necropsy. Of the remaining 69, 21 had not shown signs of heart failure. The attack of myocardial infarct was accompanied by typical precordial pain in only 17 cases, the pain was atypical in 11, and there was no pain in the remainder. The condition of the myocardium before the attack apparently does not affect the symptoms accompanying the attack, particularly the pain. The author asserts that no one symptom alone is absolutely characteristic of coronary occlusion and that diagnosis can be made only on consideration of the various symptoms. Circulatory insufficiency must be regarded as the main symptom of myocardial infarct. In the 69 cases there were 14 instantaneous deaths; definite signs of circulatory impairment were established in all but 9 of the remaining 46. Fever, lowered blood pressure, leukocytosis and increased sedimentation speed of the blood platelets will, if present, support the diagnosis; the last two symptoms occur frequently, but neither is constant. Electrocardiography is of especial value. Of the 69 patients 36 died within twenty-four hours; only 10 survived the attack more than a week. Rupture of the heart occurred in 12 cases; in most of these the infarct was at least two days old, but rupture can apparently occur almost immediately after the appearance of the infarct.

Book Notices

Acute Infectious Diseases: A Handbook for Practitioners and Students. By J. D. Rolleston, M.A., M.D., F.R.C.P., and G. W. Ronaldson, M.D., D.P.H., Medical Superintendent, South Eastern Hospital, London. Third edition. Cloth. Price, \$4.50. Pp. 477. St. Louis: C. V. Mosby Company, 1940.

In the present edition this excellent book has been revised and brought up to date. Among the eighteen chapters, those dealing with diphtheria, typhoid and paratyphoid fevers and scarlet fever are exceptionally complete and instructive. There are two chapters which were not present in former editions. One concerns erysipelas and the other isolation methods. Each disease has a historical introduction which adds interest to the topic, and the chapters are concluded with ample references. Throughout most of the text there are innumerable allusions to personal observations of one of the authors, extending over a period of years. The book closes with a description of isolation procedures, including some of the plans and special types of buildings used in the London fever hospitals.

Proceedings Dental Centenary Celebration, Baltimore, Maryland, March 18, 19 and 20, 1940. 1840-1940. George M. Anderson, Editor. Sponsors: Maryland State Dental Association and American Dental Association. Cloth. Pp. 1,061, with illustrations. Baltimore, 1940.

Last March several thousand dentists gathered in Baltimore, the birthplace of professional dentistry, to celebrate the centennial of the founding of the three basic features of the dental structure: education, literature and organization. The centenary meeting was the most successful in the history of dentistry; it epitomized the past and the present in effective contrast; it also afforded an excellent view of the future. The *Proceedings*, which gives a complete record of the centenary, is an important contribution to the literature of both dentistry and medicine. It should be considered as a necessary item of any good dental or medical library.

The section devoted to the historical exhibits, with its fine illustrations and detailed descriptions, is remarkably informative and interesting. Also of particular interest are the addresses delivered during the three morning sessions of the Celebration: "A Century of Science and Education," by Dr. William Mather Lewis, president of Lafayette College, "Dentistry as a Health Service," by Dr. Thomas Parran, Surgeon General, United States Public Health Service, and "The Relation of Dental Education to the University Program," by Dr. Raymond A. Kent, president of the University of Louisville.

The scientific program of the centenary was divided into nineteen sections, three papers being read before each section, on roentgenology, full dentures, medical relations, operative dentistry, orthodontics, dental materials, dental libraries, oral diagnosis and bacteriology, removable partial dentures, local and general anesthesia, ceramics, embryology, histology and pathology, public health, oral surgery, fixed partial dentures, practice management, pedodontia, periodontia, materia medica, pharmacology and therapeutics. These fifty-seven papers, the contributions of leading figures of dentistry and the allied professions, occupy almost 600 pages of the *Proceedings*. They are representative of the high purposes of the centenary and form a compendium of the views and accomplishments of dentistry through the course of its first century as a profession. Among the many papers which deal with matters of direct interest to medical men are *The Role of Allergy in Medicodental Problems*, *The Diet of the Child*, *Focal Infection and Elective Localization in Relation to Systemic Disease*, *The History of Anesthesia*, *Dentistry: Its Purposes and Problems in Public Health*, *Dentistry in Public Health—A Problem in Research*, *Oral Surgery and Its Relation to Dentistry and Medicine*, *The Practice of Dental Surgery*, *The Interrelation of Dentistry and Surgery in the Treatment of Deformities of the Face and Jaws and Child Health—A Dental Obligation*. The subjects are indicative of the value of the *Proceedings* to the medical man who desires to strengthen his knowledge of oral problems and who appreciates the importance of dental-medical relationships.

"*The Foundations of Professional Dentistry*," by J. Ben Robinson, is a brief but scholarly history of dentistry from its

beginning through the great year of 1839-1840 during which periodic dental literature, institutional dental education, and formal dental organization were established as lasting and vital forces in the development of a great profession. This section of the *Proceedings* deserves publication as a separate volume, for it should prove useful as a textbook in the dental colleges.

Diagnosis and Treatment of Menstrual Disorders and Sterility. By Charles Mazer, M.D., F.A.C.S., Assistant Professor of Gynecology and Obstetrics, Graduate School of Medicine, University of Pennsylvania, Philadelphia, and S. Leon Israel, M.D., F.A.C.S., Instructor in Gynecology and Obstetrics, School of Medicine, University of Pennsylvania. Cloth. Price, \$6.50. Pp. 485, with 108 illustrations. New York & London: Paul B. Hoeber, Inc., 1941.

In this book menstrual disorders and sterility are discussed together because they are closely related. Furthermore, since infertility involves both husband and wife there is included a special chapter on sterility in the male. The book contains thirty chapters, which deal with every phase of menstruation and sterility. In addition there is an appendix in which are listed a large number of commercially available standardized endocrine products and their relative concentration. The book is intended for general practitioners. Because of this the authors describe in great detail office procedures in the diagnosis and treatment of menstrual disorders and sterility. Procedures which require special technical skill or hospital procedures are merely mentioned. There are a few recommendations with which issue may be taken. The authors have long been advocates of the use of roentgen treatment for amenorrhea and they cite the statistics of the literature to support their recommendation. However, in spite of the fact that roentgen therapy definitely does help to overcome amenorrhea and sterility, and in spite of the apparent innocuousness to the offspring, no one yet knows if harm may manifest itself in the third and fourth generations. In some of the lower animals, serious disturbances seem to appear in the third and fourth generations. The authors themselves warn that only a skilled roentgenologist be entrusted with radiation therapy of the pituitary and ovaries. The authors recommend that a complete dilation and curettage be done in the office. They give their patients a few whiffs of ethyl chloride or nitrous oxide for this operation, but few family physicians have the equipment and personnel to give general anesthetics in their office. The authors are somewhat too enthusiastic about recommending endocrine products for the treatment of abnormal menstruation and sterility. However, they have been successful in their own cases. For example, they are fortunate enough to have observed success with extract of pregnant mare serum in five of fifteen sterile women in whom anovular menstruation seemed to be the only cause of the barren marriage. In a series of four hundred and thirty-eight completely studied couples with primary or secondary sterility, only two hundred and two submitted to adequate treatment. There resulted one hundred and thirty-two pregnancies (65.3 per cent), an excellent record indeed. The authors are to be congratulated on their book, for it is full of useful information, well written and presented in a simple style. The typography is excellent and the illustrations are instructive.

Introduction to Medicine. By Don C. Sutton, M.S., M.D., Associate Professor of Medicine, Northwestern University School of Medicine, Chicago. With Introduction by Ada Belle McCleery, R.N., Superintendent, Evanston Hospital, Evanston, Illinois. Cloth. Price, \$3.25. Pp. 642, with 158 illustrations. St. Louis: C. V. Mosby Company, 1940.

The student nurse of today not only receives preliminary training superior to that imparted some years ago but, in addition, must have a more extensive knowledge of medicine, because of the responsibilities given to her in her various capacities. This book has been written to fill the need for, first, giving the student nurse a quick survey of the fundamental background of disease entities. Symptoms, diagnosis and treatment are covered with the maximum of detail. The early chapters of the book on subjects such as social service and mental reaction of the patient to disease are of dubious necessity. The ensuing chapters, however, should do much to make medicine more understandable to nurses. Such material as is included in the chapters on the relation of bacteria to disease, the transmission of communicable diseases, pathology, history taking, physical examination and

laboratory tests are important. The second section of the book covers completely the diseases of all the systems of the human body in a clear and concise fashion. The illustrations of the book were chosen with care and add to its value.

Proceedings of the National Conference of Social Work. Selected Papers Sixty-Seventh Annual Conference, Grand Rapids, Michigan, May 26-June 1, 1940. Published for The National Conference of Social Work. Cloth. Price, \$3. Pp. 736, with portrait. New York: Columbia University Press, 1940.

The steadily increasing size of the volume of *Proceedings* and the widening scope of subjects covered is indicative of changes that are taking place in the field of social work. A paper by George St. J. Perrott on Health and Medical Services Under Existing Federal-State Programs in the Section of Health and Medical Care surveys the expansion of government activity in the public health service where "the number of counties having a full-time medical health officer had reached a total of 1,371 in 1939 as compared with 594 in 1935." The expansion of programs of venereal disease control, maternal and child health, crippled children and public assistance shows the growing extent of government programs for health services. Michael M. Davis in a discussion of What State Legislation Does a National Health Program Demand? calls attention to the program of the organized medical profession in the field of voluntary health insurance and expresses the opinion that any law authorizing such insurance should "protect the principle of free choice." He criticizes the legislative proposals for compulsory insurance made by the American Association for Social Security, of which he says "The drafters of this bill sought but failed to take the advice of progressive physicians." In general, he seems to be of the opinion that compulsory health insurance legislation is not needed at this time. Kingsley Roberts presents the case for health insurance conducted by private groups and hospitals. These *Proceedings* are an invaluable source of information as to attitudes and activities in the field of social work.

Adjustment Notebook for Student Nurses. By Elizabeth M. Jamleson, B.A., R.N., and Mary Sewall, B.S., R.N., Instructor, San Joaquin General Hospital, Stockton, California. Previously published under the title "Ethics Notebook for Nurses." Third edition. Price, \$1.25. Loose-leaf, 25 sheets. Philadelphia: J. B. Lippincott Company, 1940.

Formerly published under the title "Ethics Notebook for Nurses," this work now includes changes in material and in arrangement. Index tabs classify the contents under ten major headings. Under ethical decisions, a page on legal problems has been added. Lists of collateral reading have been simplified and new references inserted. Questions have been more generally used. The loose-leaf form of the book affords opportunity for permanent filing of charts, notes and other illustrative material. On the final page the student is left with the task of using a well integrated personality to guide her adjustment toward happy ends of social usefulness in personal or professional endeavor.

Pharmacology, Materia Medica and Therapeutics. By Charles Solomon, M.D., F.A.C.P., Associate Attending Physician and Chief of the Medical Clinic, Jewish Hospital of Brooklyn. Collaborator: Hazel Houston, M.A., R.N., Instructor in Materia Medica, School of Nursing, Bellevue Hospital, N. Y. C. Fourth edition. Cloth. Price, \$3. Pp. 848, with 91 illustrations. Philadelphia, New York, Montreal & London: J. B. Lippincott Company, 1940.

This book is written to help the nurse become a more helpful partner of the physician. It is practical to the extent of naming drugs, their doses and the purpose for which used. It is impractical if one wishes further information. Pharmaceutical preparations are disposed of in less than five pages; and pharmacy, including solutions, temperature, metrology, arithmetic review, preparation of solutions and doses, prescription reading and dosage in fifty pages. Pharmacology is practically not discussed, so that the term is superfluous. The materia medica consists of brief unsatisfactory statements such as one would find in a dictionary and not what one expects in a book devoted to the subject of materia medica. The book is well printed, clearly written and accurate in statements of fact and it contains a mass of valuable material, but unless other books are used the information given leaves much to be desired and leaves the nurse a technician. The author gives a list of reference books which, if consulted, give the information that will make this book more useful and more practical.

Modern Diagnosis. Edited by Sir Humphry Rolleston, Bt., G.C.V.O., M.D., and Alan Moncrieff, M.D., F.R.C.P. Published on behalf of The Practitioner. Cloth. Price, 12s. 6d. Pp. 286, with 29 illustrations. London: Eyre & Spottiswoode, Ltd., 1940.

In this book the editors have gathered a series of eleven articles on various aspects of diagnosis written by different authors, most of the material having originally appeared in the *Practitioner*. The subjects have been selected as ones of interest to the general practitioner. Of necessity the discussions are relatively brief and practical. Typical chapters are on the diagnostic importance of the tongue and cardiac murmurs in childhood. The last half of the book is devoted to chapters on laboratory diagnosis, such as laboratory tests in diseases of the liver and gallbladder and the basal metabolic rate. The book is clearly written. A fair number of illustrations and tables are included.

Surgery of the Hand. By R. M. Handfield-Jones, M.C. M.S., F.R.C.S., Surgeon to Outpatients, St. Mary's Hospital, London. Cloth. Price, \$4.50. Pp. 140, with 95 illustrations. Baltimore: William Wood & Company, 1940.

This concise, well illustrated and well written volume follows closely the teachings of Kanavel. Two thirds of the pages are devoted to infections and their sequelae, the remaining pages being divided between injuries and other surgical conditions involving the hand. In a treatise which covers briefly so wide a field, many dogmatic statements are necessarily made. That they are based on wide experience and thoughtful consideration of the problems involved will be obvious to the careful reader. Both students and practitioners will find the volume an excellent guide to the correct treatment of surgical conditions involving the hand.

In Search of Complications: An Autobiography. By Eugene de Savitsch, M.D. Foreword by Arthur Krook. Cloth. Price, \$3. Pp. 396. New York: Simon & Schuster, 1940.

Among the medical biographies of 1940 the life story of Eugene de Savitsch has special flavor. It is witty, colorful, scientific. It describes the career of a boy who came out of Russia in the revolution and who worked in Japan, in San Francisco and in Denver. His naive impressions of American customs learned through clerking in a department store, his chapter on the sanatorium for the tuberculous, his bacteriologic studies, his portraits of Sewall, Carlson in the University of Chicago, Calmette and many others have special flavor. Especially interesting is his description of the routine in the Billings Hospital, where he had some clinical training. Thus he says:

It is not my intention to be harsh with those who have attained official honor and distinction as the leading medical men of a leading university but only to be skeptical about the wisdom of the present trend toward greater organization in medicine, whereby each individual is inevitably reduced to a big or a little bureaucrat and accomplishment is rarely a personal possession. The best minds, who reach the top, are burdened with administrative tasks which cannot very well help but reduce their usefulness to medicine. Those down the line become cogs in a wheel, and the ideal of service with which most of them were imbued in the beginning is dissipated in a dull and inept bureaucracy. The real aim of greater efficiency and greater attention to the patient is too likely to be diverted into lost motion and less concern for the patient.

In 1936 Dr. de Savitsch was off for Belgium to work in the Bunge Institute in Antwerp and to hospital clinics in Vienna, London, Heidelberg and Amsterdam, and then he went to practice in Washington. There are many aphorisms in this book that merit quotation. There is much in it of life and of excitement.

Institutional Outbreak of Hemolytic Streptococci (Scarlet Fever): Investigation and Report from the Bureau of Communicable Diseases, Los Angeles City Health Department. By Hyman I. Yener, M.D., C.P.H., Assistant Epidemiologist, and George M. Stevens, M.D., Epidemiologist. George Parrish, M.D., Health Officer. Los Angeles City Board of Health Commissioners Bulletin No. 63. Paper. Pp. 30. Los Angeles, 1939.

This report constitutes a complete and interesting statistical study of an outbreak of scarlet fever in an institution in which specific measures were not taken for the prevention of further cases of scarlet fever. The failure of such quarantine arrangements as it was feasible to make shows the importance of unrecognized cases of scarlet fever and immune carriers, including convalescents, in continuing epidemics of scarlet fever.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

PROBLEMS OF AIR CONDITIONING

To the Editor:—At what outside temperature is artificial heating required for comfort? At what outside temperature is artificial cooling required for comfort? I realize that such factors as humidity and the individual differences would make for variations, but taking the average person and an average degree of relative humidity could one get answers to these two questions?

R. C. Shaw, Cleveland.

ANSWER.—Simple as these questions appear, they are far from susceptible of simple answer. This is recognized by the inquirer, who in addition might have pointed out the complicating factors of work, acclimatization, age, clothing, season, body build, duration of exposure, air movement, method of heating, and location. Further, respective heating in winter and cooling in summer do not constitute "artificial air conditioning" but instead single aspects of air conditioning. While legal regulations might demand that janitors provide heat during certain months when the temperature falls below 68 F., there are various combinations between this temperature (and lower ones) and varying humidities and air motion to the comfort of the majority of persons exposed. Conversely, operating instructions might provide that summer air conditioning be set in operation at 78 F.; yet this temperature, associated with other natural or induced atmospheric conditions, might provide complete comfort. In short, there is no minimum or maximum dry bulb temperature that alone may serve as a proper index even for the average.

When in summer months the humidity ranges between 30 and 70 per cent, 98 per cent of persons are comfortable with an effective temperature of 71 F. Below the effective temperature of 64 F. no persons are likely to be comfortable in summer. At the upper limit, when the effective temperature reaches 79 F., no persons are likely to be comfortable. Certainly by the time this range is reached, any available cooling device should be set in operation. In winter time the corresponding optimal effective temperature is 66 F., at which range 97 per cent of persons are comfortable, but above 74 F. effective temperature no one is likely to be comfortable. At the lower extreme, 60 F. represents the degree of cold at which no one can be comfortable. Truly before this point is reached, heat should be provided. All this means that for summer, provide if possible an effective temperature of 71 and in winter 66 F. The foregoing is predicated on optimal or fixed conditions such as air motion not to exceed 25 feet a minute. Lastly it is emphasized that the effective temperature is not the reading from the dry or wet bulb thermometers alone but represents instead a variable set of respective readings from the two instruments. Thus an effective temperature of 66 degrees exists at 70 dry and 58 wet bulbs and also at 72 dry and 54 wet bulbs. Practical charts furnishing all such data are readily obtainable from manufacturers of air conditioning appliances.

PROPHYLAXIS OF RHEUMATIC FEVER

To the Editor:—In the *American Heart Journal* 20:1 (July) 1940 is an article by Wasson and Brown on "Immunization Against Rheumatic Fever with Hemolytic Streptococcus Filtrate." The material used is the filtrate of N. Y. 5 hemolytic streptococcus. I should appreciate further information on this subject and an opinion of its efficacy in prophylaxis, as my wife has the subacute type of rheumatic fever. Are any other methods of prophylaxis available for this condition?

M.D., Illinois.

ANSWER.—In the article referred to, the N. Y. 5 hemolytic streptococcus filtrate was used in an effort to prevent recurrences of rheumatic fever. There has been one previous article on the subject from the same source. No corroborative or disagreeing report has appeared. Previous reports on the prophylactic use of streptococcus materials in preventing recurrences of rheumatic fever have been disappointing. It would seem reasonable to await further work in this field before using such materials in isolated cases. The problem is decidedly one for research at the present time. Further, these authors did not suggest the use of this filtrate in treating active rheumatic fever of any degree, and hence it would not seem applicable in the instance referred to.

Various measures have been suggested in treating active rheumatic fever. None of them have been widely accepted. It may be well to point out that the new chemotherapeutic agents may well be harmful in the presence of active rheumatic fever. Three encouraging reports have appeared on the prophylactic use of sulfanilamide in the prevention of hemolytic streptococcus infection in patients with rheumatic fever. The drug has been given in small doses over long periods of time. It may be well to caution that such prophylactic therapy should still be considered experimental, and as carefully planned research programs, rather than as accepted and proved for general use.

References:

- Thomas, Caroline B., and France, Richard: A Preliminary Report of the Prophylactic Use of Sulfanilamide in Patients Susceptible to Rheumatic Fever, *Bull. Johns Hopkins Hosp.* 64: 67 (Jan.) 1939.
- Coburn, A. F., and Moore, Lucile V.: The Prophylactic Use of Sulfanilamide in Streptococcal Respiratory Infections, with Especial Reference to Rheumatic Fever, *J. Clin. Investigation* 18: 147 (Jan.) 1939.
- Thomas, Caroline B.; France, Richard, and Reichsman, Franjo: Prophylactic Use of Sulfanilamide in Patients Susceptible to Rheumatic Fever, *THE JOURNAL*, Feb. 15, 1941, p. 551.

FRACTURE AS CONTRIBUTORY CAUSE OF DEATH FROM BRONCHOPNEUMONIA AFTER LONG INTERVAL

To the Editor:—A discussion has arisen among a group of physicians as to whether the fracture of the neck of the femur is a contributing cause to the death of a man aged 70 who died in three days of hypostatic bronchopneumonia a year and a half after the fracture. Some argue that in order to be considered a contributing cause the fracture must have occurred within a couple of weeks before the hypostatic bronchopneumonia and if the latter occurs a year and a half after the fracture the injury is not a contributing cause of the death. They claim that there is support in the literature for their contention. I and a few others contend that because the man was in a healthy condition before the injury and did not get out of bed for a year and a half, even though he had traces of arteriosclerosis, the fracture of the femur was a contributing cause of his death and, even though the interval between injury and death is a year and a half, one is a contributing factor to the other. The fracture was never reduced or united, it was painful for the patient to get up for the first six months, and it was impossible to induce him to get up during the later period as he was weak and felt better lying down. Scudder in "Treatment of Fractures" stated: "An elderly patient may die of shock within two or three days, or within a week of hypostatic pneumonia, or may live several weeks and die of exhaustion because of pain and the enforced confinement." Since the author does not increase the interval, some assume that the fracture should not be a contributing cause in the case under discussion. Would you kindly give me your opinion and refer me to the literature that specifically decides this as to cause and effect? (Reference: Scudder, C. L.: *Treatment of Fractures*, ed. 11, Philadelphia, W. B. Saunders Company, 1939, p. 837).

P. J. Imperato, M.D., Brooklyn.

ANSWER.—This question was referred to an internist and to an authority on mortality statistics. The internist replied:

"One would be inclined to agree with the physicians who believe that the fracture was not a contributing cause to the development of pneumonia one and a half years later. It is, of course, an involved question. The fracture no doubt did set up a long train of circumstances in the course of which pneumonia developed and the patient died, but the decision as to whether a direct contributing relationship exists might be perhaps a matter for legal controversy. Insurance companies issuing "double indemnity" policies usually set a definite time limit of a few months between cause and probable or compensable effect. A similar problem may arise, for example, with a patient who had typhoid at the age of 30 and cholelithiasis with perforation and death at 35. The typhoid may have favored the subsequent development of gallstones, which caused obstruction, which caused perforation, which caused death. But who could say definitely that typhoid was the contributing cause?"

"In a case such as that presented, if the enforced confinement to bed as a result of a fracture in an aged person led to a continuous and progressive downward course, the matter would be clearer in spite of the long lapse of time. Furthermore, it might be argued that confinement to bed reduced the patient's resistance to render him more susceptible to an infection of the respiratory tract which supervened and ended in death from pneumonia. However, from the description given, the patient's condition between times seemed to have been fairly good until the terminal incident occurred. Now it is not uncommon for persons of 70, especially those with arteriosclerosis, to be subject to such apparently sudden changes as that described which end in death, and there need be no reason to associate them with accidents which occurred months or years previously. No evidence is given in the query to assist in deciding whether the

pneumonia was of an infectious nature, such as occurs after a cold, for example, or, as is stated, hypostatic as the result of heart failure or circulatory failure.

"According to most authorities (see Heffron, Roderick: *Pneumonia*, New York, Commonwealth Fund, Division of Publications, 1939, p. 516, for numerous references on the subject), if accidents, injuries or surgical operations are followed by pneumonia, the pneumonia should occur not longer than several days or a week afterward if a direct relationship is to be assumed. H. A. Reimann (*The Pneumonias*, Philadelphia, W. B. Saunders Company, 1938, p. 340) states: 'The infeeblement of old age, like that of early infancy, is conducive to the development of pneumonia. The presence of degenerative cardiovascular renal lesions, chronic pulmonary disease or other infirmities increases the liability to pneumonia. In many cases a slight infection of the respiratory tract is all that is necessary to initiate pulmonary invasion.'"

The statistician replied:

"According to the coding rules for causes of death (International List of Causes of Death), the original external violence would have dropped out of the picture because of the length of time ensuing since the accident occurred. This would leave the death officially assigned to hypostatic bronchopneumonia. As a physician, however, it is felt that the arbitrary exercise of the coding rules is not necessarily a correct judgment on this case. Actually, it seems that the fracture has contributed to the risk of getting hypostatic bronchopneumonia. The amount which it has contributed to this risk might be small, but nevertheless it could not be ruled out completely as a contributory cause to the death. A mistake in thinking on this type of question results from not realizing that death often occurs not from one cause or the other cause but from a combination of several risks of dying. In this particular instance, the contribution of the fracture was not to the risk of death so much as it was to the risk of obtaining bronchopneumonia from which death occurred."

FATAL FLUORIDE POISONING FROM ROACH POWDER

To the Editor:—Two days ago a white girl aged 14 took a generous portion of roach powder for the purpose of committing suicide. I am anxious to know the physiologic antidote for sodium fluoride, as the patient died about three hours later even though she was vigorously treated by emesis and a thorough washing of the stomach. Treatment was begun immediately after she took the poison but she died later with cramps and tetanic convulsions. She also appeared to be blind just before death. Does not poisoning by sodium fluoride cause an acute calcium deficiency in the blood and would calcium salts intravenously combat this loss? It is unknown just exactly how much sodium fluoride the patient took, but she dissolved it in water before taking it.

H. D. Barber, M.D., Fayette, Ala.

ANSWER.—Sodium fluoride, when dissolved in water and swallowed, is rapidly absorbed from the gastrointestinal tract. In acute poisoning its irritant action is frequently sufficient to produce vomiting and purging, although the cramps and spasms are referable to the hypocalcemia which results from the calcium-binding ability of the fluoride ion. Fluorides undoubtedly have an inherently toxic action on cells apart from their upsetting of the calcium metabolism. The sharp pains and muscular weakness commonly observed in fluoride poisonings are probably due to the interference with normal biochemical processes involved in muscular activity (Embsen, G., and Hentschel, H.: *Biochem. Ztschr.* 156:343, 1925. DeEds, Floyd: *Medicine* 12:1 [Feb.] 1933). Mortality in acute fluoride poisons is high; Roholm (*Fluorine Intoxication*, London, H. K. Lewis & Co., 1937) reports sixty fatalities in a total of 112 cases. The fatal dose of sodium fluoride for the average adult is from 3 to 15 Gm.

Treatment to be effective must be prompt and should be directed toward (1) preventing further absorption of the fluoride and (2) combating, as far as possible, the toxic effect of the fluoride that has already been absorbed. Absorption may be prevented by giving lime water, calcium carbonate suspensions or milk and by inducing vomiting as quickly as possible. Thorough gastric lavage with lime water is desirable. Neutralizing gastric acidity by calcium carbonate decreases fluoride absorption from the gastrointestinal tract. If much fluoride has already been absorbed prior to the institution of treatment, the prognosis is poor. However, absorbed fluorides may be partially counteracted in their effect by the slow and careful intravenous administration of soluble calcium salts, such as 10 per cent calcium chloride solution or calcium gluconate. Intramuscular injection of solution of parathyroid may be expected to have a similar effect in elevating the blood calcium level.

Death often results from respiratory failure during the violent spasms that occur early in acute poisoning. Artificial respiration may be necessary to carry the patient through this period until the effects of the other antidotal measures afford relief.

HEAT RESISTANCE OF BODY SKIN AREAS

To the Editor:—What degree of heat can the human skin stand without showing evidence of a burn? At approximately what temperatures may first, second and third degree burns be expected? Do the different areas of the body show different levels of heat endurance? Is the scrotum especially susceptible to burns when the entire skin area is exposed to an increased temperature?

M.D., New York.

ANSWER.—Dry heat of 140 F. and upward is capable of producing burns. Moist heat of 125 F. will produce scalds. The higher the temperature of the agent the more severe will the burn be, other things being equal. Dense and thick skin, such as that of the palms, soles and buttocks, offers a greater resistance to heat than is offered by that of thinner, softer texture such as the neck, abdomen and axillae. Tissues are not all equally susceptible to destruction by heat. There is some variation in the reaction to heat in the skin of different persons. The skin of the scrotum is thin and burns with relative ease. It is believed by some that extensive burns involving the genital areas in men carry a higher mortality than do burns involving an equal proportion of the cutaneous surface in other parts of the body.

IRON AND LIVER FOR SECONDARY ANEMIA

To the Editor:—Is it established that the Whipple fraction (secondary anemia fraction) is of value in secondary anemia as is indicated by the work of Barker and Miller? Pharmaceutical houses generally detail combinations of iron and liver for treatment of secondary anemia.

M.D., Washington.

ANSWER.—It is probable that the Whipple fraction of liver contains some hemopoietic material aside from its iron content, as indicated by Barker and Miller (*Am. J. M. Sc.* 195: 287 [March] 1938). However, it is important to recognize, as these authors point out, that adequate doses of iron are much more effective in hypochromic anemia. The type of anemia studied by Whipple was one produced by frequent and relatively massive bleedings. Most cases of hypochromic anemia seen in man are not due to a comparable blood loss, and consequently the anemia is caused chiefly or entirely by an iron deficiency and only in small part if at all by a deficiency in those factors present in the so-called Whipple fraction of liver.

Routine administration of a combination of iron and liver in hypochromic anemia is to be condemned for two reasons: first because adequate amounts of iron are often not contained in such preparations and second because of the much greater expense to the patient. In cases with massive and repeated hemorrhages it is probably desirable. It should be pointed out that the alcoholic fraction of the liver (anti-pernicious anemia fraction) is of no value in hypochromic anemia.

CITRATES NOT HELPFUL IN CORONARY THROMBOSIS

To the Editor:—Why is sodium citrate not recommended as an adjunct in the treatment and as a preventive of coronary thrombosis? Its value in inhibiting clotting of blood is already well known.

A. J. Fazenbaker, M.D., Westernport, Md.

ANSWER.—Sodium citrate is an excellent anticoagulant outside the body but when it is introduced into the blood stream free calcium in the plasma combines with the citrate to produce a relatively insoluble calcium citrate, thereby nullifying the anticoagulant properties of the citrate radical. As a matter of fact there is some evidence that sodium citrate introduced intravenously into the blood stream increases the rate of coagulation in the blood; therefore it should not be considered in this particular problem.

DISINFECTION OF SHOES

To the Editor:—Apparently the sterilization of shoes is an item which comes up for notice frequently; I notice a communication on the subject on page 90 of the January 4 issue of *The Journal*. I should like to add a note which might appeal to some users more than the formaldehyde spray used. I have used it frequently on my own shoes and have seen no ill effects either to shoe leather or to feet. Instead of a concentrated spray of formaldehyde, which sometimes does not thoroughly cover the leather surface, I use a 6 per cent solution, which is poured into the shoe and sloshed around over the toe and heel inside. There is nothing about this treatment to harm the leather. The shoe should be turned upside down so as to drain out well and can be worn the next day. This can be repeated every night for two or three weeks in succession. I have used a 10 per cent solution on occasion and have not noticed any harm to the leather or wearing quality of the shoe.

Hugh M. Hart, M.D., New Wilmington, Pa.

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POSSIBILITIES OF IMPROVED THERAPY FOR CANCER PATIENTS

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BETHESDA, MD.

It is indeed an honor to have been invited by Dr. Cowdry and the Board of the Barnard Free Skin and Cancer Hospital to give the second Barnard Hospital Lecture, particularly because St. Louis is one of the oldest and most important centers of experimental and clinical cancer research in the country.

Since I am a laboratory worker, it was with some misgiving that I agreed to speak to you on the possibilities of improved therapy for cancer patients. However, I shall deal mainly with fundamental principles of therapy, and these are essentially the same, whether they arise in the clinic or in the experimental laboratory. It is my aim to discuss, briefly and as objectively as possible, various points which to my mind may lead to improvements in cancer therapy. These may be grouped into two broad classes: first, the more widespread application of known methods and their improvements; and, second, the development of new methods.

PROFESSIONAL AND LAY EDUCATION

Cancer, both from the etiologic and from the therapeutic standpoint, is a unique disease, or, rather, as I never neglect to stress, a group of distinct diseases with a few common characteristics. One may almost go so far as to state that the malignant transformation of each type of body cell endows the resulting neoplasm with its own peculiar biologic character. This and other facts account for the great diversity and intricacies of present technics of treatment. It is not surprising, therefore, that cancer therapy has become more and more a specialty, the mastery of which requires years of experience.

There is also the curious paradox that in spite of the high total cancer mortality, i. e. 150,000 deaths in 1938 for the country as a whole, the average practicing physician sees but few cancer patients each year. Hence the need for an adequate number of physicians and surgeons experienced in the diagnosis and treatment of the various types of cancer is obvious. In order to assist in supplying this need the National Cancer Institute during the last two years has given forty-four carefully selected physicians' and surgeons' "traineeships" in cancer clinics at government expense for a period of one or more years. It is to such training centers as Barnard Hospital that these trainees are

sent with the understanding that they will practice what they have learned on completing their period of study. But, as you readily see, this relatively small number of trained men will not supply the urgent need. It is therefore encouraging that many medical schools are becoming more "cancer conscious" and are improving the training of students in the principles of cancer diagnosis and treatment.

Another point I wish to make is the need for readily accessible diagnostic and treatment centers throughout the country. The American College of Surgeons has approved three hundred and forty-five hospitals which meet the prescribed standards. Eight states have no approved clinics. This means, of course, that cancer patients in such areas either do not get proper attention or have to travel long distances at considerable expense.

Improvement in the treatment of cancer should begin with a more widespread education of the public concerning the early symptoms of the disease. This is being carried out by official and private agencies. In a recent paper McDowell,¹ of the U. S. Public Health Service, gave the results of a survey in the Pittsburgh area on the incidence of cancer on the basis of case records and death certificates for the year 1937, including 6,103 cases. Fifty-nine per cent of fatal cases had been diagnosed as malignant less than six months before death, and 80 per cent of them less than a year. Since it is almost axiomatic that the probability of cure of most types of cancer increases with early diagnosis, it is obvious from this illustration that much remains to be done in the way of lay education, especially in view of the fact that six approved cancer clinics are located in the Pittsburgh area.

DIAGNOSTIC METHODS

It is also obvious that there is great need for improvement of diagnostic methods for internal cancer. The introduction and development of the roentgenologic method during this century has revolutionized the diagnosis of cancer, but it must be admitted that many kinds of early neoplasms escape detection by this method. In this connection it is of interest to call attention to the possibilities of the gastroscope as a new tool for the diagnosis of gastric cancer. This was clearly brought out during the recent conference on gastric cancer. Brief mention should also be made of the various serologic tests which have been proposed in the past. At this time it seems improbable that complement fixation and precipitation tests will be of practical value. For one reason it is difficult to prepare sufficiently specific antigens from different kinds of cancerous tissues. Freund and Kaminer developed a cytologic test on the principle that normal serum will cytolyse cancer cells while cancer serum will not. Other workers have

The second Barnard Hospital Lecture, read before the St. Louis Medical Society, Nov. 19, 1940.

1. McDowell, A. J.: The Incidence of Cancer in Pittsburgh and Allegheny County, Pa., 1937, Pub. Health Rep. 55: 1419-1451, 1940.

failed to demonstrate the usefulness of this test. The tests devised by Fuchs and Abderhalden are based on the assumption that proteolytic enzymes of cancerous tissues are released into the blood and can be demonstrated by chemical methods. A limited experience with these tests indicates that they are fairly reliable in advanced cases, where other methods are better, but fail in the diagnosis of early cancer. However, it is within the realm of reason that future systematic work on the enzymes of cancerous tissues may furnish the basis for diagnostic tests of certain specific neoplasms. The occurrence of gonadotropic substance in the urine with enlargement of the testicle without discernible cause is of considerable value in the diagnosis of teratoma, although the earlier reports have not been fully confirmed by more recent work.

Much would be gained by more reliable information concerning so-called precancerous lesions. As an illustration, I again refer to the gastric cancer conference. It was brought out clearly that much further work must be done to prove conclusively that chronic atrophic gastritis, polyposis and possibly peptic ulcer predispose to gastric cancer. Clarification of this problem would undoubtedly result in earlier diagnosis and therefore a better chance for cure of this highly fatal disease. Progress in this field will come not only from clinical studies but also, I believe, by work on properly chosen animals as closely related to man as possible, as, for instance, dogs.

ROENTGEN AND RADIUM THERAPY

We may now pass over to a consideration of improvements in present therapeutic methods. It is not necessary to point out the tremendous development of surgical and radiologic methods, each having its usefulness in the treatment of different types of neoplasms. Concerning radiation therapy, Coutard in 1937 wrote as follows: "Rich only in hope, possessing only incomplete information, incapable of offering precise technics adapted to diverse types of cancer, radiotherapy has, however, obtained definite cures in cases incurable by surgery." This statement comes from a leader in this field and represents probably an understatement of the value of radiotherapy; it is evident, nevertheless, that there is an urgent need for more precise knowledge on the biologic action of roentgen rays and radium on tumors and normal cells and normal tissues.

The physics of ordinary roentgen rays and gamma rays of radium is well understood. These electromagnetic radiations represent energy of short wavelength traveling at fast speed comparable with that of visible light. When these radiations act on the atoms of gases they produce different effects, according to the wavelength used. A simplified presentation of an atom shows that it is composed of a nucleus and the surrounding electrons arranged in orbits. In one case an electron may be ejected from an inner shell of the atom, and in addition the electron may be given a varying degree of kinetic energy. In another case not only may absorption of the energy remove an electron from an orbit, but a portion of the energy may be transformed into radiation of lower energy. This is known as the Compton effect.

Now let us consider for a moment what may happen when these high energy radiations instead of acting on simple gases are allowed to act on biologic material, whether free-living cells or highly organized tissues. First, it is well to bear in mind that any mammalian cell represents an enormously complex physicochemical

system made up of complex high molecular material as proteins, lipids, carbohydrates, enzymes and many other substances, all of which are arranged in a definite spatial pattern suitable for biologic function. It is at once evident that the chemical changes induced in cells by roentgen rays and gamma rays may be infinite in numbers, yet it is reasonable to assume that they are not of equal biologic significance. In other words, it is possible that the cell response to radiation may be more or less selective in a biochemical sense. The best support for this assumption comes from the artificial production of mutations by means of roentgen rays. And some geneticists believe that the nucleoproteins of chromosomes may be specifically involved in the mutation process. This does not mean that the radiation effect is confined to nucleoproteins, as it is quite conceivable that highly important cellular enzymes may be destroyed. At all events this important field has not been sufficiently explored to furnish an adequate answer for the biochemical mechanism responsible for the biologic action of these radiations. On the other hand, there is a considerable body of evidence furnished by clinical observation and laboratory experimentation concerning the histologic, cytologic and functional changes induced in living material. Since you are familiar with the clinical results, I wish to refer to some experimental work by Dr. Henshaw² of the National Cancer Institute. He exposed unfertilized sea urchin eggs to measured doses of roentgen rays and found that on subsequent insemination the first cell cleavage was much delayed as compared with that of nonirradiated eggs. Increased dosage increased the delay in first cleavage. If the dosage was kept constant, but the time between irradiation of the unfertilized egg and insemination was increased, the delay in cleavage decreased. This clearly indicates that within limits the egg recovers from the effects of irradiation. Further studies by Henshaw showed that irradiation of sperm before fertilization induced not only delay in cell division but also multipolar cleavage and disturbances in phase relationship of mitosis in the blastomeres.

When we consider the past work done on radiotherapy of malignant animal tumors it is at once apparent that the situation is far more complex than in the case of free-living cells. The studies of Cramer,³ Mottram,⁴ Sugiura⁵ and others indicate that the regression of a malignant tumor is initiated in part by a damage to the malignant cells, which in turn elicits a process of repair beginning with an invasion of the tumor by macrophages. The transformation of these macrophages into fibroblasts then gradually leads to the formation of connective tissue replacing the malignant cells. Crabtree and Cramer found that, in the absence of oxygen, malignant cells appear to become more radio-resistant. This is of importance in case cancer cells as a result of treatment are enclosed in a relatively avascular fibrous tissue, thus interfering with their complete eradication by radiotherapy. Cramer's results, furthermore, suggest that the period of recovery of the carcinoma cells from small doses is surprisingly

2. Henshaw, P. S.: Studies of Effect of Roentgen Rays on Time of First Cleavage in Some Marine Invertebrate Eggs; Recovery from Roentgen Ray Effects in Arbacia Eggs, *Am. J. Roentgenol.* **27**: 890-896, 1932; Further Studies on Action of Roentgen Rays on Gametes of Arbacia Punctulata; Delay in Cell Division Caused by Exposure of Sperm to Roentgen Rays, *ibid.* **43**: 899-906, 1940.

3. Cramer, W.: Experimental Observations on the Rationale of Radiotherapy, *Lancet* **2**: 668-672, 1936.

4. Mottram, J. C., and Morton, J.: A Method of Spacing Radiation in the Treatment of Tumours, *Lancet* **2**: 672-674, 1936.

5. Sugiura, K.: Studies on Radiosensitivity of Mouse Sarcoma 180 Irradiated in Vivo and in Vitro, *Radiology* **29**: 352-361, 1937.

long, and apparently longer than the recovery period of many of the stroma cells. In 1930 Regaud and Ferroux⁶ reported observations indicating a rapid recovery of the blood vessels of the skin from small doses. A year later Eidinow and Mottram⁷ confirmed these results in work on the skin of rats, and Juul obtained similar results on mice. All these and other findings led to the now well known fractional dose technic. The principle of this method consists in the repeated application of relatively small doses in order to prevent any cumulative action on the normal tissues without losing the cumulating effect on the tumor cells.

This method receives further support from the comprehensive animal experiments of Murphy⁸ on the function of lymphoid tissue. Large doses of roentgen rays cause an extraordinary depletion of lymphocytes followed by a more or less slow recovery. The depressed function of the lymphoid tissue seems to be correlated with a decreased resistance of the animal to the growth of tumors.

There is general agreement indicating that animal tumors irradiated *in vitro* require almost twice the dose of roentgen rays to kill the cancer cells (shown by failure of producing tumors on transplantation into animals) as compared with the dose which is sufficient to cause regression of the same tumors within the animal.

Clinical experience has shown that the dosage has to be increased with increasing differentiation of the treated neoplasm. Another curious and as yet unexplained observation is the definite periodicity of the maximal radiation effect. This differs for different tissues. For the skin it reappears every twenty-six to twenty-eight days, the same as the menstrual cycle; for the mucosa it is half that time (Coutard⁹).

To sum up, it can be stated that present roentgen ray and radium therapy is the result of a vast amount of more or less empiric clinical experimentation supplemented by data secured by animal experimentation. It is evident, however, that we are far from an adequate comprehension of the radiotherapeutic process. There is still no explanation for the apparent vast differences in radiosensitivity of the various normal and cancer cells. No concrete proof is available for the assumption that a given type of cancer cell is more radiosensitive than the normal cell of origin. Much further information is needed on the nature of the important recovery process from the effects of sublethal dosage. There can be little doubt that a better understanding of these complex problems would furnish a better rationale for cancer radiotherapy.

A subject which deserves mention concerns attempts to enhance the roentgen ray efficiency by adjunct therapy. But little has been accomplished along this line. Preliminary observations on experimental tumors suggest that the intratumoral injection of sterile water increases the effectiveness of roentgen rays. Similar claims have been made for the combination of heat and roentgen rays. I believe that perhaps the most daring and yet promising attempt would be to alter the metabolism by changes in diet, or by the administration of

chemicals, in order to increase the radiosensitivity of the cancerous, relative to that of the normal, tissues. Experimental work of this kind with tumor-bearing animals is now under consideration at our institute.

SUPERVOLTAGE ROENTGEN RAY THERAPY

The well established fact that increase in the voltage of roentgen rays increases their penetrating power for tissues has led in recent years to the clinical use of roentgen rays of voltages from 400,000 to 1 million and slightly over. Hope was entertained that these powerful rays might greatly improve cancer therapy. It appears now, however, that the results of supervoltage therapy have been more or less disappointing. The recent careful studies of Packard¹⁰ have shown that relatively little is gained, as far as the ratio of depth to surface dose is concerned, by increasing the voltage from about 400 to 900 kilovolts. This is in agreement with the results obtained by Stone. In fact, Stone found the biologic effect the same, if the same dose is delivered to the patient from opposite sides, the one side receiving 200 kilovolt roentgen rays and the other 1,200 kilovolt rays. A few other investigators have made somewhat more favorable reports. Nevertheless, it appears at present that, while supervoltage roentgen rays may perhaps prove of value in the treatment of some deep-seated tumors, no great advance can reasonably be expected from this therapy.

RADIO WAVE THERAPY

For the sake of completeness, brief mention may now be made of the possibilities of using radio wave therapy. More than ten years ago it was found that radiation of long wavelength, i. e. a few meters, such as used in long-distance broadcasting, produces severe physiologic reactions. Kahler, Chalkley and I¹¹ were among the first to show that the physiologic effect was due to the production of heat within the irradiated living material. If experimental conditions were so arranged as to prevent an increase in temperature, no biologic action was recognizable. Energy of this wavelength, acting on normal or tumor tissue, increases the kinetic molecular energy and reveals itself as heat. The reason this method has not proved useful is that malignant cells do not differ sufficiently from normal cells with regard to the critical temperature which causes their death.

Neutron Therapy.—From time to time developments in the fundamental sciences have their profound repercussions on the cancer problem. The discovery of radium, for example, made possible the amazing revolution in nuclear physics which began some twenty years ago. In this short time the age-old alchemist's dream of the transmutation of the chemical elements has been materialized and the so-called indivisible atom has been smashed into atomic particles, some of which are now being studied with regard to their possible value in the treatment of cancer. It seems pertinent to introduce this subject by a consideration of the structure of the atom. The hydrogen atom is composed of the centrally located nucleus called proton, which has a positive electric charge and represents by far the largest mass of the hydrogen atom. In an outer orbit is located the negatively charged electron. The more recently discovered heavy hydrogen atom called deute-

6. Regaud, C., and Ferroux, R.: Sur la diversité des réactions des tissus traités par les rayons X, en rapport avec le facteur temps, et sur la relativité de la dosimétrie biologique dans la roentgentherapie des tumeurs malignes, *Ztschr. f. Krebsforsch.* **32**: 10-26, 1930.

7. Eidinow, A., and Mottram, J. C.: Divided Dosage in Radium Therapy, *Lancet* **1**: 1236-1238, 1931.

8. Murphy, J. B.: The Lymphocyte in Resistance to Tissue Grafting, Malignant Disease and Tuberculous Infection, Monograph 21, Rockefeller Institute for Medical Research, 1926.

9. Coutard, H., in Conference on Applied Nuclear Physics, American Institute of Physics and Massachusetts Institute of Technology, Oct. 28-Nov. 2, 1940.

10. Packard, C.: The Biological Measurement of High Voltage Radiations, *Radiology* **34**: 17-23, 1940.

11. Kahler, H.; Chalkley, H. W., and Voegtlin, Carl: The Nature of the Effect of High-Frequency Electric Field upon Paramoecium, *Pub. Health Rep.* **44**: 339-347, 1929.

rium is twice as heavy as ordinary hydrogen because it has in its nucleus, in addition to one proton, one neutron, a particle which is electrically neutral. The structure of the helium atom shows that its nucleus is composed of two protons and two neutrons, giving the atomic weight 4, and two negative electrons. It is evident that the heavier an atom is, the more complex is its structure. The heavy uranium atom, for instance, has ninety-two protons and one hundred and forty-six neutrons in its nucleus, besides ninety-two outer negative electrons.

The most powerful tool for the disintegration of atoms is the magnetic resonance accelerator, or cyclotron, developed by Lawrence and his co-workers. The cyclotron produces atomic particles of tremendous speed, which, when directed on chemical targets, cause the production of high speed neutron rays or of artificial radioactive elements. The machine permits many successive accelerations of particles. For example, by giving a particle a hundred accelerations of 50 kilovolts each, particles of 5 million volts are obtained. The cyclotron consists of a powerful electromagnet, between the poles of which is placed a vacuum chamber containing two flat hollow electrodes connected with a radiofrequency oscillator. If the vacuum chamber contains hydrogen at low pressure the proton *P* is whirled around, gaining

TABLE 1.—Half Life of Radioactive Elements

Chemical Elements	Half Life
C ¹¹	20.3 minutes
N ¹⁵	10.5 minutes
Na ²⁴	14.8 hours
S ³⁵	80 days
P ³²	14.5 days
Fe ⁵⁹	47 days
Ca ⁴⁵	250 days
I ¹³¹	8 days

in speed each time it passes from one electrode to the other until it is finally discharged through the window *W* as a beam of high-speed protons. Similarly, a beam consisting of high-speed deuterons is obtained if the vacuum chamber contains heavy hydrogen called deuterium. Deuterons are nuclei consisting of one proton and one neutron. Through the courtesy of Dr. Cooksey I am able to show a deuteron beam emerging from the California cyclotron, which was obtained by color photography. When such a deuteron beam strikes a target of beryllium, gamma rays and neutrons are produced. By filtering out the gamma rays by lead a nearly pure high speed neutron beam is obtained. Neutrons produce ionization, as do gamma rays and roentgen rays. Photographs of Wilson cloud chambers demonstrate that neutrons produce much more concentrated ionization tracks than roentgen rays or gamma rays. Whether the characteristic ionization by neutrons seen in gases will also elicit specific biologic effects on tumors and normal tissues remains to be determined. It has been established that neutrons react strongly with organic material rich in hydrogen, in contradistinction to short roentgen rays. However, it happens that most organic constituents of tissues are relatively rich in hydrogen and, therefore, a selective chemical effect from neutrons is not so easily to be expected. At all events, the work of the Radiation Laboratory of the University of California, which is being supported by grants-in-aid from the National Advisory Cancer Council, has shown that fast neutrons have a high penetrating power in human and animal tissues, ade-

quate for deep therapy. The California studies and the similar projected studies of the Mallinckrodt Radiological Institute, which also have received financial support from the Public Health Service, will in time assess the value of this novel cancer therapy.

A useful unit for measuring neutrons is called the *n*-unit. It is the exposure of neutrons that will cause in the Victoreen roentgen ray *r* meter the same reading as an exposure of 1 *r* of roentgen rays. Preliminary work suggests that the biologic effect of 1 *n* on the skin is equivalent to that of 10 *r* of roentgen rays.

Kruger ¹² has made the interesting suggestion that slow neutrons be used for cancer therapy. Such neutrons pass through body tissues without the production of the energetic production of recoil protons, and little or no tissue damage is done. If, however, the tissue is injected with boron or lithium the slow neutrons are captured by these elements with the release of highly energetic atomic particles. These cause the localized destruction of the injected tissue. Zahl, Cooper and Dunning ¹³ have just reported experiments showing that the injection of simple forms of boron or lithium into the transplanted mouse sarcoma 180, followed by irradiation of the whole mouse with slow neutrons, causes a significant increase in tumor regression. It is doubtful that in its present form this therapy will prove of considerable value. However, should it be possible to discover neutron-capturing and relatively nontoxic compounds which, administered, would be selectively absorbed by certain malignant tumors, then slow neutron therapy might well yield results of practical value. The discovery of suitable chemicals is unquestionably a major undertaking for which there is, as yet, no theoretical basis.

ARTIFICIAL RADIOACTIVE CHEMICALS

Another new approach to cancer therapy opened up by the development of the cyclotron is the possibility of the usefulness of artificially produced radioactive chemicals. The California radiation laboratory has taken the lead in this new line of investigation. Repeated intravenous injections of radiophosphorus into patients with leukemia have brought about long-lasting remissions in the disease, but it is too early to state whether this therapy is better than the customary treatment with roentgen rays. The theoretical foundation on which this new therapy is based is the fact that artificial radioactive elements are unstable and emit electrons or beta rays just as do radium and other natural radioactive chemicals. The radioactivity of the artificial radioactive chemicals is measured by the "half life," that is to say, the time required for half of the radioactivity to be emitted. Table 1 shows the half life of a number of chemical elements. The last of these is radioiodine, which has a half life of eight days and which emits gamma rays. This can be used for illustrating another principle for a new approach to therapy. It is well known that thyroid tissue stores by far the greatest portion of the iodine of the body, and recent work by Hamilton and Soley has demonstrated the same for radioactive iodine (¹³¹I). The question was raised, therefore, whether it is not possible to treat primary and metastatic malignant tumors of the thyroid by the administration of radioiodine. Unfortunately, these workers found that the cancerous thyroid tissues

12. Kruger, P. G.: Some Biological Effects of Nuclear Disintegration Products on Neoplastic Tissue, *Proc. Nat. Acad. Sc.* **26**: 181-192, 1940.
13. Zahl, P. A.; Cooper, F. S., and Dunning, J. R.: Some *In Vivo* Effects of Localized Nuclear Disintegration Products on a Transplantable Mouse Sarcoma, *Proc. Nat. Acad. Sc.* **26**: 589-498, 1940.

so far tested lacked the ability to accumulate radioiodine. Nevertheless further endeavors based on this principle may well be repaid, not in anticipation of a cure-all for cancer but perhaps for the discovery of a treatment of certain specific neoplasms.

PROTECTION AGAINST HIGH ENERGY RADIATIONS

Before leaving the consideration of roentgen rays, gamma and neutron rays, it is timely to call attention to a practical topic, namely the need for protection of clinical and laboratory personnel against these powerful physical agents. In the limited time it is not possible to discuss this subject as fully as its importance merits. First, let me say that it is perfectly feasible with relatively little financial expense to have the physical equipment and the operating methods so arranged as to reduce exposure to radium and roentgen rays to or below the present accepted maximum safe daily dose of 0.1 r.

The National Cancer Institute has lent radium to some forty-eight clinics for cancer therapy. We naturally have a responsibility to insure that this radium does not cause health hazards to the personnel using it. A recent survey of such clinics, not quite completed at this time, has clearly revealed good conditions in many places, whereas, in an appreciable percentage of clinics, some of the personnel are exposed to an unsuspected high-radiation intensity. This applies not only to exposure from radium but also to exposure of personnel to roentgen rays incident to diagnostic and therapeutic work. Without arousing unnecessary alarm it is unquestionable that many physicians and dentists are not entirely aware of the insidious nature of biologic high energy radiation effects, and they would be surprised if they actually measured with a Victoreen chamber the radiation they receive for long periods of time.

It is established that the biologic effectiveness increases with increasing dosage. The possible production of cancer, leukemia and sterility is generally recognized, so is also the danger of producing an abnormal child following irradiation of the embryo in utero. But what is regarded by many physicians as highly improbable is the possible hazard arising from irradiation of the ovary or testis with the consequent production of genetic changes in the first and subsequent generations. One can readily appreciate the difficulties of demonstrating such genetic effects in clinical material. On the other hand, this should not permit one arbitrarily to dispose of the large body of evidence secured by geneticists on plants and animals. Demerec recently stated: "In a very few branches of biological science, the fundamental principles are as applicable to all living organisms as they are in genetics. It is a well established fact that fundamental (genetic) principles discovered on plants hold for animals and vice versa. Man is no exception to that rule." Many of the mutations, produced by either chromosome breaks or by elimination of certain genes, are lethal and therefore self eliminating. The danger lies in the production of mutations injurious to subsequent generations and expressed in morphologic (visible) or functional (invisible) effects. Two photographs made by Dr. Henshaw illustrate the results obtained by exposing frog sperm to 200 kilovolt roentgen rays followed by fertilization of normal eggs by the irradiated sperm. It is evident that the early proliferation of the egg is normal despite large doses of radiation. However, it is apparent that relatively small doses cause extensive

abnormalities in differentiation, which increases in frequency and degree with increasing dose. The first effect is apparently a probability reaction, whereas the second appears to be a progressive change in each individual embryo.

Experimental evidence also indicates that genetic changes induced by radiation are proportional to the dosage used, and this undoubtedly differs in different species. In view of the importance of this whole question the National Cancer Institute is conducting a comprehensive investigation with the advice of such leading geneticists as Muller and Demerec. At all events it is not only advisable but perfectly practical with little trouble to prevent (1) the exposure of the genitals of operators to direct or stray radiation and (2) to avoid similar exposure of patients during therapeutic or diagnostic procedures by proper shielding of the primary sex organs.

Neutron therapy is so new that but little is known about its hazards. Protection is afforded by surrounding the cyclotron with large tanks of water, which absorbs neutrons, and a control room far removed from the cyclotron. Cutaneous lesions have been noted similar to those produced by sunburn. Tuve of the Carnegie Institution insists on keeping exposure in his laboratory down to the equivalent of 0.01 r daily. Great caution is certainly indicated in the operation of these tremendously powerful machines.

SYSTEMIC CANCER THERAPY

The great problem yet to be solved, as I have already intimated, is the discovery of effective systemic treatments. Surgery, roentgen rays, radium and in all probability neutrons are measures which can cure cancer only by the complete destruction of more or less localized malignant tumors. They fail completely to bring about cure in the more advanced disseminated stage, because radiation therapy uses a technic which is not based on a truly selective biologic radiation effect. In view of the vast amount of money and energy invested in the development of present day radiation therapy, it would seem that a corresponding investment for the search of selective therapy is fully justifiable. There are essentially two approaches to this problem, namely the rational and the empirical method, or a combination of the two. Rational therapy of any disease, as, for example, the serum treatment of infectious diseases, depends on the comprehension of the cause and nature of the disease in question. As concerns human cancer the best available evidence indicates that it is not due to a specific infectious agent. This practically eliminates the probability of finding a specific vaccine or serum. Both clinical experience and extensive study of cancer in animals strongly suggest that cancer is caused by the transformation of the normal cells of the body into cancer cells through the operation of a great diversity of factors and agents operating from within or from without the organism. As far as is known now the malignant transformation of cells is irreversible and expresses itself in a varying degree of dedifferentiation and increased rate of cellular proliferation. What one needs to know, in order to discover a rational specific therapy, is (1) why the biologic behavior of cancer cells differs from the original normal cells and (2) what kind of biochemical differences account for the differences in biologic behavior. Such fundamental questions can be answered only on the basis of a much better understanding of cell physiology and biochemistry, as well as the func-

tional and chemical interrelation of the various tissues and body fluids. There is reason to hope that this approach will be fruitful, given sufficient time.

The empirical or trial-and-error method has already given us radiation therapy for cancer. A large part of the most valuable chemical therapeutic agents have been discovered purely empirically, beginning with cinchona for malaria to sulfanilamide and related drugs for the astonishing treatment of certain infections. Then there are examples wherein a partial understanding of the nature of a disease combined with physiologic knowledge and empirical trial has led to success, as, for example, the discovery of the use of liver in the treatment of pernicious anemia.

Let me emphasize that it is hazardous for any one to predict that a given scientific problem is insoluble for all time, as long as there are ideas which can be tested by sound experimentation. This is the lesson to be learned from the history of science. But, of course, no one can predict results or when they may come.

EXPERIMENTAL THERAPEUTICS

I believe that therapeutic studies on cancer should in the beginning be carried out on tumor-bearing animals in which conditions can be accurately controlled. There is available a great variety of spontaneous, chemically induced and transplanted tumors,

TABLE 2.—Diet Deficient in Lysine and Adequate Diet

Gliadin Diet		Gliadin Diet Plus Lysine	
Gliadin	18.00	Gliadin	16.80
Salt mixture.....	4.00	Salt mixture.....	4.00
B ₁ B ₂	0.10	B ₁ B ₂	0.10
Starch	54.00	Starch	54.32
Crisco	20.00	Crisco	20.00
Cod liver oil.....	8.00	Cod liver oil.....	3.00
		Lysine = 2 HCl	1.20

and the list is constantly increasing. The remaining time will be given over to a brief summary of certain studies in experimental therapeutics.

The remarkable capacity of malignant tumors for apparently unrestricted proliferation suggested to us attempts to retard or possibly to inhibit completely cancerous growth by maintaining tumor-bearing animals on diets deficient in components essential for cellular proliferation. Classic nutrition experiments have shown that normal growth, and therefore tissue proliferation, do not occur unless the diet contains an adequate amount of all the so-called indispensable amino acids, the building stones of body proteins. It therefore was of interest to ascertain whether the growth of malignant tumors could also be inhibited by diets deficient in certain indispensable amino acids. Contrary to expectations, we¹⁴ were able to accomplish this in work on a typical spontaneous mammary carcinoma of the mouse. Table 2 shows the composition of a diet deficient in the amino acid lysine and the same diet supplemented by an adequate quantity of this amino acid. Young normal mice, when placed on the deficient diet, fail to grow without manifest signs of ill health. Soon after lysine is added to the diet, the mice begin to grow at a rapid rate. The growth rate of the breast carcinoma is strikingly retarded by maintaining animals for several weeks on the lysine-deficient diet. Proof that this retardation of cancerous growth is due to a specific lysine deficiency

is shown by the rapid tumor growth following the feeding of lysine. Similar results were obtained with a diet consisting of 30 per cent whole milk powder and 70 per cent ground wheat, which was made deficient in lysine by a preliminary heat treatment of the milk powder. Less striking inhibition of tumor growth was obtained with a diet deficient in tryptophan.

Of particular interest are the experiments with diets deficient in sulfur-containing amino acids.¹⁵ For instance, on a diet containing about 16 per cent of whole milk powder as the principal source of protein the tumors made but little growth. However, the tumors promptly began to grow rapidly on the addition of a small amount of cystine to the diet or following the repeated subcutaneous injection of the cystine-containing peptide glutathione. To my mind these results, though not of immediate practical value, are of fundamental interest. Our own work and that of other investigators has furnished evidence of the great importance of the organic-sulfur system of the body (1) in the regulation of enzymes controlling the degradation and synthesis of tissue proteins, (2) in the control of cell proliferation and (3) in the action of certain cancer-producing chemicals. This field should be cultivated in a far more comprehensive manner, due consideration being given not only to the proteins but also to the numerous known biocatalysts of the tissues. It is at least permissible to speculate that the chemistry of cancerous tissues differs sufficiently from that of normal tissues so as to influence selectively the growth of tumors by a deficiency or excess in certain biocatalysts. The human body may be regarded as an organism which is marvelously coordinated not only anatomically and physiologically but also chemically. The whole trend of recent investigation is toward the concept of what might be called the "fluidity" of chemical organization, with a continuing chemical interchange between the anatomic units. There is no better illustration than the recent revolutionary changes in our conception of the protein metabolism of tissues and body fluids.

Significant results have been secured by Murphy and Sturm.¹⁶ They found that repeated intraperitoneal injections of extracts of such normal tissues as embryo skin, placenta or colostrum arrested the growth of mammary carcinoma in mice in about 70 per cent of the treated animals, and in 22 per cent the tumors regressed. These same extracts were ineffective when tested on mouse sarcoma 180. Such studies should be continued with a view to concentrating and isolating the active principles.

Another line of investigation in progress at the National Cancer Institute is based on clinical observation dating as far back as 1882. It has been noted by clinicians that certain intercurrent infections, particularly erysipelas, occasionally exercised an apparently curative effect on certain malignant tumors. This led to the clinical use of bacterial filtrates, including Coley's fluid, which is a mixture of streptococcus and Bacillus prodigiosus filtrate. Favorable and unfavorable clinical results have been reported with various bacterial filtrates. This may be partially explained by the results obtained in animals, which indicate that the filtrate is effective on sarcoma but apparently ineffective on other

15. Voegtlin, Carl; Johnson, M. M., and Thompson, J. W.: Glutathione and Malignant Growth, *Pub. Health Rep.* 51: 1689-1697, 1936.
16. Murphy, J. B., and Sturm, E.: Effect of Growth-Retarding Factor from Normal Tissues on Spontaneous Cancer of Mice, *J. Exper. Med.* 60: 305-315, 1934.

14. Voegtlin, Carl, and Maver, M. E.: Lysine and Malignant Growth, *Pub. Health Rep.* 51: 1436-1444, 1936.

tumor types.¹⁷ Active filtrate fractions are obtained from *Bacillus prodigiosus* grown on a synthetic medium, and present evidence suggests that the active principle may be associated with a bacterial polysaccharide.¹⁸ In large doses the preparations are toxic and kill the animals. Smaller doses produce striking macroscopic and microscopic hemorrhages in the tumors, followed in many cases by regression of the tumors. The hemorrhagic reaction appears to be specific for the tumor capillaries and is not evident in other tissue. Since the hemorrhage is accompanied by a decided reduction in the ascorbic acid content of the tumor, and since injection of this vitamin prevents the hemorrhage,¹⁹ it is believed that the bacterial filtrate, by suddenly lowering the ascorbic acid of the tumor, so weakens the fragile new capillaries as to cause hemorrhagic extravasation. If the whole tumor tissue is affected, the tumor regresses. In patients filtrate elicits febrile reactions, and there are suggestions that the organism develops a partial tolerance, as indicated by the toleration of increasing doses. It is, of course, too soon to decide whether this form of therapy will be of practical value. The possibility is certainly not ruled out that improvements in the fractionation of the crude filtrate may furnish a preparation from which toxic, but therapeutically inactive, material has been eliminated, and which may have a sufficiently wide margin of safety between the toxic and hemorrhage-producing doses.

Another illustration of selective action of a chemical on tumor tissue is the observation made by Strong.²⁰ Using spontaneous mammary cancer in mice, he found that the repeated oral administration of a synthetic chemical—heptylaldehyde—in many cases caused extensive liquefaction of this tumor, followed in some instances by complete regression. Were it not for the fact that this effect is obtained only with a dosage rather close to the fatal dose, some hope of practical usefulness might be entertained. However, the interesting point I wish to emphasize is the selective action on the tumor.

The old gout remedy colchicine, a phenanthrene derivative, is known to cause arrest in cell division. Recent attempts to utilize this action for the treatment of tumors has given negative results because the drug is too toxic. Efforts are now being made to synthesize chemicals of closely related structure with the hope of finding a less toxic and effective compound.

In view of the startling development of the chemical treatment of certain bacterial and virus diseases, it would seem hopeful to pursue the search for chemical agents for cancer therapy. As in the case of most of the newer chemicals for the treatment of other diseases, the search for such chemicals for cancer has to be carried out by experimentation on animals, by making full use of any leads suggested by clinical observation.

I do not hesitate to predict that persistent, intelligent and comprehensive effort along the lines mentioned in this lecture is bound to result in saving many thousands of lives.

17. Andervont, H. B.: The Reaction of Mice and of Various Tumors to the Injection of Bacterial Products, *Am. J. Cancer* **27**: 77-83, 1936.

18. Shear, M. J.: Chemical Treatment of Tumors: IV. Properties of Hemorrhage-Producing Fraction of *B. Coli* Filtrate, *Proc. Soc. Exper. Biol. & Med.* **34**: 323-326, 1936.

19. Andervont, H. B., and Shimkin, M. B.: The Effect of Ascorbic Acid upon the Hemorrhage Produced by Bacterial Filtrate in Transplanted Tumors, *Am. J. Cancer* **36**: 451-459, 1939.

20. Strong, L. C.: Further Approach Toward Control of Spontaneous Cancer of Mammary Gland in Mice by Heptyl Aldehyde-Sodium Bisulfite, *Proc. Soc. Exper. Biol. & Med.* **43**: 634-637, 1940.

PNEUMOCOCCIC PNEUMONIA COMPLICATING OPERATIONS AND TRAUMA

ANALYSIS OF TWO HUNDRED AND SEVENTY-NINE CASES OF POSTOPERATIVE AND NINETY-TWO OF POST-TRAUMATIC PNEUMONIA ASSOCIATED WITH TYPED PNEUMOCOCCI

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The availability of highly potent specific remedies for the treatment of pneumonia has resulted in a sharp drop in mortality from this disease wherever such remedies have been used extensively. The greatest success has been attained in the "primary" pneumococcic lobar pneumonias, and almost all reports concerning specific treatment have dealt almost entirely with such cases. It seems worth while at this time to consider whether the same specific remedies might be effective when pneumonia occurs as a complication of other conditions in which it is frequently considered to be the immediate cause of death.

It is probably fair to say that pneumonia occurring after surgical operations or after serious trauma is usually considered by both surgeons and laymen to be an unfortunate complication which often results in fatalities when the treatment of the primary condition is otherwise successful. Some of the predisposing factors relating to the operation, notably anesthesia, aspiration, emboli and decreased pulmonary ventilation, have been given some consideration in recent years with the primary object of prevention and only secondarily from the point of view of therapy. The bacteriologic aspects of the pulmonary complications have received only minor attention. A few reports have indicated that postoperative pneumonia is usually associated with the so-called group IV pneumococci, and therefore the suggestion is made that these organisms either are ordinary oral contaminants or have given rise to autogenous infection.¹ Sutliff and Steele² have made a careful study of this point in a small number of selected patients in this hospital, employing the more complete classification of the pneumococci formerly included in group IV.³ Their observations indicated that a majority of postoperative febrile pulmonary complications may be associated with pneumococci which cannot be recovered from the patients before the operation, even by a thorough search. There are no reports of extensive series of postoperative or post-traumatic pneumonias in which adequate bacteriologic studies, including complete and accurate pneumococcus

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The staffs of the Surgical and Medical Services and of the Mallory Institute of Pathology of the Boston City Hospital cooperated in making this study possible. Several former members of the staff of the Thorndike Memorial Laboratory assisted in assembling these data.

1. Whipple, A. O.: A Study of Post-Operative Pneumonitis, *Surg., Gynec. & Obst.* **26**: 29 (Jan.) 1918. Gundel, M., and Linden, H.: Bakteriologische Untersuchungen an Leichenlungen unter besonderer Berücksichtigung ihrer Bedeutung für das Pneumonieproblem, *Ztschr. f. Hyg. u. Infektionskr.* **112**: 623, 1931.

2. Sutliff, W. D., and Steele, B. F.: Relationship of Infection to Postoperative Pulmonary Complications, *Arch. Surg.* **50**: 14 (Jan.) 1935.

3. Cooper, Georgia; Edwards, Marguerite, and Roentgen, Carolyn: The Separation of Types Among the Pneumococci Hitherto Called Group IV and the Development of Therapeutic Antiserums for These Types, *J. Exper. Med.* **49**: 461 (March) 1929. Cooper, Georgia; Roentgen, Carolyn; Walter, Annabel, and Peizer, Lenore: Further Separation of Types Among Pneumococci Hitherto Included in Group IV and Development of Therapeutic Antisera for These Types, *ibid.* **53**: 531 (April) 1932.

typing, have been carried out. The results of specific therapy are, therefore, difficult to evaluate. Favorable results of treatment with sulfapyridine in one small series of postoperative pneumonias, including 13 cases associated with pneumococci, have been reported recently.⁴

The present paper contains an analysis of 279 cases of postoperative and 92 cases of post-traumatic pneumococcal pneumonia that occurred at the Boston City Hospital between Sept. 1, 1929 and July 1, 1940. The following criteria were used in the selection of cases for inclusion in this study:

1. Each patient had an acute febrile illness with pulmonary consolidation demonstrated clinically, and in almost every instance also roentgenographically and/or at autopsy.

recently parturient women have already been presented⁷ and are not included in this report even when operative procedures were involved.

SOURCES OF PNEUMOCOCCI

The numbers of cases from which the various types of pneumococci were identified in different materials are shown in table 1. In a number of the cases the only sources of pneumococci were materials obtained at autopsy. There were 44 such cases (15.8 per cent) in the postoperative series and 5 in the traumatic series. The types most commonly found in typical lobar pneumonia⁸ were somewhat less frequent among patients with post-traumatic and considerably less frequent among those with postoperative pneumonia. Types I, III and VIII were most common in both

TABLE 1.—Numbers of Patients with Postoperative and Post-Traumatic Pneumonia from Whom the Different Pneumococcus Types Were Identified from Various Sources

Pneumococcus Type*	Postoperative Pneumonias							Post-Traumatic Pneumonias						
	Any Source	Sputum	Pleural Fluid	Blood†	Autopsy			Any Source	Sputum	Pleural Fluid	Blood†	Autopsy		
					Lungs	Pleura	Heart's Blood†					Lungs	Heart's Blood†	
I.....	30	22	4	3 (17)	3	1	2 (5)	14	7	3	6 (10)	..	.....
II.....	5	3	..	1 (1)	2	..	1 (2)	7	5	1	1 (4)	..	.....
III.....	34	27	..	0 (12)	6	..	4 (4)	12	9	..	1 (7)	3	1 (2)	
IV.....	4	2	..	1 (3)	1	..	1 (1)	4	3	..	2 (3)	..	.....
V.....	2	2	..	1 (2)	..	..	0 (1)	3	1	1	1 (2)	..	.....
VI.....	17	14	..	1 (5)	2	..	..	2	2	..	0 (2)	..	.....
VII.....	13	11	1	3 (6)	3	1	2 (2)	1	1	..	..	..	.....
VIII.....	22	17	3	2 (13)	3	..	1 (3)	8	6	..	4 (6)	..	.....
IX.....	8	7	..	0 (3)	1	..	0 (1)	4	4	..	0 (1)	..	.....
X.....	15	13	..	0 (4)	2	..	1 (2)	2	2	..	0 (1)	..	.....
XI.....	13	11	..	0 (5)	1	..	2 (2)	..	..	..	..	..	.....
XII.....	4	3	..	0 (2)	1	..	0 (1)	3	2	..	0 (1)	1	1 (1)	
XIII.....	5	3	..	0 (3)	2	..	0 (2)	4	4	..	0 (4)	..	.....
XIV.....	9	5	2	0 (2)	2	..	1 (1)	1	1	..	0 (1)	..	.....
XV.....	8	8	..	0 (4)	..	..	..	..	..	..	..	..	.....
XVI.....	9	8	..	0 (3)	1	..	1 (1)	..	..	..	..	..	.....
XVII.....	13	10	1	0 (6)	2	1	0 (1)	..	..	1	0 (2)	..	.....
XVIII.....	12	10	..	0 (1)	2	..	1 (2)	4	3	..	0 (1)	1	.....
XIX.....	12	11	..	1 (5)	2	..	0 (2)	5	4	..	0 (2)	..	.....
XX.....	17	14	..	1 (5)	2	..	0 (1)	5	4	1	1 (2)	..	.....
XXI.....	2	2	..	..	..	..	..	2	2	..	0 (2)	..	.....
XXII.....	6	6	..	0 (1)	1	..	0 (1)	2	2	..	0 (1)	..	.....
XXIII.....	4	3	..	..	1	..	1 (1)	..	..	..	..	..	.....
XXIV.....	8	5	..	0 (3)	2	..	0 (2)	..	..	..	..	..	.....
XXV.....	2	..	..	..	2	..	0 (2)	..	..	..	..	..	.....
XXVI.....	1	1	..	0 (1)	..	..	..	..	..	..	..	..	.....
XXVII.....	2	..	..	..	2	..	0 (2)	3	2	..	..	1	0 (1)
XXVIII.....	7	6	..	0 (3)	2	..	0 (1)	3	3	..	0 (2)	..	.....
XXIX.....	1	1	..	..	..	..	..	1	1	..	0 (1)	..	.....
XXX.....	1	1	..	..	..	..	..	..	..	..	..	..	.....
No type.....	81	7	..	1 (6)	..	..	..	38	3	..	0 (1)†	..	.....
Total.....	291*	233	11	15 (116)	47	3	18 (47)	97*	75	7	16 (56)	6	2 (4)	

* Thirteen patients with postoperative and 5 with post-traumatic pneumonia each had two types and 1 with postoperative pneumonia had three types. All the cases appear under each type.

† Parentheses enclose the number of patients in whom such cultures were taken.

‡ Five of these failed to agglutinate with serums for types I to XX, and with the remaining 3 there was no agglutination with types I to XXXII.

§ These were tested with serums for types I to XVIII.

2. A pneumococcus was identified and "typed" from sputum, blood or focal purulent complication during life, or from the blood, lungs or purulent foci at autopsy.

3. The pulmonary infection began within fourteen days of the time of operation or of the injury.⁵

Most of these cases have been included in other studies concerning pneumonia that have been published from this hospital.⁶ Cases occurring in pregnant or

of the present series, with types VI, XX and X next in order among the patients operated on and type II next among the patients having suffered trauma. The "higher" types XXI to XXXII were more frequent in both the present series than among the patients with primary lobar pneumonia.

The incidence of bacteremia among all patients with pneumococcal pneumonia at the Boston City Hospital prior to 1936 was about 36 per cent⁹ and has been somewhat lower during the last two years.¹⁰ In the

4. Hinshaw, H. C., and Moersch, H. J.: Sulfapyridine in Treatment of Pneumonia with Special Reference to Postoperative Pneumonia, Arch. Surg. **39**: 275 (Aug.) 1939.

5. A few cases of post-traumatic pneumonia with a more delayed onset are included.

6. Sutcliffe, W. D., and Finland, Maxwell: Type I Pneumococcal Infection with Special Reference to Specific Serum Treatment, New England J. Med. **210**: 237 (Feb. 1) 1934. Finland, Maxwell, and Sutcliffe, W. D.: Infections with Pneumococcus Type III and Type VIII, Arch. Int. Med. **53**: 481 (April) 1934. Finland, Maxwell, and Dowling, H. F.: Pneumococcus Type II and Type V Infections, ibid. **58**: 598 (Oct.) 1936. Finland, Maxwell; Rueggesser, J. M.; Dowling, H. F., and Tilghman, R. C.: Infections with Pneumococcus Type VII, Am. J. M. Sc. **193**: 48 (Jan.) 1937. Finland, Tilghman and Finland, R. C.: Finland, Brown and Rueggesser, A. Finland, Spring and Lowell.¹¹ Finland, Lowell and Strauss.¹²

7. Finland, Maxwell, and Dublin, T. D.: Pneumococcal Pneumonia Complicating Pregnancy and the Puerperium, J. A. M. A. **112**: 1027 (March 18) 1939.

8. Finland, Maxwell; Brown, J. W., and Rueggesser, J. M.: Anatomic and Bacteriologic Findings in Infections with Specific Types of Pneumococci, Including Types I to XXXII, Arch. Path. **23**: 801 (June) 1937. Rovenstine and Taylor.¹³ King.¹⁴ Finland.⁹

9. Finland, Maxwell: The Significance of Specific Pneumococcus Types in Disease, Including Types IV to XXXII (Cooper), Ann. Int. Med. **10**: 1531 (April) 1937. Tilghman and Finland.¹¹

10. Finland, Maxwell; Lowell, F. C., and Strauss, E.: Treatment of Pneumococcal Pneumonias with Sulfapyridine, Sulfathiazole and Serum, Ann. Int. Med. **14**: 1184 (Jan.) 1941. Finland, Spring and Lowell.¹¹

present series, pneumococci were recovered from the blood in 21 per cent of patients with postoperative pneumonia and in 30 per cent of those with post-traumatic pneumonia from whom blood cultures were taken.

These observations suggest that, for the most part, the pneumococci identified are etiologically related to the pulmonary infection in the present series. They also indicate that post-traumatic pneumonia resembles typical pneumonia more closely than does postoperative pneumonia. They suggest further that patients with postoperative pneumonia may be more susceptible to pneumococci than those with post-traumatic pneumonia and therefore are more likely to become infected with the types of pneumococci most commonly found in the upper part of the normal respiratory tract.

SEASONAL INCIDENCE

The distribution of all the cases of postoperative and post-traumatic pneumococcic pneumonia is shown in the accompanying chart according to the months of the year in which the pneumonia occurred. The monthly distribution of all patients with pneumococcic pneumonia treated at this hospital during the year 1938-1939¹¹ and the percentage of all operations performed during each month of a representative year (1935) are also shown on the chart for comparison. The seasonal variations in incidence in the present series are thus seen to be essentially similar to those of all pneumococcic pneumonias except that the peaks and the depressions are less marked. The highest incidence of all three pneumonia series occurred during the first four months of the year, while a somewhat greater percentage of operations was performed during the spring and summer than during the fall and winter months. During the six months from November through April there were admitted 70 per cent of all patients with pneumococcic pneumonia, 63 per cent of all with postoperative and 60 per cent of those with post-traumatic pneumonia, while 46 per cent of all operations were performed during the corresponding six month period. Similar seasonal variations have been reported by other writers,¹² although King was more impressed with the lack of parallelism in his cases of postoperative and of lobar pneumonia.¹³

SEX

Pneumococcic pneumonia is predominantly a disease of males. Only about 30 per cent of all the patients with pneumonia at this hospital were females.¹⁴ This was true in the present series: Seventy-seven (28 per cent) of the postoperative and 10 (11 per cent) of the post-traumatic pneumonias occurred in females.

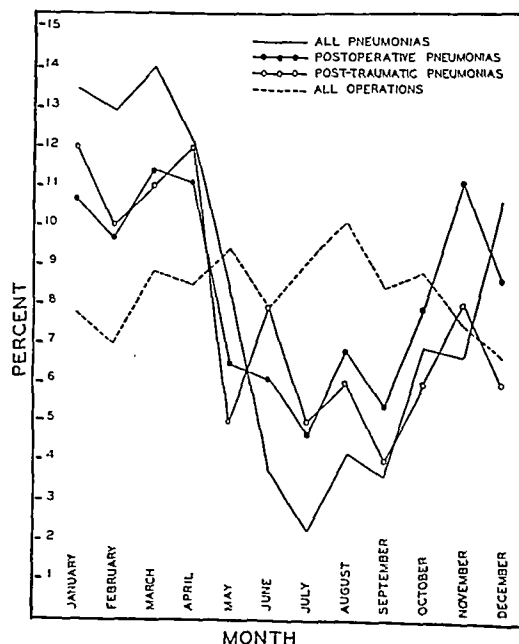
AGE

The distribution of cases according to age is shown in table 2. Only the small number of children in whom bacteriologic studies were carried out are included here, but the incidence in the first decade cannot be considered reliable, since such studies were undertaken

only infrequently. Beginning with the second decade, the age distribution of the patients in both series is essentially similar to that of all pneumococcic pneumonias at this hospital.¹⁴ Two thirds of all the postoperative pneumonias were in persons between 20 and 59 years old, and three fourths of all the patients with post-traumatic pneumonias were between 30 and 70 years of age. The mortality in the cases of postoperative pneumonia, which of course includes the deaths due to the underlying disease and to the operations, as well as that of the complicating pneumonia, showed the usual progressive increase with the advancing decades. The cases of post-traumatic pneumonia in the various decades were too few for analysis but showed the same general trend.

SITE OF OPERATION OR TRAUMA

An attempt was made to determine the incidence of postoperative pneumococcic pneumonias in relation to the site of operation on the basis of the available data.



Seasonal incidence of postoperative and post-traumatic pneumococci pneumonias compared with the monthly distribution of all pneumococci pneumonias and all surgical operations.

The observations are presented merely for purposes of comparison. Only rough estimations were possible, since the cases included here represent only a small portion of the total number that probably occurred during the period covered. This is evidenced by the fact that 16 per cent of the cases of postoperative pneumonia were first discovered at autopsy. With a mortality of about 40 per cent and with permission for autopsy obtained in an average of one third or less of all deaths after surgical intervention it may be conservatively estimated that at least one half of the cases were missed clinically or because of lack of either bacteriologic or radiographic studies. The 279 cases included in the study represent an average of 26 cases per year, and the number of operations performed during this period averaged fifteen thousand three hundred and sixteen annually, giving an incidence of 1 case of postoperative pneumococcic pneumonia in five hundred and ninety operations.

11. Finland, Maxwell; Spring, W. C., Jr., and Lowell, F. C.: Specific Treatment of the Pneumococcic Pneumonias, *Ann. Int. Med.* **13**:1567 (March) 1940.

12. Rovenstine, E. A., and Taylor, I. B.: Postoperative Respiratory Complications: Occurrence Following 7,874 Anesthetics, *Am. J. M. Sc.* **191**:807 (June) 1936. Whipple.¹

13. King, D. S.: Postoperative Pulmonary Complications, *Surg., Gynec. & Obst.* **56**:43 (Jan.) 1933.

14. Tilghman, R. C., and Finland, Maxwell: Clinical Significance of Bacteremia in Pneumococcic Pneumonia, *Arch. Int. Med.* **59**:602 (April) 1937. Finland, Spring and Lowell.¹¹

The frequency with which various types of operations were performed during the period covered by this study was estimated from the total annual number of operations for the entire period and from the complete data that were available for the representative year 1935. The incidence of postoperative pneumo-

TABLE 2.—Age Distribution

Age (Years)	Postoperative Pneumonias			Post-Traumatic Pneumonias	
	Number	Died	Percent- age Died	Number	Died
9 or less.....	6	1	17	3	2
10-19.....	32	4	13	4	2
20-29.....	41	6	15	5	2
30-39.....	43	10	23	21	7
40-49.....	49	25	51	12	6
50-59.....	56	32	57	23	11
60-69.....	29	18	62	14	7
70-79.....	17	13	76	8	4
80-89.....	6	5	83	2	2
All patients.....	279	114	41	92	57

coccic pneumonia was then estimated for each of the various types of operation. The results are summarized in table 3.

The greatest incidence occurred after abdominal operations, which accounted for about two thirds of all the postoperative pneumococcic pneumonias. There were 6.43 cases per thousand such operations. The incidence following operations on the upper part of the abdomen was the highest of all, namely 13.7 cases per thousand operations. The incidence following general abdominal operations and laparotomies was somewhat more than one half, and following operations on the lower part of the abdomen it was about one third as great as after operations on the upper part of the abdomen.

Interference with respiratory movements has been recognized as a major factor in this high incidence of pneumonia following abdominal operations. Overholt

TABLE 3.—Incidence of Postoperative Pneumonia in Relation to the Site of Operation

Site of Operation	Cases of Postoperative Pneumococcal Pneumonia	Percent- age of Postoperative Pneumococcal Pneumonia	Estimated Percent- age of all Operations Performed	Estimated Pneumococcal Pneumonia per Thousand Operations
Upper part of abdomen..	55	19.7	2.4	13.7
Abdomen, general.....	27	9.7	2.2	7.22
Lower part of abdomen..	101	36.2	15.7	4.91
Rectum.....	3	1.1	2.3	0.74
Genitourinary tract.....	17	6.1	2.2	5.10
Female perineum.....	2	0.7	6.3	0.18
Extremities.....	9	3.2	11.4	0.46
Tonsils and adenoids.....	11	3.9	21.9	0.28
Dental.....	12	4.3	24.7	0.29
Upper part of respiratory tract (except as above)	6	2.2	5.9	0.71
Lower part of respiratory tract.....	4	1.4	0.4	6.15
Neck.....	10	3.6	1.4	2.50
Head (except as above)..	22	7.9	2.1	4.65
	279	100.0	98.0*	

* Operations on breast, chest wall, skin, spine and esophagus constituted an additional 2 per cent of operations.

and Ross¹⁵ and Sutcliffe and Steele² called attention to the elevation of the diaphragm which follows abdominal operations. Churchill and McNeil¹⁶ found that the

average percentage reduction of the vital capacity following operations on the gallbladder was 75 per cent, on the appendix 50 per cent and on hernias 55 per cent. Lemon,¹⁷ working with dogs under general anesthesia, had previously found that, except in the Trendelenburg position, indicators (dyes) placed in the mouth or nasopharynx reached all parts of the lungs. Churchill and McNeil concluded that, with diminished respiration, aspirated material was not expired and infection followed. This hypothesis is consistent with the seasonal incidence of postoperative pneumonia, since the prevalence of virulent pneumococci in the upper part of the respiratory tract of healthy carriers parallels the incidence of pneumococcic lobar pneumonia.¹⁸

Pneumococcic pneumonia was a relatively frequent complication of operations on the urinary tract, the incidence being 5.1 cases per thousand such operations. This high incidence may be related to the age of this group of patients, which averaged 58 years as compared with an average age of 43 years for the entire

TABLE 4.—Type of Injury in Cases of Post-Traumatic Pneumococcic Pneumonia

Injury	Number of Cases
Fractured ribs { Alone.....	28
{ With other fractures.....	3
Other injuries to the chest.....	10
Fractured skull.....	5
Other injuries of the head.....	12
Fractures { Skull.....	5
{ Pelvis.....	6
Other fractures and contusions.....	5
Burns.....	11
	6
Total.....	92

series. Chronic respiratory disease, manifest or latent, is also frequent in such cases.

Operations on the head preceded 7.9 per cent of the pneumonias of this series, with an incidence of 4.65 cases per thousand operations. A bone flap of the skull was done in 73 per cent of these operations, which were usually prolonged and frequently associated with a depression of respiration.

Operations on the lung constituted a small proportion of all operations, but pneumonia was a relatively frequent sequel. The low incidence of pneumonia following dental operations, tonsillectomies and operations on the upper part of the respiratory tract (0.29, 0.28 and 0.71 cases respectively per thousand operations) is of some interest. Myerson¹⁹ showed that 76 per cent of patients having tonsillectomies under light general anesthesia aspirated some of the materials from the field of operation. Nesbit and Ochsner²⁰ placed iodized oil in the mouths of patients who had local anesthesia in the tonsillar region and later demonstrated the oil in the lungs by roentgen rays in every instance. However, in the large group of patients with tonsillectomies, dental operations or operations on the upper part of the respiratory tract, in which the chances

17. Lemon, W. S.: Aspiration, Arch. Surg. 12: 187 (Jan., pt. 2) 1926.
18. Heffron, Roderick: Pneumonia, with Especial Reference to Pneumococcus Lobar Pneumonia, New York, The Commonwealth Fund, 1939, p. 378.

19. Myerson, M. C.: Pulmonary Aspects of Tonsillectomy Under General Anesthesia, Laryngoscope 32: 929 (Dec.) 1922.

20. Nesbit, Wellwood, and Ochsner, Alton: Pulmonary Abscess Following Tonsillectomy, Arch. Otolaryng. 6: 330 (Oct.) 1927.

15. Overholt, R. H., and Ross, V. J.: The Incidence, Character and Significance of Abnormal Physical Signs in the Chest Occurring After Major Surgical Operations, New England J. Med. 208: 242 (April 20) 1933.

16. Churchill, E. D., and McNeil, D.: The Reduction of Vital Capacity Following Operation, Surg., Gynec. & Obst. 44: 483 (April, pt. 1) 1927.

of aspiration were great, the incidence of pneumonia was low, presumably because the respiratory movements were not affected.

The sites of injury in the cases of post-traumatic pneumonia are listed in table 4. Most frequent were the cases in which the trauma resulted in interference with respiration, namely those of fractured ribs or other injuries to the chest. These accounted for 45 per cent of the cases. Serious injuries to the head, including fractured skulls, were next in frequency, accounting for 18 per cent of the post-traumatic pneumonias.

TYPE OF ANESTHESIA

The effect of various types of anesthesia on the incidence of postoperative pneumococcal pneumonia was analyzed for a two and one-half year period. For this purpose all operations in which general inhalation anesthesia had been employed were considered together and, for better comparisons, the tonsillectomies, almost all of which were done under light anesthesia with ether, were excluded. The frequency with which post-

TABLE 5.—Type of Anesthesia Used in Cases of Postoperative Pneumonia

Type of Anesthesia	Estimations Based on Anesthetics Used in 14,572 Operations in a 2½ Year Period					
	Postoperative Pneumococcal Pneumonias		Percentage of Estimated Postoperative Pneumonias		Percentage of Estimated Postoperative Pneumonias per Thousand Anesthetics	
	Number	Percentage	of Operations	for this Period	Thousand Anesthetics	
Inhalation.....	125	44.8	38.8	43.3	6.1	
Spinal.....	97	34.8	32.0	46.3	5.4	
Local or intravenous.....	44	15.8	29.2	10.4	1.6	
None or not stated....	13	4.6	....	....	...
Total.....	279	100	100	100		

operative pneumonia followed the use of various types of anesthesia is shown in table 5. There was little difference between the incidence after spinal and after inhalation anesthetics. Local anesthetics, which were associated with the lowest incidence of pneumonia, were used primarily in brief or minor operations and rarely in general surgical operations on the abdomen.

Several observers²¹ have noted a direct relationship between the duration of anesthesia and the incidence of postoperative pulmonary complications. Taylor²² also noted an increase in incidence related to the depth of anesthesia when general inhalation methods were used and, in the cases of spinal anesthesia, when there was intercostal paralysis. These factors were not studied in the present cases, but it is apparent that the operations on the upper part of the abdomen and the head, neck and lungs were the longest operations and were accompanied by the greatest incidence of postoperative pneumonia.

Robertson,²³ in producing experimental pneumonia in dogs by the intrabronchial injection of pneumococci in starch suspensions, found that pulmonary consolidation could be established much more regu-

larly in animals that had been given a preliminary injection of morphine. This drug and other sedation were used in almost every instance both preoperatively and postoperatively in the present cases, particularly in those groups of cases in which pneumonia was most frequent.

TABLE 6.—Onset of Pneumococcal Pneumonia in Relation to Operation or Injury

Days from Operation or Injury to Onset of Pneumonia	Postoperative Pneumonias			Post-Traumatic Pneumonias		
	Number of Cases	Percentage Died	Percentage of Cases	Number of Cases	Percentage Died	Percentage of Cases
1.....	92	46	50	30	13	43
2.....	87	28	32	5	2	40
3.....	35	11	31	8	2	25
4.....	13	5	38	4	2	50
5.....	14	6	43	4	1	25
6 to 14.....	38	18	43	14	10	10
15+ or unknown....	..	..	..	31*	16	52
Totals.....	279	114	41	92	37	40

* Onset was more than two weeks after the injury in 10 of these patients; in the others, mostly alcoholic patients, the exact time of injury was not certain but was probably shortly before admission to the hospital.

ANTECEDENT INFECTION OF THE RESPIRATORY TRACT

A definite history concerning infections of the respiratory tract preceding the operation or injury was recorded in only 95 cases of postoperative and 47 cases of post-traumatic pneumonia. Twelve of the former and 11 of the latter presented acute infections of the respiratory tract, such as coryza or bronchitis, at the time of operation or injury or within the preceding ten days. An additional 11 cases of postoperative and 5 of post-traumatic pneumonia presented chronic infections of the respiratory tract which were more or less active at the time. This gives a total incidence of 24 per cent antecedent infections of the respiratory tract among the former and 34 per cent among the latter, if one considers only those cases in which the data were recorded. It is fair to assume, however, that such

TABLE 7.—Duration of Acute Febrile Illness in Cases of Postoperative and Post-Traumatic Pneumococcal Pneumonia

Days	Postoperative		Post-Traumatic	
	Recovered	Died	Recovered	Died
1.....	5	14	1	1
2.....	21	22	6	3
3.....	23	8	5	2
4.....	18	12	5	2
5.....	24	6	3	5
6.....	5	9	3	1
7.....	13	3	3	2
8 to 10.....	21	11	9	4
11 to 14.....	15	8	10	1
15+.....	12	19	3	7
Indeterminate.....	8	2	7	6
Total.....	165	114	55	27

infections were not present among the remaining cases of postoperative pneumonia even though entry of this fact was not made in the records, so that the actual incidence was considerably lower in this group. Since, according to various authors, so-called "primary" pneumococcal lobar pneumonia is preceded by minor infections of the respiratory tract in from 40 to 80 per

21. Eliason, E. L., and McLaughlin, Charles: Postoperative Pulmonary Complications, Surg., Gynec. & Obst. 55: 716 (Dec.) 1932. Rovenstine and Taylor.²² Taylor, Bennett and Waters.²³

22. Taylor, I. B.; Bennett, J. H., and Waters, R. M.: Anesthesia at the Wisconsin General Hospital: A Three Year Statistical Report: I. Anesthetic Methods and Postoperative Respiratory Complications, Anesth. & Analg. 16: 187 (July-Aug.) 1937.

23. Robertson, O. H.; Coggeshall, L. T., and Terrell, E. E.: Experimental Pneumococcus Lobar Pneumonia in Dog: III. Pathogenesis, J. Clin. Investigation 12: 433 (March) 1933.

cent of cases,²⁴ this factor, as pointed out by King,¹³ is probably of only minor importance in postoperative pneumonia. Unfortunately, data concerning the incidence of antecedent minor infections of the respiratory tract in all cases in which operation was done are not

TABLE 8.—*Character and Location of Pulmonary Lesion in Cases of Postoperative and Post-Traumatic Pneumococcic Pneumonia*

	Postoperative Pneumonias		Post-Traumatic Pneumonias	
	Lobar	Atypical	Lobar	Atypical
Single lobe:				
Lower, right lung.....	39	44	16	6
Lower, left lung.....	24	20	11	6
Middle, right lung.....	2	..	..	..
Upper, right lung.....	7	..	4	1
Upper, left lung.....	4	..	..	..
Multiple lobes:				
Unilateral.....	15	9	8	3
Bilateral.....	9	106	8	29
Total.....	100	179	47	45
Incidence, percentage.....	36	64	51	49

available for this hospital or in King's cases. It is of interest that with respect to this factor, as with others already mentioned, the post-traumatic pneumonia resembled primary pneumococcic pneumonias more closely than did the postoperative pneumonias.

RELATION OF OPERATION OR INJURY TO ONSET OF PNEUMONIA

About three fourths of the postoperative pneumonias began within the first three days after the operation, and the onset was delayed for more than five days in only 14 per cent of the cases (table 6). Among the cases of post-traumatic pneumonia, the disease began within the first three days of the injury in about half, and the onset of the pulmonary infection was delayed in this group more frequently than among those of postoperative pneumonia.

DURATION OF THE PNEUMONIA

The duration of the pneumonia (table 7) varied considerably among the cases of recovery and those of fatal pneumonia in each group. In general, the course of the pulmonary infection was shorter in the postoperative pneumonias than in those which followed trauma. Among the former, the duration of the acute febrile phase of the pulmonary infection was five days or less in 55 per cent of the cases in which recovery occurred, and 54 per cent of the cases were fatal within five days of the onset of the respiratory complication. Among the cases of post-traumatic pneumonia, the acute febrile stage of the disease lasted a week or more in over half of both the cases in which recovery occurred and those with a fatal outcome.

CHARACTER AND EXTENT OF THE PULMONARY LESION

As in previous studies,⁶ the pulmonary lesion in each case was classified as lobar pneumonia or atypical pneumonia (bronchopneumonia) according to the best available evidence. The numbers of cases falling into each of these categories and the extent of involvement of the lung are shown in table 8. It is seen that 36 per cent of the cases of postoperative pneumonia were lobar pneumonia, as compared with 51 per cent of the cases

of post-traumatic pneumonia. In this respect, therefore, the pneumonias consequent on trauma again simulated primary pneumococcic pneumonias more closely than did those occurring postoperatively.

About two thirds of the cases of lobar pneumonia in both the postoperative and the traumatic series showed only a single lobe involved. There was no striking correlation between the incidence of involvement of the upper lobe and the site of operation among the cases of postoperative lobar pneumonia in which only one lobe was involved. Of 24 cases in which a single lobe consolidated after an operation above the patient's diaphragm, an upper lobe became involved in 4 (or 1 in 6 cases), while among 54 similar cases after operations below the diaphragm the pneumonia involved an upper lobe in 7 instances (1 in 7.7 cases).

The lobar pneumonias that followed operations on the stomach and gallbladder are of some interest in this respect. There were only 4 cases in which an operation on the gallbladder was followed by lobar pneumonia; in all 4 the lower lobe of the right lung was involved, and in 3 of them it was the only lobe affected. Of the 10 cases of lobar pneumonia complicating gastric operations, the lower lobe of the left lung was involved in 7, and the lesion was confined to that lobe in 5 of them. The pneumonia was limited to the lower lobe of the right lung in 2 of the remaining cases and to the upper lobe of the right lung in the third. In the cases in which cholecystic operations were followed by atypical pneumonia, the lesion involved primarily or predominantly the lower lobe of the right lung in every instance. Among the atypical pneumonias following gastric operations, the lower lobes of both lungs were involved in half the cases and the lower lobe of the left lung was involved alone in 9 of 15 cases in which the lesion was chiefly confined to one lobe.

These data suggest that local interference with respiratory movements may have a determining effect on the site of the pneumonia following operations. This is equally true for the post-traumatic pneumonias. There were 29 cases of lobar pneumonia following injuries to one side of the chest, and the pneumonia involved the injured side in every one of them.

TABLE 9.—*Postpneumonic Complications*

Complication	Postoperative Pneumonias (279 Cases)		Post-Traumatic Pneumonias (92 Cases)		Incidence Among 1,034 Cases of Pneumococcic Pneumonia, ¹¹ Percentage
	Number	Incidence, Per-centage	Number	Incidence, Per-centage	
Empyema.....	13	4.7	7	7.6	3.6
Sterile pleural effusion	4	1.4	..	..	1.9
Pericarditis.....	2	0.7	..	..	0.9
Endocarditis.....	1	0.4	..	..	1.1
Pulmonary abscess....	3	1.1	..	..	0.9
Purulent arthritis.....	0	..	1	1.1	0.4

POSTPNEUMONIC COMPLICATIONS

The incidence of the more common complications in the postoperative and the post-traumatic pneumonias is listed in table 9, which also shows, for comparison, the incidence of the same complications among all of the 1,034 cases of pneumococcic pneumonia that occurred at the Boston City Hospital during the year 1938-1939. The similarity in the incidence of each

24. Hefron: Pneumonia, p. 236.

of the complications is striking if one considers the numbers of cases involved. The more frequent occurrence of empyema among cases of post-traumatic pneumonias is probably related to the frequency with which these pneumonias followed injuries to the chest, particularly fractured ribs.

TABLE 10.—*Mortality in Relation to Specific Therapy*

Therapy *	Postoperative Pneumonias			Post-Traumatic Pneumonias		
	Number of Cases	Died	Per-centage Died	Number of Cases	Died	Per-centage Died
No specific treatment.....	223 ²⁵	97 ²²	43	67 ¹¹	31 ⁰	46
Treatment with serum.....	22 ⁰	5 ²	23	13 ⁵	2	15
Sulfapyridine.....	29 ¹	8 ¹	29	12 ²	2 ¹	17
Sulfathiazole.....	3	1		0	..	
Sulfapyridine + serum.....	2	1		0	..	

* Superscripts denote numbers of patients with pneumococcic bacteremia (including postmortem blood cultures).

Sulfanilamide was used in the treatment of 19 patients with post-operative pneumonia listed under "no specific therapy" and of 5 listed under "serum therapy"; 8 of the former and 2 of the latter died. It was also used in 1 with fatal post-traumatic pneumonia who is included with the patients who received "no specific therapy."

SPECIFIC TREATMENT

The general treatment of pneumonia in the present series was similar, so far as feasible, to that used in other series of cases of pneumococcic pneumonia. Inhalations of carbon dioxide²⁵ were used sporadically in attempts to prevent or to treat some of the patients with postoperative pneumonias. The results were not impressive and are not analyzed here. Reports of the use of specific serums and, more recently, of sulfapyridine and sulfathiazole in postoperative and post-traumatic pneumonia have been included heretofore with other series of pneumococcic pneumonia.⁶ Most of the patients included in the present series were treated before the advent of effective chemicals, but such drugs were used during the last two years of the study.

The mortality rates of postoperative and of post-traumatic pneumococcic pneumonia are summarized in table 10 according to the various kinds of specific therapy used. The death rates are similar to those obtained in all the so-called secondary pneumococcic pneumonias at this hospital.¹¹ There were fifteen deaths from postoperative pneumococcic pneumonia among 56 specifically treated patients,²⁶ a mortality of 27 per cent as compared with a 43 per cent death rate among 223 patients receiving no specific therapy. The results of specific therapy were even more favorable in the small group of patients with post-traumatic pneumonia. Among the 25 patients of the group who were treated with sulfapyridine or serum there were four deaths, or 16 per cent, as compared with 46 per cent of deaths among the remaining 67 patients who were treated without specific remedies. Of interest is the fact that in both series the mortality of patients treated with specific serums alone was essentially the same as that of those treated with effective drugs, although bacteremia was more frequent

in the serum-treated patients. Similar results were previously reported for all cases of pneumococcic pneumonia at this hospital.¹¹

COMMENT

The facts presented indicate that pneumococcic pneumonias complicating surgical operations or serious injuries do not differ fundamentally from other pneumococcic pneumonias and are primarily the result of infection with the pneumococcus. The seasonal incidence, distribution by age and sex, occurrence of bacteremia and of complications tended to approximate that of other pneumococcic pneumonias. The post-operative pneumococcic pneumonias differed from other pneumonias due to pneumococci in several ways. The percentage of atypical pulmonary lesions was higher, just as in other "secondary" pneumonias. The average duration of the disease was shorter, and the common types of pneumococci, except type III, were less frequent. The cases of post-traumatic pneumonia simulated primary pneumonias more closely in these respects.

The site of operations indicated here by us and elsewhere by others and the length of the operation as shown by Taylor²² are the important predisposing factors. Interference with respiratory movements and depression of respiration were the important factors common to those types of operations which were associated with a high incidence of pneumonia. Localization of the pneumonia to that portion of the lung in which respiratory movements were most affected was strikingly illustrated in the cases following gastric and cholecystic operations and injuries to the chest. These facts and the seasonal incidence suggest that the pathogenesis of postoperative or post-traumatic pneumonia is not unlike that of the experimental pneumonia in dogs.²³

Most important from the practical point of view are the encouraging results of specific therapy. The reduction in mortality from the use of specific serums, and more recently from the use of effective chemicals, was just as striking in the present series of post-traumatic pneumonias as in all the cases of pneumococcic pneumonia. In the postoperative pneumonias the results, while not so striking, were nevertheless impressive and warrant the application of these forms of therapy in all cases.

The logical deduction from these results is that after surgical intervention, particularly when operations are prolonged and anesthesia is deep or when there is interference with respiration, the patient should be observed closely for evidence of infection of the respiratory tract. With the first appearance of such evidence, the patient should be treated as any one suspected of having pneumonia. Sputum should be obtained or cultures of material from the throat taken as soon as possible with the view of identifying and typing pneumococci, and blood cultures should be taken. Careful clinical observation, supplemented whenever possible by roentgenograms, should be carried out and specific treatment with sulfapyridine or sulfathiazole begun as soon as any evidence of pneumonia is obtained. The reduced incidence of gastric symptoms from sulfathiazole²⁷ and the availability of

25. Henderson, Yandell, and Haggard, H. W.: Hyperventilation of the Lungs as a Prophylactic Measure for Pneumonia, *J. A. M. A.* **92**: 434 (Feb. 9) 1929. King, D. S.: Postoperative Pulmonary Complications: II. Carbon Dioxide as a Preventive in a Controlled Series, *J. A. M. A.* **100**: 21 (Jan. 7) 1933.

26. Specific treatment, as used here, includes antipneumococcus serums, sulfapyridine and sulfathiazole but not sulfanilamide.

27. Flippin, H. F.; Schwartz, Leon, and Rose, S. B.: The Comparative Effectiveness and Toxicity of Sulfathiazole and Sulfapyridine in Pneumococcal Pneumonia, *Ann. Int. Med.* **13**: 2038 (May) 1940. Finland, Lowell and Strauss.²⁰

the drugs in soluble form as sodium salts which may be used parenterally are frequently helpful in cases of abdominal disorders. The early attempt to obtain a pneumococcus type will make it possible to use specific serums in those cases in which chemicals are ineffective or are accompanied by excessive, untoward reactions.

Another point may be made. The relative frequency and importance of the pneumococcus as compared with other respiratory pathogens have not been considered here. The significance of organisms other than the pneumococcus, however, is more difficult to establish, and basic data for comparisons are not readily available. It may safely be said, however, that because of the wider range of effectiveness of sulfapyridine and sulfathiazole these drugs should be used in preference to sulfanilamide in all acute pulmonary infections, even though they may be more difficult to administer. One is readily impressed with the number of instances in which physicians persist in using sulfanilamide without obvious benefit in patients with infections of the respiratory tract, particularly when pneumococci are not readily identified, when a change to sulfapyridine or sulfathiazole brings about rapid recovery. Many such cases, after careful study, prove to be due to pneumococci.

SUMMARY AND CONCLUSIONS

The series analyzed in this paper includes 279 cases of "typed" pneumococcal pneumonia complicating surgical operations and 92 such cases occurring after serious injuries.

Interference with respiration appeared to be the most important single factor in the occurrence and localization of the pneumonia in both these groups of cases.

The postoperative pneumococcal pneumonias were essentially similar to primary pneumococcal pneumonia except that (1) the pulmonary lesion was more often atypical (bronchopneumonia), (2) the distribution of pneumococcus types tended to simulate that found in healthy carriers, (3) antecedent infections of the respiratory tract were less frequent and (4) the acute febrile stage of the disease tended to be shorter.

The post-traumatic pneumococcal pneumonias resembled primary pneumonias more closely than did the postoperative pneumonias.

Modern specific therapy, including type specific serums and effective chemicals, notably sulfapyridine and sulfathiazole, was as effective in post-traumatic pneumonias as in primary pneumococcal pneumonias, and these agents were also highly effective in the cases of postoperative pneumonia.

In the present series, specific serums and sulfapyridine were about equally effective.

Infections of the respiratory tract complicating surgical operations or severe trauma should be treated in the same manner as any acute pulmonary infection. Pneumococcus typing should be done and cultures of sputum or of material from the throat and blood cultures taken as soon as a diagnosis of pneumonia is suspected. Chemotherapy with sulfapyridine or sulfathiazole given orally, or their sodium salts given intravenously if necessary, should be instituted, under proper control, as soon as evidence of pneumonia appears. Specific antipneumococcus serum may be given as soon as it is evident that the drug is not effective or not properly tolerated.

PROSTHETIC RECONSTRUCTION OF NOSE AND EAR WITH A LATEX COMPOUND

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Absence of the nose and absence of the ear as a result of disease, trauma or developmental failure are two common types of facial deformities for which restoration is indicated. Obviously, a man or woman who has such a handicap would be extremely grateful for any help which might enable him or her to regain a normal appearance.

Reconstruction by means of plastic surgery is, of course, given first consideration. On the other hand, restoration by prosthetic methods is useful under the following conditions:

1. When the patient is of advanced age.
2. When the patient needs an immediate restoration in order to carry on his or her work after removal of a malignant growth before reconstruction by surgical methods is advisable.
3. When the patient is unable financially to pay for hospitalization for a plastic surgical operation.
4. When operation is considered inadvisable because of the situation or extent of the defect.

QUALITIES OF AN IDEAL MATERIAL FOR PROSTHETIC RESTORATIONS

One of the major problems encountered in making a prosthetic restoration in the region of the face is the finding of a material which will fulfil several essential requirements; for example, if the artificial substitute is not to be noticed by every one it must resemble as closely as possible a normal feature. It must have the appearance of normal skin, with its color, flexibility and translucence, so that the line of junction between the patient's skin and the new nose or ear will be unnoticeable. Furthermore, the new nose or ear must be made of some substance which will not irritate the skin and which is a poor conductor of heat, a substance that is not affected by heat or cold and is not too expensive. Unfortunately, no material has yet been found that meets perfectly all these requirements. A review of the literature on this subject reveals the use of numerous substances for the purpose under consideration.

MATERIALS COMMONLY USED FOR PROSTHETIC RESTORATIONS

The use of vulcanite (the variety used in making artificial dentures) in the reconstruction of noses and other parts in the region of the face was reported by Upham¹ in 1901, Baird,² Baker³ and Ottoby⁴ in 1905 and Kazanjian⁵ in 1925 and 1934. This material is fairly light and very strong, can be manipulated into any desired shape and will last for a long time. Unfortunately, however, it is not possible to obtain a lifelike appearance with vulcanite because it is not translucent. The final product, therefore, must be painted over with

From the Mayo Foundation Museum of Hygiene and Medicine, the Mayo Clinic.

1. Upham, R. H.: Artificial Noses and Ears, Boston M. & S. J. 145: 522-523 (Nov. 7) 1901.

2. Baird, W. H.: An Artificial Nose, Dental Cosmos 47: 560-561 (May) 1905.

3. Baker, Lee: An Artificial Nose and Palate, Dental Cosmos 47: 561-562 (May) 1905.

4. Ottoby, Louis: An Artificial Nose for a Chinaman, Dental Cosmos 47: 558-560 (May) 1905.

5. Kazanjian, V. H.: Dental Prosthesis in Relation to Facial Reparative Surgery, Surg., Gynec. & Obst. 59: 70-80 (July) 1934; footnote 10.

suitable paints to make it resemble the skin. The use of a gelatin-glycerin mixture which has a translucent appearance was introduced by Hennig and described by Zinsser⁶ in 1913. Modifications of this gelatin-glycerin mixture were used by Bercowitsch⁷ and Lederer⁸ in 1928 and Batson⁹ in 1935. Restorations made of this mixture look lifelike because of the translucent quality which the material possesses; however, such restorations last only several days because of the perishable quality of the material.

In contrast to the flexible gelatin-base materials, shell-like reproductions made by the electrodeposition of various metals on a wax pattern have also been used. According to Kazanjian,¹⁰ the use of electroplated copper was introduced by Wood, was later adopted by Ladd and was used for mutilated French soldiers during the World War. Olinger and Axt¹¹ in 1936 reported the successful restoration of an ear and a nose by this method. The advantages of this method lie in the fact that such a restoration can be made light in weight because of its hollow form and can be made to fit perfectly over the defective region. However, this material, like vulcanite, is opaque and cannot be made to look lifelike.

Various types of celluloid, shaped into the form of a nose by pressing the material between a die and a counter die, also have been used with some success.

A COMPOUND PREPARED FROM PREVULCANIZED LATEX FOR PROSTHETIC RESTORATIONS ABOUT THE FACE

The need for a more practical type of prosthetic restoration was brought to my attention by Dr. Gordon B. New, head of the Section on Laryngology and Oral and Plastic Surgery. Dr. New showed great interest in the development of the work which was instituted and has made valuable suggestions from time to time.

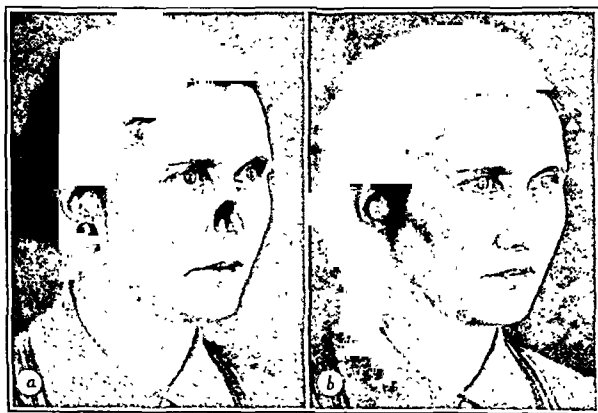


Fig. 1.—a, loss of the major portion of the nose after surgical removal of a grade 2 squamous cell epithelioma; b, patient with prosthetic restoration made from latex compound.

The search for a material which would combine the durability of vulcanite or metal and the translucence of

the gelatin-glycerin mixture led me to experiment with various preparations of latex. It seemed to me that if the technical difficulties of molding or casting an artificial nose or ear out of flexible rubber to correct color, form and translucence could be overcome such a material would be suitable for the making of restorations about the face.



Fig. 2.—a, traumatic loss of the right ear; b, patient with prosthetic restoration.

During the last five years I have used with fairly good success a compound which I have developed, utilizing prevulcanized latex as the basic substance, for making artificial ears and noses for patients referred routinely from Dr. New's section.

The basic material from which all natural rubber goods are made is, of course, latex, the creamy exudate of the rubber tree. In early days, before much was known about chemical aspects of rubber, it was found that this exudate easily coagulated into a gummy mass by the addition of small amounts of acid. This type of coagulated latex or "raw rubber," as it is sometimes called, has none of the durable qualities of modern rubber. It was not until the discovery of the principle of vulcanization by Goodrich in 1839 that a satisfactory rubber was produced from latex. Goodrich discovered that if the gummy mass obtained by coagulating latex was first mixed with small quantities of sulfur and then subjected to high temperatures a definite improvement in the physical properties of the material was noted. The original gummy mass, after vulcanization, became much more durable and was less affected by heat and cold than would otherwise have been the case. Many refinements in the technic of vulcanizing latex have been introduced; for example, the so-called prevulcanized latex which I chose for my experimentation is a new type of liquid rubber which is prepared in such a way that it has the inherent quality of being convertible from a liquid state into a solid, elastic state by the simple process of allowing it to dry in warm air or in a dry plaster of paris mold.¹² This highly ingenious and useful method of preparing liquid rubber consists in vulcanization of the individual particles of the pure liquid latex under controlled conditions, in such a way that the original physical form (liquid) of the latex remains unchanged as long as the latex is kept in a closed bottle in a cool place. It is supplied in this form, ready to be used when needed.

The ingredients used in making the compound, the methods of its manipulation, making of the mold and other technical data have been given in two earlier

6. Zinsser: Ein einfacher Nasenersatz, München. med. Wchnschr. 60: 2734 (Dec. 9) 1913.

7. Bercowitsch, G. G.: Facial Restoration, Dental Cosmos 70: 167-170 (Feb.) 1928.

8. Lederer, F. L.: Prosthetic Aids in Reconstructive Surgery About the Head: Presentation of a New Method, Arch. Otolaryng. 8: 531-554 (Nov.) 1928.

9. Batson, O. V.: Use of Gelatin Prostheses in Facial Restoration, Tr. Am. Acad. Ophth. 40: 317-326, 1935.

10. Kazanjian, V. H.: Treatment of Nasal Deformities with Special Reference to Nasal Prosthesis, J. A. M. A. 84: 177-181 (Jan. 17) 1925.

11. Olinger, N. A., and Axt, E. F.: Surgical Prosthetics of Oral and Facial Defects, Am. J. Surg. 31: 24-37 (Jan.) 1936.

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papers.¹³ Continued success with the use of this material for the restoration of certain facial defects warrants the report of 2 more recent cases:

In the first case is represented the prosthetic restoration of the major portion of the nose (fig. 1) with latex compound, after the surgical removal of a grade 2 squamous cell epithelioma by Dr. F. Z. Havens. The patient wore the artificial nose for more than a year until such time as she was ready for a total rhinoplastic operation, which was also performed by Dr. Havens.

In the second case is illustrated the result of prosthetic restoration of the entire auricle with a latex compound (fig. 2). The patient, a minister aged 38, lost his entire ear in an automobile accident twenty-two years prior to the time of writing. Fortunately, the damage was confined only to the auricle. The cavum conchae, the tragus and the external auditory meatus remained unchanged. These remnants of the auricle were an aid in holding the artificial auricle in place. On June 24, 1940 a cast of the injured side of the face was made, and prosthesis was completed on June 29. Figure 2b shows the result obtained. It is worth while to mention the fact that the artificial auricle, in addition to restoring the patient's appearance to normal, also aided his hearing on the right side, and, furthermore, with the artificial ear in place, his ability to localize the origin of a sound was greatly improved.

THE TREATMENT OF ANTHRAX

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Although the incidence and fatality of human anthrax has decreased in this country during the past ten years, it still remains one of the chief problems of certain industries. Dr. H. F. Smyth, prominent authority on this subject, expressed the belief that the reduced incidence of anthrax is apparent rather than real, since the last ten years have been years of depression, and consequently there has been a reduced number of employees in the industries which usually account for the cases of human anthrax. Then, too, the information obtained from many states is still incomplete and inadequate. Indeed, the records of one of the states do not distinguish between animal and human anthrax.

The fatality rate for this disease is still high, being more than 16 per cent for the five year period 1934-1938, although this was 6 per cent less than the rate in the preceding five year period. The decrease is due to the early diagnosis and better treatment given patients with anthrax in organized industrial clinics.

In the early days, the treatment of anthrax was directed primarily at the destruction or the removal of the external lesion. This was accomplished by strong chemicals, cauterization and excision. It was soon realized, however, that attacking the lesion was not only ineffective but harmful, since it spread the infection to the surrounding tissues. In the absence of a better remedy, this practice was continued until 1876, when Koch discovered the anthrax bacillus as the causative

agent. His discovery opened a new avenue of approach, so that Pasteur successfully vaccinated animals against anthrax in 1880. Pasteur's work was followed by Marchoux's antianthrax serum in 1895. In 1903 Sclavo produced a serum which met with immediate and wide success. Subsequently this serum was modified by many investigators both abroad and in this country. Needless to say, the use of antianthrax serum reduced considerably the number of deaths from this disease. However, some physicians combined serum therapy with excision or cauterization in the hope that even better results could be obtained, but this was not the case. Unfortunately, this combined therapy is still being used in certain parts of the United States.

After the introduction of serum other biologic and chemical products were discovered and used. Penna, Bonorino Cuenca and Kraus¹ used normal beef serum with good results. Villegas Ruiz² had similar experiences with the bacteriophage of d'Herelle. Pijper³ obtained excellent results with neoarsphenamine alone. Eurich⁴ has treated more than 200 patients with combined serum and neoarsphenamine, with a mortality rate of 5 per cent. Meschtschaninoff⁵ treated 21 patients with neoarsphenamine, all patients recovering.

It seems to us that the ideal treatment for anthrax should be one which (1) does not harm the patient, (2) produces the lowest mortality rate, (3) causes the shortest absence from employment, (4) is the least expensive and (5) is easily given. There are several products used today which fulfil these ideals. They are (1) antianthrax serum, (2) neoarsphenamine and (3) serum plus neoarsphenamine. A few patients have been treated with sulfanilamide but not in sufficient numbers to allow adequate appraisal.

In 1932 one of us (P. F. L.)⁶ reported the serum treatment of 19 patients with anthrax without a fatality. At that time several patients had been given neoarsphenamine with good results, but the number was too small to speak about. Since then an additional group of 48 patients has been treated at the Philadelphia Hospital for Contagious Diseases. Nineteen received serum, 15 serum and neoarsphenamine, 10 neoarsphenamine, 3 sulfanilamide and 1 sulfanilamide, neoarsphenamine and serum. All the patients had the cutaneous form of anthrax, and all but 1 had blood cultures negative for the anthrax bacillus. The lesions were found primarily on the face and neck, secondarily on the forearms. Other parts of the body involved were the chest, hands, wrist, axilla and back (table 1). Thirty-eight of the patients were employed in the wool, leather and hair industries (table 2). The average age of the group was 40.8 years, the youngest being 19 and the oldest 78 (table 3).

On admission to the hospital the patient was seen by a member of the resident staff and treatment prescribed. If the patient's general condition was poor, if the lesion had been manipulated, if internal anthrax was suspected or if the lesion was on the face, serum was given; otherwise the patient received neoarsphenamine alone or in combination with serum or sulfanilamide.

The initial dose of serum was 100 to 150 cc. given intravenously and repeated in twenty-four, forty-eight

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2. Villegas Ruiz, J. de D.: Gac. méd. de Caracas 23: 324, 1926.

3. Pijper, Adrianus: Lancet 1: 88 (Jan. 9) 1926.

4. Eurich, F. W.: Brit. M. J. 2: 50 (July 8) 1933.

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6. Lucchesi, P. F.: Am. J. M. Sc. 183: 795 (June) 1932.

and seventy-two hours, as the case warranted. Injection of serum about the lesion has been discontinued since 1932 at the Philadelphia Hospital for Contagious Diseases. Nineteen of the patients received an average of 358 cc. of serum in two and three-tenths injections. The smallest dose was 100 cc. and the largest 1,200 cc. (given a patient whose blood showed the presence of the anthrax bacillus). The average duration of the disease on admission was five days; the average number of days confined to the hospital, fourteen and seven-tenths. This was three and seven-tenths and two and six-tenths days more than in the groups receiving neoarsphenamine and serum and neoarsphenamine respectively (table 4).

The initial dose of neoarsphenamine was 0.6 Gm., 0.9 Gm. being given the next day, and this dose repeated in twenty-four hours if necessary. In a few cases 0.45 Gm. was given as the initial dose. This was followed at twenty-four hour intervals by 0.6 and 0.9 Gm. The average amount of neoarsphenamine given the 10 patients in this group was 2.3 Gm. No untoward or toxic reactions were experienced by any of the patients. The lesions dried more quickly, as could be noted by the formation of a black eschar. Chills and aching sensations noted after the injection of serum were absent in this group.

The average duration of the disease in this group on admission to the hospital was three or two days less than in either the serum or the serum and neoarsphenamine group. Fifteen patients received serum and neoarsphenamine. The combined dose of these agents was smaller than that for either the serum or the neoarsphenamine group. The average dose of serum was 200 cc. and of neoarsphenamine 1.4 Gm., in contrast to an average of 358 cc. and 2.3 Gm. for the serum and neoarsphenamine groups respectively.

Sulfanilamide was given to 3 patients. Two of these had been given the drug before admission for periods of one and four days with total doses of 60 grains (4 Gm.) and 250 grains (16 Gm.) respectively. In both it was necessary to use serum after admission.

TABLE 1.—Location of Lesion

Face.....	12	Hand.....	3
Forearm.....	17	Axilla.....	1
Neck.....	10	Wrist.....	1
Chest.....	3	Back.....	1
Total.....	48		

TABLE 2.—Occupation of Patients

Leather industry.....	16
Wool industry.....	17
Hair industry.....	5
Miscellaneous:	
Stevedore, handling rawhides.....	4
Brush peddler.....	1
Hardware store proprietor (brushes ?).....	1
Carpet weaver.....	2
Truck driver.....	1
Housewife (hu).....	1
Total.....	48

The third patient presented a well localized, small lesion, and it was decided to treat him with sulfanilamide alone. His course is briefly summarized:

L. K., a man aged 20, a textile worker, was admitted to the hospital with a typical anthrax lesion of four days' duration on his right forearm. Both a smear and a culture of material from the lesion showed anthrax bacilli, the patient's blood culture being negative for the organism. Treatment consisted of

sulfanilamide alone, given in the dose of 30 grains (2 Gm.) initially followed by 15 grains (1 Gm.) every four hours. On the fourth day of administration nausea, abdominal pain, vomiting and fever occurred. The possibility of gastrointestinal anthrax was feared, but to our relief cultures of the stool proved negative and all symptoms disappeared after sulfanil-

TABLE 3.—Age Incidence

	Years
Average age.....	40.8
Youngest age.....	19
Oldest age.....	78

TABLE 4.—Incidence of Therapy*

	Serum	Serum and Neoarsphenamine	Neoars- phenamine	Sulfanil- amide
Total number receiving...	19	15	10	3
Average amount.....	358 cc.	200 cc., 1.4 Gm.	2.25 Gm.	
Smallest amount.....	100 cc.	100 cc., 0.3 Gm.	1.35 Gm.	
Largest amount.....	1,200 cc.	450 cc., 2.6 Gm.	3.00 Gm.	
Average number of injections.....	2.3	2	3	
Smallest number of injections.....	1	1	2	
Largest number of injections.....	6	3	4	
Average day on admission.....	5.0	5.1	3.0	6.6
	14.7	12.1	11.0	13.6
	8.0	7.0	8.0	3.0
Longest hospital days....	46.0	18.0	14.0	24.0

* One patient who received all three forms of therapy was not included in the table.

amide was discontinued. The lesion involuted slowly, however, and the patient was confined to the hospital for twenty-four days; cultures of material from the lesion remained positive for anthrax until the twentieth day of hospitalization, an unusually long time in our experience.

While the number of patients treated is too small for conclusions we have a definite clinical impression that the patients treated with sulfanilamide did not fare as well as the others and complained of more discomfort, which disappeared only after the drug was discontinued.

One patient had had the lesion incised and had been given 60 grains (4 Gm.) of sulfanilamide before admission. This patient was severely ill on admission and was therefore given serum. Severe serum sickness developed several hours after the injection; as a result he was given neoarsphenamine instead of more serum.

COMMENT

The 48 patients reported in this paper, together with the 19 previously reported by one of us, make a total of 67 patients treated without a fatality, although 2 had an infection of the blood stream. This fortunate experience we attribute to the rigid "hands off" policy to which we strictly adhere. We feel certain that some of these patients will get well without treatment if the lesion is left alone. Of the treatment employed in this study we definitely favor the neoarsphenamine, because it best fits the ideals for treatment which we have enumerated previously. However, if the patient is afflicted with the internal type of anthrax, if the blood stream has been invaded or if the lesion is on the face or neck, serum is the agent of choice. If there is any doubt as to the type of treatment desired, one should give serum.

CONCLUSIONS

1. Forty-eight patients with anthrax were treated as follows: (a) 19 with serum; (b) 10 with neoarsphenamine; (c) 15 with serum and neoarsphenamine; (d)

3 with sulfanilamide, and (e) 1 with sulfanilamide, serum and neoarsphenamine.

2. Neoarsphenamine gave the best results in selected cases.

3. The dictum "hands off the local lesion" should be strictly adhered to.

Front and Luzerne streets.

ARTIFICIAL RESPIRATION AND INHALATION

THE PRINCIPLE DETERMINING THE EFFICIENCY OF VARIOUS METHODS

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In the thirty odd years since Schafer¹ introduced prone pressure artificial respiration, this method of resuscitation has come to be used in all English speaking countries to the virtual exclusion of all other manual methods. In this country the Red Cross and the United States Bureau of Mines, through their field agents and by enlisting the collaboration of others, have trained many millions of persons—police, firemen, seamen, miners, boy and girl scouts, college students and others—in this method of resuscitation.

Outside the English speaking countries, however, the Silvester² and other older methods are still extensively used, and various other manual methods—generally modifications of that of Schafer—have in recent years been proposed. All these methods, old and new, were demonstrated by means of photographs and respiratory measurements at the International Congress on Resuscitation and First Aid at Zurich in August 1939.³ One of us participated, and in this paper we shall draw in part on the evidence there presented.

THE ELASTIC RECOIL OF THE CHEST

In all manual methods, expirations are induced by the operator compressing the chest of the patient with his hands, or by pressing the diaphragm up against the bases of the lungs. The Schafer method differs from the others in the fact that this is all that the operator attempts to do. To induce inspirations he merely removes his hands or quickly releases the pressure, it matters not which. The inspirations are therefore wholly due to the elastic recoil of the chest in the intervals between compressions. But in order to permit this expansive force or recoil to come into play the more easily, the patient's arms are once and for all placed as far forward as possible; one of them is bent at the elbow with the head resting on it. The chest is thus brought initially, as far as possible, into the inspiratory position—a feature introduced many years ago by one of us (Y. H.) in work for the first resuscitation commission⁴

and now long since universally adopted as part of the prone pressure method. The technic is therefore extremely simple; it requires much less exertion on the part of the operator than any other method, and it can be maintained longer without fatigue. The one requirement for maximum efficiency is that the tempo shall be slow enough and the intervals between compressions long enough to allow the chest to expand all that it will. In patients with broken ribs prone pressure is the least harmful form of manipulation.

All, or nearly all, the other manual methods attempt to contribute actively to the expansion of the chest by pulling the arms, rolling the body or lifting the shoulders, as Nielsen⁵ does. These methods raise the question whether such manipulations actually do aid in artificial respiration. In other words, is it really possible by any such means to increase the expansion of the chest? To these questions the experiment to which all investigators have resorted has been that of applying artificial respiration to normal men.⁶ The men are told to make no effort to breathe but to submit themselves passively to whatever manipulation the operator applies. Some investigators have measured only the volume of the first few breaths and have claimed an increase by their technic. But this increase is really due only to the discomfort induced in a conscious subject and is followed by a few seconds of apnea. Other investigators⁷ have measured the amount of pulmonary ventilation per minute by means of a gas meter and have found that, if the experiment is continued for several minutes or longer, the volume of air pumped in and out of the lungs is essentially the same under all methods, no matter which one is used and no matter whether a large or only a moderate force is applied.

The fact that the volume of pulmonary ventilation is the same, in spite of wide variations in the technics and exertions of the operator, is at first somewhat surprising. But its correctness is attested by Henderson's observations in work for the first resuscitation commission⁴ nearly thirty years ago. It was then found that, when the volume of air which a normal man breathes in natural respiration and then the amount of artificial respiration that can be induced by the Schafer, Silvester or any other manual method are measured, all these volumes—that of natural breathing and those under the various forms of artificial respiration—are always essentially the same in liters of air per minute.

Similarly, in all the new technics shown at Zurich,³ it was clearly to be seen that the amount of pulmonary ventilation induced was always so near the normal that the patient had no tendency or desire to breathe for himself. But on the other hand—and this is the crucial point—no manual method tested in this laboratory or demonstrated at Zurich, no matter how vigorously applied, has ever produced any considerable degree of overventilation of the lungs, as demonstrated by the fact that when the artificial respiration is stopped the subject, after apnea of only a few seconds at most, immediately begins to breathe again for himself.

From the Laboratory of Applied Physiology, Yale University.

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2. Silvester, H. R.: A New Method of Resuscitating Stillborn Children and of Restoring Persons Apparently Drowned or Dead. *Brit. M. J.*, 1858, p. 576.

3. International Congress on Resuscitation and First Aid (transactions not yet published); Dr. H. Schafer, president, University Klinik, Zurich; Dr. C. J. Mijndieff, general secretary, Wodanstraat 24, II, Amsterdam.

4. Report of the Committee on Resuscitation from Mine Gases, Technical Paper 77, United States Bureau of Mines, Washington, D. C., 1914.

5. Nielsen, Holger: An Oplivningsmetode, *Ugesk. f. læger* 94: 1201 (Dec. 15) 1932.

6. Anderson, N., and Ekström, T.: Die Ventilation bei künstlicher Atmung am Menschen mit der Methode von Schafer und Holger Nielsen, *Skandinav. Arch. f. Physiol.* 83: 211 and 225, 1940 (full literature).

7. Henderson, Yandell: *Advances in Respiration: Modes of Asphyxiation and Methods of Resuscitation*, Williams & Wilkins, 1938, p. 273. Drinker, C. K.: *Asphyxia*, New York, Oxford University Press, 1938, p. 172. Drinker, C. K., and Shaw, L. A.: A Modification of the Nielsen Method of Artificial Respiration, *J. Indust. Hyg.* 17: 243 (Nov.) 1935. Waters, R. M., and Bennet, J. H.: Artificial Respiration: Comparison of Manual Maneuvers, *Anesth. & Analg.* 15: 151 (May-June) 1936.

THE PRINCIPLE DETERMINING THE
VOLUME OF VENTILATION

Evidently, then, in a normal man under experimental artificial respiration it is the man's own metabolism that determines how much pulmonary ventilation he needs, and this is the amount that can be, and is all that can be, induced by any method of manual artificial respiration. Evidently also it is under essentially the same control as natural breathing, the control exerted by the carbon dioxide and oxygen of the blood acting on the respiratory center. Through the work of Hess⁸ it is now recognized that the influence of the respiratory center on the diaphragm and thoracic muscles is largely that of controlling tonus, and it is the tonus of muscles that affords their elasticity, so called—not a mere mechanical elasticity but really an entirely vital property. It is largely for this reason that inhalation of carbon dioxide increases both the volume of natural breathing and the volume of pulmonary ventilation under manual artificial respiration both of a normal man and of one who is unconscious and apneic. Conversely, if a man has overbreathed and has thereby decreased the carbon dioxide in his blood just before he receives manual artificial respiration, very little pulmonary ventilation can be induced. The tonus of the muscles is decreased, and after the chest is compressed it does not expand again with normal vigor. In deep asphyxia a similar decrease occurs. A few minutes after death the chest does not expand at all; tonicity and elasticity are gone. On the other hand, as has recently been shown by Loughed, Janes and Hall⁹ in their important studies on resuscitation from drowning, the efficiency of manual artificial respiration is much increased and the patient is more rapidly resuscitated if the artificial respiration is supplemented by the simultaneous inhalation of carbon dioxide and oxygen. The influence of carbon dioxide on muscle tonus is potent also for the support of the venous return of the circulation and the efficiency of the heart. Continuance of this inhalation for a time after resuscitation should tend also to prevent pneumonia, as it does after carbon monoxide asphyxia.

The principle determining the efficiency of all methods of artificial respiration is thus found to be essentially the same as the principle controlling the volume of natural breathing. It is the influence of the blood gases on the respiratory center that largely determines the tonus of the respiratory muscles; and this tonus is a principal factor in the volume of lung ventilation alike in natural breathing and in artificial respiration. Because of this principle, no manual method—neither prone pressure nor any other—can induce any larger volume of lung ventilation than the tonic elasticity of the body at the moment permits. The reason is that, if any degree of overventilation is induced for even a few seconds, the decrease of the carbon dioxide in the blood induces a decrease in the tonic elasticity of the body with a corresponding decrease in the amount of ventilation that can be produced. All attempts to invent some new method or some modification of an old method that will cause more ventilation than the prone pressure method, which is best merely because it is simplest and easiest to apply, is—and in our opinion will always be—wasted effort. In order to bring this point to a conclusive test, one of us, at the close of

the International Congress on Resuscitation and First Aid, placed in the hands of the executive committee the sum of 100 Swiss francs to be offered as a prize (or rather a challenge) to any one who can devise and demonstrate a manual method which, after application for fifteen minutes, is followed by apnea for three minutes.

BREATHING MACHINES

In physiologic laboratories animals under experiment, after being deprived of the capacity to breathe normally, either by some drug or by section of the vagus nerves, are kept alive by means of artificial respiration. It is generally administered with an air pump or bellows. Similarly in cases of respiratory paralysis at the hospital the patient is kept alive for long periods by means of the Drinker respirator.¹⁰ Neither in the laboratory nor in the hospital, however, are such appliances used for the purpose—strictly speaking—of resuscitation. They do not induce a rapid recovery of the capacity in the animal or man to breathe for himself; indeed, they are not so intended. They maintain life but do not restore the animal or man to normal condition—at least not quickly—as for instance does resuscitation from drowning or electric shock by manual artificial respiration.

It is a surprising fact, yet quite certainly true, that even a rather crude pump or bellows, provided it induces only inspirations under any moderate pressure, always administers almost exactly the amount of pulmonary ventilation that the respiratory metabolism—the exchange of oxygen and carbon dioxide—of the animal requires. With the Drinker respirator also no considerable degree of adjustment is needed; yet the lungs of the patient are neither overventilated nor underventilated. The same protective reaction comes into play as that just described in relation to manual artificial respiration. Under the influence of the blood gases the respiratory center adjusts the tonic elasticity of the diaphragm and thoracic muscles and thus the amount of the recoil of the chest, so that just the required amount of pulmonary ventilation is obtained—no more, no less.

(Note on revision of proof: From evidence presented in the British report on "Breathing Machines," quoted at the end of this paper, it appears probable that, for the maintenance of life under artificial respiration for prolonged periods, it is essential that some parts of the respiratory muscles shall have escaped paralysis and have retained some degree of contractility and tonic elasticity. The report states (pages 55 and 65) that "when poliomyelitis is so severe as to damage the mechanism of respiration" . . . "the results of treatment in a Drinker Respirator are disappointing—in round figures, of every five patients treated, only one is alive eighteen months later.")

SUCK AND BLOW RESPIRATION

Clear and simple as is the principle here involved, nevertheless few seem to have realized it. Just as normal breathing is automatically and accurately regulated to meet the body's respiratory needs, so also artificial respiration, if it is to be effective for resuscitation and not harmful, must be of a form that takes account of this physiologic regulation and respiratory needs. If, for instance, these needs are exceeded, serious injury, or even death, may result. For the study of this harmful

8. Hess, W. R.: Die Regulierung der Atmung, Leipzig, Georg Thieme, 1931.

9. Loughed, D. W.; Janes, J. M., and Hall, G. E.: Physiological Studies in Experimental Asphyxia and Drowning, *Canad. M. A. J.* 40: 423 (May) 1939.

10. Drinker, Philip, and McKhann, C. T.: The Use of a New Apparatus for the Prolonged Administration of Artificial Respiration, *J. A. M. A.* 92: 1658 (May 18) 1929. Drinker, Philip; Shaughnessy, D. J., and Murphy, D. P.: The Drinker Respirator, *ibid.* 95: 1249 (Oct. 25) 1930.

form of artificial respiration and its effects, Henderson and Haggard¹¹ employed such apparatus as that shown in figure 1. Instead of a rhythmic succession of inspirations alternating with pauses to allow the elasticity of the chest to produce expirations, this apparatus induces both inflation of the lungs by positive air pressure and also deflation by negative pressure. And the forced deflation—unless the negative pressure is kept very low indeed—may induce overventilation, injure the lungs and do serious harm. Dogs thus overventilated with positive and negative pressures of 31 cm. water column, in 3 cases for twenty-two, one hundred and ten and one hundred and ninety minutes respectively, in the experiments of Henderson and Haggard,¹¹ exhibited a subsequent progressive fall of arterial pressure and death within a few hours thereafter. The carbon dioxide of the blood, both the content and the capacity or alkali reserve, suffered a great decrease. After briefer, but even more forcible, periods of suck and blow respiration with a double pump, Henderson¹² found that natural breathing failed to return, and the animals died in apnea.

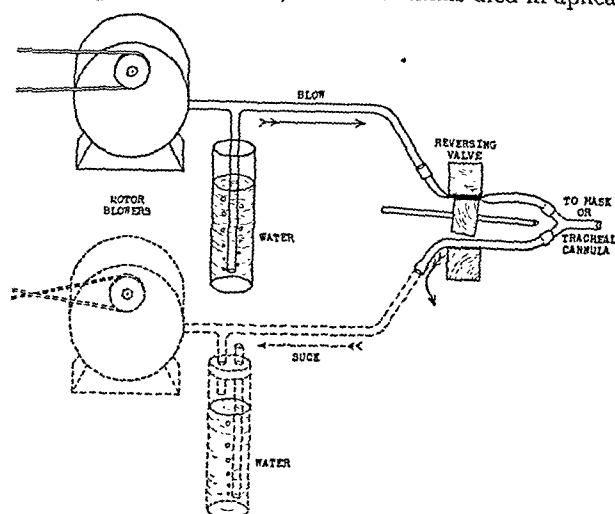


Fig. 1.—Suck and blow artificial respiration apparatus used to apply positive and negative pressures of 15 cm. water column in experiments summarized in columns 1, 2 and 3 of figure 4; used also in previous investigations, with much higher pressures, for the study of the ill effects of forced mechanical ventilation. With this apparatus a man or animal of any size from that of a horse down to that of a mouse can be respiration at any desired rate and with any desired positive and negative pressure. No apparatus on the pulmotor principle—no matter what its construction—can do more. If the parts indicated by the broken lines are omitted, the apparatus becomes a proper single phase respirator such as is commonly used in physiologic laboratories. (A small motor blower convenient for such use is the Eastern laboratory pump, model B, made by the Eastern Engineering Company, New Haven, Conn.)

In some of the experiments on asphyxial dogs that we have here to report we also have employed the suck and blow apparatus of figure 1, but with positive and negative pressures of only 15 cm. water column. With such pressures no serious harm nor any appreciable relief of the asphyxia was induced.

THE PULMOTOR CONDEMNED

As interest developed in regard to resuscitation from the acute asphyxias, the question presented itself whether artificial respiration by means of some mechanical device might not be more efficient than that induced merely by the pressure of the two hands of the operator on the back of an apneic patient. Among the attempts to exploit this possibility the best known is the pulmotor.⁴ In the pulmotor oxygen from a cylinder flowed through a reducing valve and then through an injector

to a face mask, under a sufficient pressure to inflate the lungs. As soon as the lungs were filled sufficiently to resist further distention, the pressure tripped a valve, reversed the direction of flow and sucked out a part of the contents of the lungs—after which the direction of flow was again automatically reversed. At least it was so intended. By this alternation of mechanically induced inspiration and forced expiration it was supposed that any foreign gas would be rapidly sucked out of the blood and replaced by oxygen. The pulmotor made a rubber bag or doll "breathe" quite realistically.

The pulmotor and similar devices were first investigated by the Committee on Resuscitation of 1912-1913,⁴ again by the commission of 1917¹³ and again by that of 1922.¹⁴ Not only the pulmotor but also the principle of suck and blow artificial respiration were condemned on the grounds, first, that expiration forced by negative pressure is unnatural and may be injurious; second, that such apparatus, instead of operating at a rate approximating that of normal breathing, responds to any obstruction in the throat, or to relapse of the tongue when the patient is on his back, by reversing its sucking and blowing phases so rapidly that no appreciable movement of the lungs is induced, and, third and most important, that the first essential for resuscitation from drowning and electric shock is the immediate application of artificial respiration. No apparatus can be applied as quickly as can the manual method.

It was the unanimous opinion of all the commissions that, in all groups in which such apparatus is introduced, training in the manual method tends to be neglected, time is lost while the apparatus is being brought to the patient and—most important of all—even if it is on the spot, the loss of a few seconds, while the mask is being applied and the apparatus is set in operation, may in cases of severe involvement mean the loss of a life which would have been saved by the immediate application of manual artificial respiration. This opinion is now receiving strong support in the resuscitation from electric shock by the "pole top"¹⁵ method of artificial respiration. It avoids the loss of time required to lower the patient to the ground. The investigations of Loughheed, Janes and Hall⁹ on resuscitation from drowning also indicate the supreme importance of immediate artificial respiration and the efficiency of the manual method.

THE PROBLEM OF CARBON MONOXIDE ASPHYXIA

The problem which the first two resuscitation commissions faced was mainly that of how best to bring an apneic—i. e. nonbreathing—patient back again to a state of natural respiration. In drowning and electric shock the period of complete anoxia—deprivation of oxygen—is usually brief, only a few minutes at most. If it is complete for more than four or, at most, five minutes, resuscitation is never effected. But, in the large majority of cases, once the patient is breathing again his life is safe. (In regard to drowning: if the victim can swim even a little, he may last much longer than 5 minutes. But all scientific evidence indicates that in a very few minutes complete anoxia causes irreparable damage to vital centers in the brain.)

In cases of carbon monoxide asphyxia, on the contrary, the main problem is essentially different; yet down to 1922 its nature was scarcely realized. A large proportion of patients in this group are still breathing, although feebly, when removed from the gassing cham-

11. Henderson, Yandell, and Haggard, H. W.: Respiratory Regulation of the CO₂ Capacity of the Blood, *J. Biol. Chem.* 33: 355 (Feb.) 1918.
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13. Third Resuscitation Commission, *Science* 48: 563, 1918.
14. Final Report of the Committee on Resuscitation from Carbon Monoxide Asphyxia, *J. Indust. Hyg.* 8: 125, 1923.
15. Osterreich, E. W.: The Pole Top Method of Resuscitating Linemen After Electric Shock, *Bull. Edison Elect. Inst.* 7: 121 (March) 1939.

ber. For them artificial respiration with air, or even with oxygen, is of little benefit as compared with its importance in drowning and electric shock. It does not by itself alone directly produce a sufficient ventilation of the lungs to induce a rapid elimination of the monoxide from the blood. In many cases the anoxia is not so complete as to cause a quick death; yet in these cases, unless the asphyxiation is quickly terminated by elimination of the monoxide from the blood, the brain is irreparably damaged. The patient then remains unconscious; and he may die many hours after the last trace of the monoxide has gradually diffused out of his blood. The problem of resuscitation from carbon monoxide asphyxia is therefore mainly not one of artificial respiration, although artificial respiration is an important aid in starting the inhalation of a resuscitant mixture of carbon dioxide and oxygen. The prime object is generally rather that of stimulating the already existing natural breathing by means of carbon dioxide and thus inducing so large a volume of respiration that the mass action of the inhaled oxygen may displace the monoxide from the blood as rapidly as possible. The period of cerebral asphyxiation is thus cut short, life is saved and postasphyxial damage is prevented.

For this purpose, in 1922, the inhalation of a mixture of carbon dioxide and oxygen was introduced by Henderson and Haggard.¹⁶ It is now generally used in all civilized countries. In large cities it has decreased the mortality from asphyxia by 50 per cent; and among the patients who receive early treatment the postasphyxial nervous defects that were once common have been almost entirely prevented, as has also pneumonia.

RETURN OF THE PULMOTOR IN THE FORM OF RESUSCITATORS

Americans have great faith in machinery and ingenuity in inventing it. Many suppose that artificial respiration acts mechanically like the cranking of a stalled motor instead of chemically, as it does, like a renewed supply of oxygen to a smothered fire. Accordingly, as soon as it was demonstrated that an increased volume of breathing, under the influence of carbon dioxide mixed with oxygen, is a prime factor in resuscitation from carbon monoxide asphyxia, a number of inventors, acting quite independently of one another, undertook to combine inhalation of the mixture of carbon dioxide and oxygen with mechanical artificial respiration. The various pieces of apparatus developed for this double purpose are generally called "resuscitators." They are intended to induce a more effective artificial respiration than any manual method. A recent advertisement of one of them states that it "eliminates all need for manual artificial respiration."

A number of resuscitators are now offered. Several—particularly the McKesson resuscitator and inhaler and the E & J resuscitator and inhalator—have received some support from clinicians; the latter device has been accepted for trial by the Council on Physical Therapy of the American Medical Association.¹⁷ We have examined all of them. They differ in details of construction but are all ingeniously designed and well constructed. With those matters we are not concerned but solely with the action that they apply to a patient.

This consists of suck and blow artificial respiration essentially like that afforded by the pulmotor. They inflate and deflate a rubber bag exactly as does the pulmotor, and in their action on a patient they are therefore essentially reversions to the pulmotor principle. None of them afford the kind of artificial respiration that is commonly used in physiologic laboratories or that supplied by the Drinker respirator as now used. When first introduced, the Drinker respirator afforded both an active inspiration and a forced expiration, but as experience accumulated the forced expiration was discarded.

The only experimental study on a resuscitator that has been reported is that on the E & J apparatus by Coryllos.¹⁸ He was primarily interested in maintaining artificial respiration during surgical operations in the open thorax; this he found that the apparatus would do. But resuscitation in carbon monoxide poisoning and asphyxia of the newborn were not investigated. Some experiments were made on drowning. Death was found to occur after four or five minutes, as in the experiments of Loughheed, Janes and Hall.⁹ If the E & J resuscitator, supplying oxygen and carbon dioxide, was immediately applied at the fourth minute, resuscitation resulted. A delay of another minute was fatal: a point which Coryllos admits; yet he fails to recognize that the use of artificial respiration apparatus on human victims necessarily involves delays often much longer than one minute.

As regards the use of the E & J resuscitator for prolonged artificial respiration, Coryllos reports that 7 healthy dogs, anesthetized with sodium amytal, but subjected to no other operation nor to any form of asphyxia, were submitted to the action of the apparatus for periods of one to eight hours continuously. Various degrees of shock, acapnia and depression of body temperature were induced, except in 3 which were kept warm with electrical heating pads: they recovered. The other 4 died between twelve hours and five days, and autopsy showed areas of consolidation in the lungs with moderate edema. Although the experiments were performed at the ordinary laboratory temperature, Coryllos considered the chilling, rather than the damage to the lungs and shock, as the fatal factor. We, on the contrary, should regard the fall of body temperature as rather a feature of the shock induced by the damage to the lungs and overventilation of the blood. But no matter whether the fall of temperature was a cause or an effect or both, this much is clear: These experiments by Coryllos again demonstrate, as did the earlier experiments of Henderson and Haggard¹¹ and of Henderson,¹² that prolonged forcible suck and blow artificial respiration may cause injury to the lungs, shock and death.

Coryllos also reports use of the E & J resuscitator on patients who collapsed during surgical operations in the thorax. As the lungs are essentially elastic bags which deflate when the chest is open, there is obvious need in thoracic surgery for some means of keeping them inflated, or reinflating them. For this purpose moderate positive air pressure is needed; but negative pressure is certainly contraindicated. In regard to clinical use of the E & J resuscitator we have received reports of patients with poliomyelitis who were removed for a time from a Drinker respirator, were treated with the E & J apparatus and did not long survive.

16. Henderson, Yandell, and Haggard, H. W.: The Elimination of Carbon Monoxide from the Blood After a Dangerous Degree of Asphyxiation and a Therapy for Accelerating the Elimination. *J. Pharmacol. & Exper. Therap.* 16: 11 (Aug.) 1920; The Treatment of Carbon Monoxide Asphyxia by Means of Oxygen and CO₂ Inhalation. *J. A. M. A.* 79: 1137 (Sept. 30) 1922.

17. E & J Resuscitator and Inhalator Acceptable, report by Council on Physical Therapy. *J. A. M. A.* 112: 1945 (May 13) 1939.

18. Coryllos, P. N.: Mechanical Resuscitation in Advanced Forms of Asphyxia: A Clinical and Experimental Study of the Different Methods of Resuscitation. *Surg., Gynec. & Obst.* 66: 698 (April) 1938.

As regards the use of resuscitators in asphyxia of the newborn, Martinez¹⁹ has reported favorably. He fails, however, to offer any evidence that suck and blow artificial respiration is more effective than the administration of oxygen and carbon dioxide by the gentle positive pressure induced by merely squeezing the breathing bag of a simple infant inhalator without any negative pressure. From the personal communications of competent witnesses we are inclined to believe that in cases of asphyxia pallida the best method of resuscitation is afforded by the administration of oxygen, either alone or with carbon dioxide, by means of intratracheal insufflation.²⁰ (The technic, once acquired, is very simple.) It certainly does not seem like sound therapy to apply negative pressure to infant lungs that are still atelectatic or that, if already partially inflated, may be again collapsed. Equally unjustifiable is it to apply the volume and positive pressure of the "blow" phase of a resuscitator to lungs in which the adherent walls of the little air sacs are easily torn under even a low dilating force. That they are sometimes torn is reported to us by several competent witnesses who have seen such injuries at autopsy. As a number of hospitals now have resuscitators, it is important that additional evidence on this matter should be obtained by more frequent autopsies on nonresuscitated babies.

THE PROS AND CONS OF RESUSCITATORS

No feature of the E & J, McKesson and other resuscitators has done more to gain consideration for such apparatus than the demonstration that with them, as with the pulmotor, a rubber bag may be rhythmically inflated and deflated and a rubber doll made to "breathe" realistically. Yet this demonstration is essentially specious. The bag and doll offer no resistance to inflation until full nor to deflation until empty. A conscious man can indeed generally adjust his breathing to the rhythm of the apparatus, or induce the apparatus to time its phases of suck and blow with his expirations and inspirations; but in unconscious men and animals such cooperation rarely occurs. The tonus of the chest produces sufficient resistance to inflation and deflation to throw the switch, and the apparatus goes into a rapid succession of reversals. In the first case of carbon monoxide asphyxia that one of us saw under treatment with the pulmotor, as in other cases reported later, the comatose patient was breathing at one rhythm and the apparatus was operating at another rhythm—about twice as rapid. It was impeding instead of aiding respiration. With resuscitators this has frequently been seen on asphyxial dogs.

Resuscitators, as now used, differ from the pulmotor in that the latter apparatus administered oxygen diluted with air, while resuscitators generally administer a mixture of oxygen and carbon dioxide. But the use of this mixture does not improve the cooperation of patient and machine. On the contrary, the stimulant action of the carbon dioxide tends to render the respiration of a man or animal even more recalcitrant to mechanical control than if oxygen alone, or mere air, was administered. That such is the case is indicated by the following experiments in which varied gas mixtures were used:

MECHANICAL RESPIRATION IN COMA

The experimental observations here referred to were made on healthy dogs weighing from 7 to 10 Kg. Each

animal was first kept for from twenty to twenty-five minutes in a gassing chamber containing air to which 0.35 per cent of carbon monoxide had been added. At the end of that time every one of the animals had passed through the usual stages of the development of asphyxia and was in coma—completely unconscious and either convulsive or limp. In six of these experiments the asphyxiation was continued until breathing had completely stopped. Three of these animals were then treated with the E & J resuscitator, but unsuccessfully: owing, presumably, to the fact that a few seconds were necessarily lost in removing the animal from the gassing chamber and in adjusting and starting the apparatus. The other 3, on removal from the gassing chamber, were instantly treated with manual artificial respiration and inhalation of carbon dioxide and oxygen. All 3 were revived; and these 3 and a number of others that had not been quite so deeply asphyxiated were then used for the following experiments:

As soon as the risk of immediate death was past and the animal was breathing, although feebly, mechanical artificial respiration was started. Under the influence of the mixture of carbon dioxide and oxygen thus supplied to the lungs the animal's own respiratory efforts quickly became vigorous; but in the large majority of cases—indeed, with only one exception—the rate of natural breathing and the rate at which the apparatus operated were entirely different. There was conflict, instead of cooperation, with the result merely of the waste of a large amount of the resuscitant gases. In a succession of experiments with the E & J resuscitator we recorded the simultaneous rates of natural breathing (N. B.) and those at which the apparatus operated (E. J.) as follows: N. B. 60, E. J. 120; N. B. 30, E. J. 60; N. B. 22, E. J. 120; N. B. 30, E. J. 30; N. B. 8, E. J. 50; N. B. 16, E. J. 72; N. B. 16, E. J. 74.

All forms of suck and blow respiration apparatus—pulmotors, resuscitators, and so on—are, it is claimed, adjustable to the patient's rate of breathing. On normal conscious men such is the case, although more of the adjusting is effected by the subject than by the apparatus. On comatose subjects, on the contrary, both dogs and men, synchronization is much more difficult. The directions which come with the apparatus are to the effect that, after the patient is breathing, the inhalator attachment alone should be used. But in view of the inadequate supply of the resuscitant gas mixture afforded by the inhalator attachment, the patient is more likely to recover if the larger supply afforded by the suck and blow device is continued, even though it conflicts with the natural breathing. In the E & J resuscitator the maximum flow of the resuscitant gas mixture on the inhalator side is only 7 liters a minute, which is about the volume of normal resting respiration; whereas a man under inhalation of carbon dioxide and oxygen will breathe 20 or even 30 liters a minute and needs all of it for the rapid elimination of carbon monoxide from his blood.

This discordance between natural breathing and mechanical artificial respiration is shown graphically in figure 2. The graphs here reproduced were obtained by means of a body plethysmograph (a large glass specimen jar with holes bored for the resuscitator tubes) in which the animal was placed, and a Connell compensator bag²¹ (in place of a tambour) connected with

19. Martinez, D. B.: The Mechanical Resuscitation of the Newborn: A Report of 500 Cases, *J. A. M. A.* 109: 487 (Aug. 4) 1937.
20. Flagg, P. J.: The Treatment of Postnatal Asphyxia, *Am. J. Obst. & Gynec.* 21: 537, 1931.

21. Dr. Karl Connell supplied this instrument, which can record accurately much larger volumes than any tambour can take.

the plethysmograph and writing on a smoked drum. In graph *A* the large waves are the animal's natural breathing; the small waves are the artificial respiration produced by the resuscitator. In graph *B* is shown one of the rare instances in which the resuscitator, applied between the arrows, operated in step with the natural breathing. But comparison of the middle part of the graph with the first and last parts, in which the

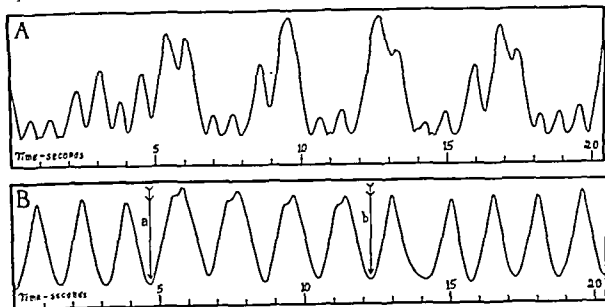


Fig. 2.—Graphic records of the respiration of 2 dogs by means of a body plethysmograph during treatment with the E & J resuscitator administering carbon dioxide and oxygen. In *A* the large waves are natural breaths; the small waves show the conflicting action of the apparatus. In *B* the four respirations between the arrows show the best cooperation between natural breathing and the E & J resuscitator that we were ever able to obtain in any experiment. Yet the unaided natural breaths before arrow *a* and after arrow *b* afford as much ventilation—slightly smaller breaths at a slightly faster rate—as with the assistance of the resuscitator. The inhalator part of the E & J resuscitator affords a flow of gas just large enough for a moderate sized dog under stimulation by carbon dioxide and oxygen but much too small for a man inhaling that mixture.

animal received mere inhalation, indicates that, although the artificial increment rendered breaths slightly larger, it also rendered breathing slightly slower. The amount of pulmonary ventilation per minute was not increased; in fact, as the next section will show, under mechanical respiration it is generally diminished.

THE ELIMINATION OF CARBON MONOXIDE

The prime object of any treatment for carbon monoxide asphyxia, as shown by the investigations of Henderson and Haggard¹⁰ already referred to, is the elimination of the asphyxiant gas from the blood as rapidly as possible. The injury to the brain is determined not merely by the length of time the patient has been in the gassing chamber but even more by the time before elimination is effected. That method is therefore best which will effect the elimination most rapidly. How effective is the method now in general use is shown in figure 3, in which are compared the rates of elimination of carbon monoxide from the blood in deeply asphyxial dogs under four different treatments.¹⁶ The animals had been gassed in a chamber into which enough city gas had been introduced to make a concentration of 0.35 per cent of carbon monoxide. Thereafter one group breathed merely fresh air (i. e. no treatment); a second group received an inhalation of pure oxygen; a third received an inhalation of carbon dioxide diluted with air, and a fourth group received an inhalation of carbon dioxide and oxygen.

The essential feature of the inhalational method is the administration of the stimulant mixture of carbon dioxide and oxygen by means of an inhalator which can supply the mixture up to the largest volume of breathing that the patient may reach: 20 or even 30 liters a minute. The volume should be sufficient and the valves on the mask should be so arranged that there is no rebreathing; for if any of the mixture of carbon dioxide and oxygen that has been inhaled and again exhaled is then again inhaled—as in the inhalator

attachment of some resuscitators—the carbon monoxide that it has taken up from the blood prevents the blood from giving off more of that gas, and the mass action of oxygen on the blood is impeded. Such valves should be used on resuscitators also; they are not under patent or any other restriction but are free for any and all to use.

Using the experiments summarized in figure 3 as a standard of comparison, we now report an extensive series of resuscitations on dogs gassed as described in the preceding section. The object of these experiments was to compare the rates at which carbon monoxide may be eliminated from the blood and resuscitation effected by three different gas mixtures: (a) air, (b) air plus carbon dioxide and (c) carbon dioxide and oxygen. Each was administered by three different methods: (1) by simple inhalation initiated by a few seconds of manual artificial respiration to make sure the animal was breathing; (2) by mechanical respiration with the E & J resuscitator (we have tested three of these apparatus: two of the portable models and one of the hospital type), and (3) by means of the suck and blow artificial respiration apparatus shown in figure 1. This apparatus has the advantage that it can easily be made to operate in step with natural breathing, which the pulmotor and resuscitators rarely do. To attain this coordination, the operator watches the animal and applies positive pressure as the animal inspires and negative pressure simultaneously with expiration. If any breathing machine could augment the volume of natural breathing it would be some such device as this. The results—or lack of beneficial results—obtained with it show that no such augmentation is possible.

In all the experiments the animal's head was enclosed in a mask made airtight by a collar of sheet rubber fitting closely around the neck and tied over the edge of the mask. At the beginning and end of each resuscitative treatment, and at intervals between, blood was drawn from the jugular vein and analyzed for carbon monoxide by the Sayers-Yant method.²² The carbon monoxide was made fresh from formic acid for each experiment.

The results of the administration of air, of air plus carbon dioxide and of the mixture of 5 per cent carbon dioxide and 95 per cent oxygen by simple inhalation

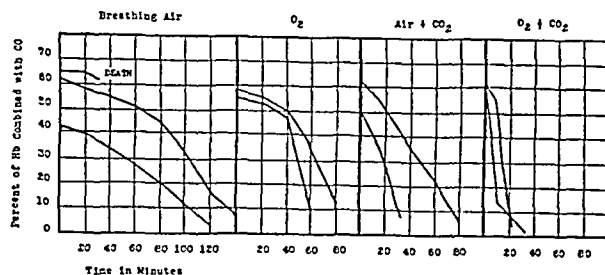


Fig. 3.—Rates of elimination of carbon monoxide from the blood in four groups of dogs, all severely asphyxiated with city gas: (1) untreated, (2) under inhalation of oxygen, (3) under inhalation of carbon dioxide diluted with air and (4) under inhalation of carbon dioxide and oxygen.

and by means of the suck and blow apparatus sketched in figure 1 are shown in the first three sections of figure 4; the results obtained with the E & J resuscitator administering the mixture of carbon dioxide

22. Sayers, R. R., and Yant, W. P.: The Pyrotanic Acid Method for the Quantitative Determination of Carbon Monoxide in Blood and Air, Technical Paper 373, United States Bureau of Mines, Washington, D. C., 1925.

and oxygen are shown in the fourth section. Each line indicates a complete experiment. The solid lines show the rates at which carbon monoxide was eliminated from the blood by natural breathing under simple inhalation. The broken lines show the rates of elimination under the two types of mechanical artificial respiration.

Examination of figure 4 shows that mechanical artificial respiration, even when administered in close harmony of rhythm with natural breathing—first three sections of the figure—does not accelerate the elimination of carbon monoxide from the blood. And in the fourth section it is to be seen that when the artificial respiration is out of time with natural breathing it rather tends to impede the elimination. All the benefit afforded by treatment of an asphyxial animal—and so presumably of an asphyxial man also—by means of mechanical artificial respiration administering carbon dioxide and oxygen is due to the resuscitant gases and not at all to the mechanical method of administration. For the same gas mixture is equally effective or is

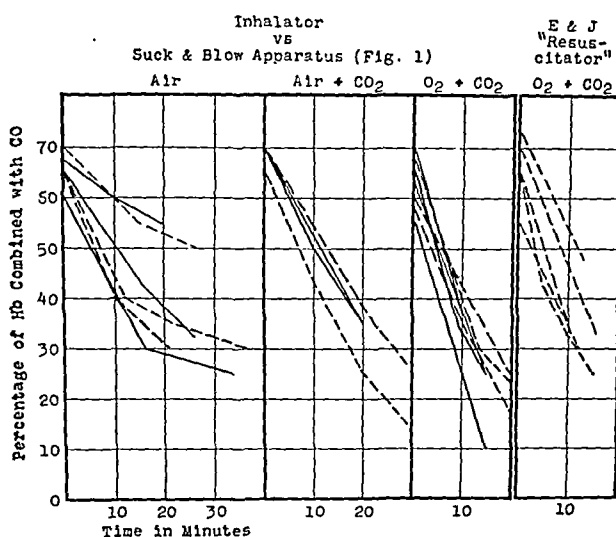


Fig. 4.—Rates of elimination of carbon monoxide from the blood in dogs severely asphyxiated by from twenty to twenty-five minutes in an atmosphere of 0.35 per cent of pure carbon monoxide in air. The solid lines indicate the experiments in which inhalational treatment was given. The broken lines indicate the comparable experiments in which suck and blow artificial respiration was administered either by means of the apparatus shown in figure 1 (first three groups) or by means of the E & J resuscitator (right hand group).

even more effective when it is administered by inhalation. In brief, a resuscitator is merely an inhalator which tends to impede natural breathing by sucking and blowing.

It is now well recognized that inhalation of 7 or 8 per cent carbon dioxide in oxygen induces more rapid resuscitation than does 5 per cent. But, as resuscitators are generally supplied with the 5 per cent mixture, it seemed best to use it throughout our experiments. With the stronger mixture the resuscitator would make an even worse showing; for the more respiration is stimulated to activity by carbon dioxide, the more resistant it becomes to outside mechanical control. In order to administer carbon dioxide and oxygen efficiently the pulmotor, E & J resuscitator and similar devices should be modified to eliminate the suction phase, decrease the pressure of the blowing phase and greatly increase its volume. They would then become efficient resuscitation apparatus, which at present they are not.

SUMMARY

Resuscitation is often thought of as if it were the restarting of a machine that has stopped. Actually, if the vital machine has fully stopped it cannot be restarted; it is not like an automobile motor to be started by "cranking." What resuscitation does—for example in the case of drowning—is to prevent the machine from coming to a full stop. For this purpose the essential is a renewed supply of oxygen while the body still retains some of its tonus and the heart is still beating. Hence the importance of immediate artificial respiration.

The volume of pulmonary ventilation that can be induced under any form of manual artificial respiration is here shown to be controlled by a physiologic principle: the same principle as that which regulates the volume of normal breathing under the influence of the blood gases acting through the respiratory center on the tonus of the respiratory muscles. The prone pressure method of Schafer produces all the pulmonary ventilation that this principle permits. In spite of claims for other manual methods, old and new, none of them can do more. The prone pressure method is the simplest to learn and the easiest to apply; it is therefore the best. It can be started more quickly than any mechanical device—a point of vital importance in resuscitation from drowning and electric shock.

For resuscitation from carbon monoxide asphyxia the point of vital importance is the rapid elimination of the asphyxiant gas from the blood by means of carbon dioxide and oxygen. The experiments here reported were therefore performed on deeply asphyxiated dogs to determine the most effective method of administering the resuscitant gases: whether by mechanical respiration or by simple inhalation. The results show that the volume of pulmonary ventilation which can be safely induced by mechanical artificial respiration is limited by the same physiologic principle as that for manual artificial respiration and is not more, but rather less, than under simple inhalation. The deaths resulting from suck and blow respiration applied to dogs in the experiments of Henderson and Haggard,¹¹ of Henderson¹² and of Coryllos¹⁸ deserve serious consideration. Mechanical respiration has therefore no advantage over inhalation but rather defects that must tend to decrease the saving of lives.

CONCLUSIONS

When natural breathing has stopped, it is restored more effectively by manual artificial respiration than by mechanical respiration.

Mechanical respiration, unless so forcible as to be harmful, does not increase the volume of natural breathing.

Inhalation of carbon dioxide and oxygen increases the efficiency of manual artificial respiration but increases the antagonism between mechanical respiration and natural breathing.

In brief, the best method of resuscitation from drowning and electric shock is prone pressure artificial respiration supplemented by inhalation of carbon dioxide and oxygen. The best method of resuscitation from carbon monoxide asphyxia is inhalation of carbon dioxide and oxygen, initiated in cases of severe involvement by prone pressure artificial respiration.

ADDENDUM

After our investigations were completed there came to us a report by the British Medical Research Council, Respirators (Poliomyelitis) Committee, on "Breath-

ing Machines' and Their Use in Treatment." As its conclusions are essentially the same as those to which we have been led, a few quotations are appropriate:

"There is a natural tendency among doctors as well as laymen to credit a machine with greater powers than the manual method of artificial respiration and to delay or suspend manual methods pending the arrival of apparatus. . . . No development or multiplication of apparatus for such treatment can compare in usefulness with the training of all members of the community in methods of manual artificial respiration" (page 43).

"Excessive pulmonary ventilation removes carbon dioxide from the blood and thus depresses respiration and circulation. . . . Large negative pressures, if used over a period of time, tend to produce emphysema" (page 48).

"Breathing machines are required only for protracted failure of respiration" (page 64).

"The commonest causes of asphyxia are drowning and gas poisoning, in which treatment in breathing machines is not required. The prognosis in these cases is directly dependent on the duration of the asphyxia and the speed with which treatment is begun. Manual respiration, combined if necessary with inhalation of oxygen or oxygen plus carbon dioxide, does all that is wanted in such cases" (page 65).

440 Prospect Street.

Clinical Notes, Suggestions and New Instruments

ACCIDENTAL DEATH FROM ABSORPTION OF HEAT- LESS PERMANENT WAVE SOLUTION

ALLEN H. BUNCE, M.D.; FRANCIS P. PARKER, M.D.,
AND GEORGE T. LEWIS, PH.D., ATLANTA, GA.

On March 19 a healthy young married woman, mother of three children, drove her car, accompanied by a woman friend, from her home to Atlanta—a distance of 40 miles—where she had an appointment for 10:30 a. m. at a beauty shop for a heatless permanent wave. She arrived a little late, had her hair cut by the proprietor, an oil treatment and her hair prepared for the heatless permanent wave.

Her friend went by the beauty shop about 2:30 p. m. She told her friend to go to a movie or do anything else she had to do, since the treatment would require more time than she had anticipated. A few minutes later, after the preliminary preparations had been completed, the treatment was started by a trained operator. He had planned to continue it for seven minutes. The procedure consisted in spraying the wave solution through a closed circuit of tubes into a rubber cap which had been sealed tightly over the head and covered all the hair, which had been previously wrapped in rows on curling tubes.

The operator had been spraying the solution for about four times a minute for about three minutes when the patron said "Does this ever make one feel faint?" These were her last words. The operator stopped the treatment, applied the neutralizing solution and called for help. A physician was summoned, an ambulance called and artificial respiration begun, since the patron had turned a dark purplish. The physician and the ambulance arrived quickly. She appeared dead but was rushed to Crawford W. Long Memorial Hospital, where she was pronounced dead on arrival about 3 o'clock.

One of us (A. H. B.) had examined and treated members of the family for several years. The patient, aged 39, had had a complete physical examination, roentgen examination of the sinuses, chest and abdomen and analyses of the blood and the urine some time previously. None of these showed any gross

abnormality. She had a physical check-up very recently, at which time she appeared to be in excellent health.

Shortly after the arrival of the body at the hospital the patient's husband arrived from their home and readily consented to a postmortem examination to determine, if possible, the cause of death. This examination was begun in the hospital at approximately 4:15 on March 19 with the following data noted:

The body was well developed and well nourished. Rigor mortis had not set in and the body was still warm. Examination of the surface showed numerous small hemorrhagic abrasions covering almost the entire scalp. These had the appearance of areas in which the surface epithelium, down to the dermis, had been destroyed. They were arranged in parallel rows, apparently one row associated with each curl of hair. The largest of these were about 1 cm. in diameter and the smallest were approximately 2 mm. Their outlines were irregular, and in some areas they had a punctate appearance. There was an area on the left side of the chin somewhat similar in appearance. An old bruise about 7 cm. in diameter was present on the right knee. The skin generally, and particularly about the face, had a dusky hue suggestive of cyanosis. There were no other surface markings of note. The body was opened by a cross incision.

The lungs were free in the thoracic cavities. They were light colored and showed some areas of moderate atelectasis but little congestion. There was no evidence of pneumonia or specific infection. No infarcts were present.

The pericardial surfaces showed no abnormality. Approximately 100 cc. of blood was removed from the right ventricle before the circulatory system had been entered elsewhere. This was put aside for subsequent chemical examination. The pulmonary artery was opened *in situ*. No embolus was present.

The heart was somewhat small. There were no grossly demonstrable abnormalities of either the musculature or the valvular structures. The coronary system was intact and showed no evidence of obstruction at any point. There was a moderate degree of atherosclerosis of the aorta, but this was not at all extensive.

The liver was normal in size but was a peculiar purplish red before removal. This was apparently due to extreme congestion, since the color became appreciably lighter when the organ had been removed and the blood drained from it. A cut section of the liver showed a brownish discoloration which was not normal. The consistency of the tissue appeared to be poorer than is normally seen and suggested diffuse degeneration. The liver was saved whole for possible chemical examination.

The gallbladder showed an occasional small deposit of cholesterol on its inner surface. Otherwise the biliary tract was normal.

The spleen was enlarged to about three times its normal size. There appeared to be considerable hyperplasia of the reticulo-endothelial elements. There were irregular areas which were light pink and were definitely softer than the surrounding tissue. These appeared to be areas of degeneration.

The kidneys were in their normal position and were normal in size. The capsules stripped with ease, leaving a smooth cortical surface. A cut section showed an extreme degree of congestion, both organs being deep purplish red. No other gross abnormalities were noted in the urinary tract.

The adrenal glands appeared grossly normal. The pancreas was normal. The gastrointestinal tract showed no particular abnormality in any part. The whole tract with its contents was saved for possible chemical examination.

The uterus had been suspended in the past and was in an abnormal anterior position. There was a single leiomyoma measuring approximately 5 cm. in diameter on the superior, posterior portion of the fundus. The tubes showed no abnormalities. The ovaries showed a few small cysts with some fibrosis.

There was no enlargement of lymph nodes demonstrable at any point.

The cranium was opened in the usual fashion. When the scalp was reflected there were a number of perfectly round, slightly reddish, discolored areas on the under surface. These did not correspond in position to the abrasions previously described on the outer surface of the scalp. The calvarium came away easily, leaving the dura intact. Removal of the dura

showed an extreme degree of edema of the cerebral surfaces. There were large accumulations of fluid beneath the arachnoid and the pia mater. All blood vessels showed extreme congestion, but there was no evidence of hemorrhage at any point. The brain was placed intact in formaldehyde for hardening

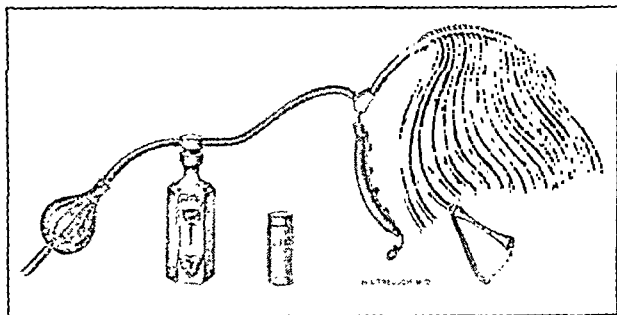


Fig. 1.—In the method illustrated wave solution is sprayed through a system of rubber tubes, eventually to come out through aluminum curlers. The extra bottle contains "neutralizer" solution.

before further examination. The dura was stripped from the skull, and there were no gross abnormalities noted in the underlying areas.

The blood removed from the heart, as previously described, showed no signs of coagulation at the end of eighteen hours. The blood was much darker in color than is normal, and on examination of thin layers before a strong light the blood had a pinkish brown appearance.

The anatomic diagnosis was (1) extreme congestion of the liver with possible degeneration; (2) splenomegaly with degenerative change; (3) severe congestion of the kidneys; (4) extreme cerebral edema; (5) some abnormality of the blood, possibly the result of absorption of a chemical substance, and (6) leiomyoma of the uterus.

MICROSCOPIC REPORT

Sections of skin from the scalp taken through the areas of destruction previously described showed the normal structure of stratified squamous epithelium and subcutaneous fibrous tissue in which were numerous hair follicles and sebaceous glands. At intervals along the surface there had been complete destruction of the striated squamous epithelium down to and in many places including the basal layer. The areas immediately adjacent to the surface epithelium were normal in appearance. These showed no areas of hemorrhage, and only in a few places was

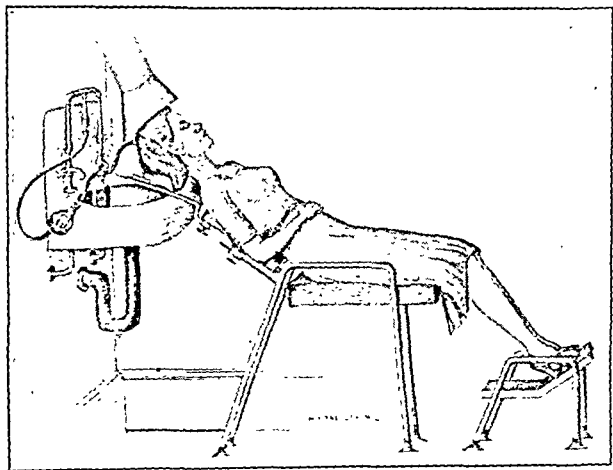


Fig. 2.—Actual setup for the application of the heatless wave solution. Note that the hair and the system of distributing tubes are covered by a rubber cap. Note also the exhaust to carry off fumes. All apparatus used in this treatment was of good quality and in first class condition.

there evidence of inflammation. This consisted of fairly well circumscribed infiltrations of lymphocytes and large mononuclear phagocytes. These tended to be clustered about small blood vessels and not immediately to involve the areas of destruction

on the surface. It would appear that this injury occurred such a short time previous to death that an inflammatory response had not been elicited. Elsewhere in the section there were no pathologic changes.

Several sections of the liver showed essentially the same changes. There was a diffuse, generalized vacuolization of the hepatic cells characteristic of early fatty degeneration. There were also scattered accumulations of pigment in the hepatic cells. This was not uniform, nor was it well defined. It was, however, most noticeable near the center of the lobules. There was some fibrosis about the portal triads but this was not remarkable in degree.

Sections of cardiac muscle showed no abnormality of note. Both the muscle fibers and the nuclei stained easily and showed no evidences of degenerative change.

Sections of the lungs showed a moderate degree of congestion of the blood vessels, but there was no evidence of exudate or fluid present in the alveolar spaces. The sections all appeared essentially normal with respect to degenerative change.

Sections of the kidneys showed an extreme degree of congestion of all blood vessels. The capillaries and glomeruli stood out prominently, and the structures themselves showed no abnormality. There was definite degenerative change of the tubular epithelium in the proximal portions of the tubules. The lining cells were broken down in many instances and all had an extremely granular appearance. Some of the nuclei were pyk-

Report of Composition of Wave Solution*

Ammonium hydrogen sulfide NH_4HS ..	8.0 per cent
pH	8.3
Nonvolatile matter, free sulfur and ammonium sulfide	0.1 per cent
Free ammonia	0.2 per cent (approximate)

* This examination was made in the Laboratory of the Food and Drug Administration in Washington, D. C., but it is not an analysis of the identical bottle of solution used on this patient. H. O. Calvery, Ph.D., chief of the Division of Pharmacology of the Food and Drug Administration, Washington, now has the identical bottle of the remaining solution which was used in this treatment.

notic, and in some tubules there was complete disappearance of nuclear material. This degenerative change appeared to be an early one, the cause of which could not be determined from examination of the section. Such a change could result either from the presence of a toxic substance or from anoxemia. All renal sections showed essentially the same changes.

Sections of the spleen showed large areas throughout the stroma in which there had been considerable destruction of red cells. There was much liberated pigment, which was both intracellular and extracellular. The germinal centers were still prominent, the degenerative change appearing to be entirely in the pulp. There was no advanced degree of fibrosis. Other sections of the spleen showed essentially the same changes.

Sections of the adrenal glands showed no pathologic changes of significance.

Examination of the fixed brain revealed the same degree of congestion of the vessels in the deeper tissues as was present on the surface. No areas of hemorrhage or degeneration could be demonstrated in either the cerebrum, the cerebellum, the pons or the medulla.

Diagnosis.—The microscopic examination of the tissues confirmed in general the anatomic diagnosis. The following additions were noted: (1) multiple areas of complete destruction of the stratified squamous epithelium of the scalp; (2) early, diffuse, fatty degeneration of the liver; (3) diffuse degeneration of the splenic pulp, and (4) destruction of the epithelium of the proximal portion of the renal tubules.

Chemical examination of the specimens of blood taken at the time of autopsy revealed the following:

1. The blood taken at autopsy from the heart was collected in three containers, sealed immediately and placed at refrigerating temperatures. One tube of this blood was examined spectroscopically sixteen hours after its collection.

2. An absorption band was noted in the red just above 600 millimicrons approximately at 620. No other absorption bands were present other than those for oxyhemoglobin.

3. The same sample of blood which had been refrigerated in the meantime was reexamined twenty-four hours later. During the intervening time several portions of this blood had been removed for other types of tests. At this examination no absorption spectrum was noted.

4. Six hours later (forty-eight hours after autopsy) the same sample was examined the third time. No absorption spectrum was present. At this time air was blown through a sample of the curling solution that had been used on the patient. This air and vaporized solution were led through a tube into a portion of the blood previously referred to. The aeration was carried out for something less than two minutes. This aerated blood was then examined spectroscopically, and a strongly visible absorption band was present between 610 and 620.

5. One of the two remaining original containers which had not been opened since the blood had been collected at autopsy was similarly examined spectroscopically. This blood showed the same absorption spectrum occurring between 610 and 620.

The samples of blood from the patient contained little oxygen, as evidenced by the dark, almost purple color. This color could be changed to the bright red of oxyhemoglobin by shaking the undiluted blood in an open test tube for a few seconds.

If normal blood is diluted with dilute hydrogen sulfide water, the absorption band at 610 to 620 does not appear until a drop of 10 per cent ammonium hydroxide is added. Once the band does appear, however, it remains despite being shaken in the presence of air and standing overnight. This corresponds to the usual behavior of sulfhemoglobin as given in the literature.

It is felt that the disappearance of the band in the sample of the patient's blood was probably due to the lack of oxygenation previously described.

From these data there is strong evidence that the same material present in the curling solution was also present in the patient's blood at the time of death. Furthermore, this substance appears to be of a volatile nature, since the absorption band disappeared when the blood was exposed to the open air.

Examination of the curling solution used on the patient, labeled "Willat Wave DeLux Curling Solution, Heatless Permanent Wave Company, Distributors, San Francisco, Calif.," revealed the following:

1. The solution was composed largely of ammonium sulfide (hydrogen sulfide and ammonia proved by laboratory test). Evaporation of a small portion gave a small residue which looked like elementary sulfur. This was not completely soluble in carbon disulfide and might have contained traces of other materials.

2. A fresh bottle from the same shipment as that which was used on the patient gave a strong smell of hydrogen sulfide (by odor) as soon as the cap was removed.

3. The curling solution was strongly alkaline to litmus. In fact, an alkaline action occurred on contact of the litmus with the fumes of the solution before the litmus was actually placed in contact with the solution.

4. The hair conditioner shampoo used on the patient before the application of the curling solution was alkaline to litmus but apparently no more strongly alkaline than one might expect a soapy solution to be.

GENERAL CONCLUSIONS

The changes seen at autopsy were those compatible with the presence of either a circulating toxic substance or profound anoxemia or both. Chemical examination of the blood revealed strong evidence that the material applied to the patient's scalp had been absorbed and was present in the circulating blood. Furthermore, the evidence points to the probability that the absorbed substance was either hydrogen sulfide or ammonium sulfide.

The role of the destroyed areas of the scalp is uncertain. The presence of such lesions would certainly facilitate the absorption of such material as previously referred to. It cannot be determined from the examination whether the application of the curling solution produced the areas of destruction or whether they were there before the treatment.

Finally, both the clinical course shown by the patient at the time of death as well as the pathologic changes seen at autopsy were identical with those occurring in reported cases of acute poisoning with hydrogen sulfide. On this basis the opinion is rendered that the patient died of acute hydrogen sulfide poisoning as a result of absorption of such material through the scalp.

139 Forrest Avenue N.E.

AN UNUSUAL REACTION TO THE BITE OF THE DOVE LOUSE FLY, *STILBOMETOPA* *PODOPOSTYLA* SPEISER

D. E. HOWELL, Ph.D., STILLWATER, OKLA., AND
GEORGE W. STILES, M.D., Ph.D., DENVER

Assistant Professor of Medical Entomology, Oklahoma Agricultural
Experiment Station, and Bacteriologist in Charge of the
Branch Pathological Laboratory, Bureau of
Animal Industry, U. S. Department of
Agriculture, Respectively

Entomologic and medical literature contain but few references to hippoboscid flies biting human beings, and we have found no instances of severe reactions following the bites of these insects. Brumpt¹ stated that the injury is scarcely felt and that one must notice the engorgement of the fly's abdomen with blood to be sure of the bite. Moutier² recorded the case of a servant girl who had been bitten by several louse flies, *Crataerina pallida* (Lat.) but mentioned only the lesions resulting from scratching. *Hippobosca equina* (Linn.), the forest fly, is known to feed on man in the absence of its normal host, but no records of severe reactions are available. *Hippobosca camelina* (Savigny) has a relatively painless bite but does leave a slightly itching pimple at the site of the bite. Brumpt fed *Lipoptena cervi* (Linn.) on himself but scarcely noticed the bite. The location of the bite could not be found until the following day, when a hard, pruriginous papule appeared which lasted for fifteen days. Sheep shearers are occasionally bitten by *Melophagus ovinus* (Linn.), but records of complications are lacking. Several other louse flies, *Lipoptena depressa* (Say), *Stenopteryx hirundinus* (Linn.) and *Ornithomyia avicularia* (Linn.), are occasional parasites of man. Louse flies are vectors of various forms of bird malaria,³ and it has been suggested from epidemiologic evidence only that they may play a part in the transmission of oriental sore.

REPORT OF CASE

An unusual reaction following the bite of the dove louse fly, *Stilbometopa podopostyla*, came to our attention when the fly in question was brought to the Agricultural and Mechanical College laboratory for identification. The following history was given and later confirmed by conversation with the patient:

History.—About 7:15 a. m. on June 8 Mrs. A., a woman aged 50, was sewing when she noticed a "bug" crawling in crablike fashion on her neck. Before it could be removed the patient was bitten in the region of the submaxillary gland. The bite was not painful and resembled "strong suction more than an insect bite." The fly was captured and killed. A short time later a second fly of the same kind alighted on her sewing and was captured. Both were sent to us for identification.⁴

Symptoms.—No symptoms were observed until about 9:45, when the patient suddenly found her vision blurred and lost the use of her arms and legs; vertigo was extreme and her head ached severely. There was a slight local swelling and inflammatory reaction at the site of the insect bite, and considerable tenderness of the gland was manifest.

1. Brumpt, E.: Précis de parasitologie, ed. 5, Paris, Masson & Cie, 1936.

2. Moutier, F.: Parasitisme occasionnel d'un diptère *Crataerina pallida* Latreille sur l'homme, Ann. de parasitol. 6: 105-106, 1928.

3. Huff, C. G.: Studies on Haemoproreus of Mourning Doves, Am. J. Hyg. 16: 618-623, 1932. O'Roke, E. C.: The Morphology, Transmission and Life History of Haemoproreus Lophortyx O'Roke, a Blood Parasite of the California Valley Quail, Univ. California Pub. Zool. 36: 1-50, 1930. Herms, W. B., and Kädner, C. G.: The Louse Fly, *Lynchia fusca*, Parasite of the Owl, *Bubo virginianus pacificus*, a New Vector of Malaria of the Valley Quail, J. Parasitol. 23: 296-297, 1937.

4. Identification was checked by Dr. J. C. Bequaert of Harvard Medical School.

She was admitted to the hospital at 10 o'clock, showing symptoms of acute toxemia, slightly subnormal temperature (about 97.5 F.) and severe headache. The patient showed a pulse rate of 100, vertigo, weakness, fleeting pains in the joints, abdominal soreness, increased respiration, tremors and chilly sensations. She exhibited nervousness but did not vomit, nor was she nauseated; nausea and vomiting are commonly present in such conditions. The appetite was poor and her food was not relished.

Medication consisted of opiates to control the nervousness and supportive treatment. Symptoms persisted after twenty-eight hours; however, the patient apparently fully recovered and returned to her normal condition within a few days.

COMMENT

Stilbometopa podopostyla is commonly a parasite of doves, and previous records of its having bitten human beings are lacking. These parasites cannot live away from their host more than a few days, so that it is necessary to assume that some source of infestation was present in the near vicinity, perhaps an abandoned nest or a habitual roosting place for doves. Although many trees were close to the house where Mrs. A. lived, no record of doves in the near vicinity could be obtained. Two canaries were in the house, but they had been kept inside for more than three years.

517 Custom House, Denver.

DERMATITIS DUE TO DEXTRINS USED AS AN
ADHESIVE ON TAX STAMPS

J. D. WALTERS, M.D., AND E. C. STERN, M.D., CLEVELAND

It is a fact that dextrin products used in numerous occupations, such as paper hanging and bookbinding, can often produce a dermatitis. What is not so well known, however, is that dextrin appearing on the adherent surfaces of stamps or labels can have the same effect. There are establishments in which employees affix tax stamps, by hand, to cigaret packages. Some of these workers do not have the opportunity to change the stamp water as frequently as it should be done. The continuous contact of the hands (and fingers) with the dextrin in the stamp water and with the cloths used to dry the excess fluid off the packages sometimes produces a dermatitis. Two such cases have come to our attention.

REPORT OF CASES

CASE 1.—M. P., a woman aged 26, was employed in March 1938 to affix tax stamps. Two months later a dermatitis appeared on the palmar surfaces of both hands at the thenar and hypothenar eminences, showing irregular patches of scaly, crusted, fissured and excoriated areas.

At times, several fingers of both hands would have variable amounts of fissuring, crusting and induration. Positive reactions to patch tests were obtained with the stagnant stamp water and the adherent surface of the stamps. The dermatitis greatly subsided when the patient performed other duties, such as packing canned goods in cases, and when prophylactic instructions were followed.

CASE 2.—B. K., a woman aged 20, employed in the syrup and labeling department of a drug firm, noticed a dermatitis on the dorsum of her left hand about three months after entering this type of work. She presented numerous lesions on both of her upper extremities. The primary elements were papules, which were soon followed by excoriations and crusting. Patch tests were performed with various products used in her employment. Positive reactions were obtained with substances from the syrup department having a dextrose content above 80 per cent. She was transferred to another department, packing citrate of magnesia. Her dermatitis showed rapid improvement. However, after another change in work, this time the affixing of tax stamps, exacerbations occurred on both hands. Patch tests resulted in a 4 plus reaction to the stagnant stamp water and to the adhesive surface of the stamps.

Both patients responded quickly when prophylactic measures were instituted. Long-sleeved garments were used at work, containers were frequently washed and both the hands and the cloth wipers were thoroughly and frequently rinsed in running water.

The manufacturers¹ of the gummed paper informed us that a tapioca dextrin was used for the adherent surface of the stamps.

It is interesting to note, also, that the adherent surface of United States postage stamps has an 85 per cent dextrin content.

903 Republic Building.

INTERTRIGO (CHAFING) TREATED WITH TANNIC
ACID AND BRILLIANT GREEN

LOUIS TULIPAN, M.D., NEW YORK

Literature on intertrigo, a distressingly common disease, is exceedingly scarce, particularly in the United States. Therefore, in order to make clear the logic of the proposed therapy, I shall briefly review its known causes and symptoms.

Intertrigo results from friction of apposing surfaces of the skin and occurs in the following locations: the groins, the intergluteal folds, the inner sides of the thighs, the axillas, the submammary folds of women, the hypogastric fold, the retroauricular fold and the folds of the neck, groins and buttocks of newborn infants.

Additional etiologic factors are obesity, excessive perspiration, heat, fungous or bacterial infection and regional secretions such as urine, feces, serous or purulent discharges, vaginal discharges and menstrual fluid.

The condition may manifest itself on the skin as a mild erythema, a vesicular or papular eruption similar to that of lichen tropicus (prickly heat) or as a vesicular, papular, or lichenified eczema which may be diffuse or in patches or (as frequently seen) in fissures and abrasions with surrounding erythema. In most cases of severe involvement the skin is raw, macerated and moist, with a malodorous exudate oozing from the surfaces. These lesions frequently become secondarily infected by staphylococci, with resultant folliculitis, or by streptococci and an associated impetiginous infection or an infectious eczematoid dermatitis.

In my experience all known therapeutic measures are either useless or extremely slow in their action, except in the case of mild erythematous intertrigo, for which dusting powder is sufficient. In fact, no therapy has been found effective until the diseased parts are kept apart.

The treatment now in general use is the application of powder, oil and wet dressings, all of which I have found unsatisfactory for patients with severe intertrigo. Powder placed on raw surfaces forms into gritty particles that tend to aggravate the irritation. Oils and salves cause retention of the secretions and thus favor infection. Wet dressings, if not kept continually moist, adhere to the wound and on being removed tear away the crust, leaving a raw, bleeding surface.

The most painful and incapacitating lesions I have observed at Bellevue Hospital had eroded, raw, tender, oozing surfaces and occurred chiefly on the groins, thighs and scrotum. It was the resemblance of this type of intertrigo to a severe second degree burn that suggested the idea of trying tannic acid, which is so efficacious in the treatment of burns.

After spraying the affected parts with a 5 per cent solution of tannic acid through an atomizer, I observed almost instantaneous relief from itching, pain and burning, and within twenty-four hours, owing to the astringent action of the tannic acid, the parts had become dry and a thin crust had formed.

On patients showing secondary infection I used a spray of a 2 per cent solution of brilliant green (tetra-ethyl-diamino-

1. McLaurin Jones Company, personal communication on Sept. 27, 1940.

From the Department of Dermatology, New York University College of Medicine, and the Dermatological Service of the Third (New York University) Medical Division, Bellevue Hospital, service of Dr. Frank C. Combes.

triphenyl methane sulfate) over the tannic acid layer or combined the two in a watery solution. The affected areas were cleansed with soap and water and thoroughly dried before the medication was applied. I found the tannic acid solution alone sufficient to relieve simple erythematous chafing, particularly in infants, but when there was a superimposed infection it was necessary to add the brilliant green.

The treatment was applied once a day, or two or three times in the more severe conditions. Most of the cases under my observation cleared up after one or two applications, but some required treatment for two to three weeks. In my opinion, this method of treating intertrigo has proved more efficacious than any other I have tried.

50 Park Avenue.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING CHAPTER, WHICH IS THE FOURTH OF A SERIES ON AMPUTATIONS AND ARTIFICIAL LIMBS TO APPEAR IN THIS COLUMN. WHEN COMPLETED, THE SERIES WILL BE PUBLISHED IN THE FORM OF A HANDBOOK ON AMPUTATIONS. THE COUNCIL WISHES TO EXPRESS ITS APPRECIATION FOR THE COOPERATION OF ITS GROUP OF CONSULTANTS ON ARTIFICIAL LIMBS. THE COUNCIL IS REPRESENTED BY DR. FRANK D. DICKSON, HARRY E. MOCK, FRANK R. OBER, S. PERRY ROGERS, PAUL STEELE AND PHILIP WILSON, AND THE ASSOCIATION OF LIMB MANUFACTURERS OF AMERICA IS REPRESENTED BY MESSRS. MCCARTHY HANGER SR., W. E. ISLE, JOSEPH A. SPIEVAK, DAVID E. STOLPE AND J. B. KORRADY.

HOWARD A. CARTER, Secretary.

CHAPTER VI. PHYSICAL THERAPY IN AMPUTATIONS

Heat, massage and exercise—the basic components of physical therapy—play an important part in preparing the stump of an amputated limb for early and efficient function. By developing the circulation, reducing edema, loosening the scar and lessening atrophy, the application of these agents helps in the healing of the stump and in preventing further deformity. They are used with occupational therapy to “harden” the stump, develop power in the proximal part and reeducate the limb for practical use.

HEAT

In stumps of recent amputations the local circulation is usually diminished and may be increased by heat applied locally at a moderate temperature of 96 F. for twenty minutes every two or three hours. Increased circulation helps to prevent fibrosis of the muscle, reduce edema and promote wound healing. Radiant heat is applied by an infra-red generator or by an electric lamp “baker.” (Specifications for making a baker are shown in figure 1.)

Several types of baths are also used in applying heat to the stump. Ordinary hot baths should not be used routinely because they soften the skin and thus delay prosthesis. This disadvantage does not accompany the use of contrast and whirlpool baths, which help to improve the circulation in many cyanotic, cold and painful stumps and in stumps in which there is a low grade inflammatory condition or ulceration. Such baths are also beneficial when there is persistent edema or excessive periosteal connective tissue formation, and they relieve the pain caused by poorly fitting prostheses at weight bearing points.

Contrast Bath.—Two pails, large enough for the stump to be completely immersed, are filled almost to the top with water, one with very hot water (105 to 110 F.) and the other with very cold water (70 to 60 F.). Constant temperature is maintained by frequent addition of hot or cold water to the respective

pails. The stump is placed in the hot water for five minutes, in the cold water for two minutes, and again in the hot water for five minutes. The cycle of immersions is repeated three and a half times, ending with immersion in hot water. After the patient is discharged from the hospital he may continue the contrast baths at home if he is provided with definite written instructions for the technic.

Whirlpool Bath.—Immersion of the stump in hot, whirling, aerated water gives the benefit not only of heat application but also of hydromassage. Units especially manufactured for the purpose are the most suitable, and a satisfactory apparatus must be at least large enough to accommodate an arm or a leg, must deliver water at the correct temperature (110 F., controlled by a thermostatic valve), and must provide a submerged water-air jet or electrically operated mixer for aerating the water.

Whirlpool baths are marketed in stationary and portable models. Since the portable apparatus may be used at the bedside, does not require elaborate plumbing arrangements and uses less water, it is most practical for use with stumps. It usually consists of a tank 36 inches long, 16 inches wide and 28 inches deep, a hose that can be attached by a rubber adapter to any faucet connection, a thermometer mounted in the tank, an aerator embodied in a motor driven turbine ejector which introduces and mixes air with the water, and an electric pump which empties the tank.

The stationary type whirlpool bath has permanent plumbing installations, requires large amounts of hot water and is usually made in two models—the arm bath and the leg bath. The tank for the arm bath is 26 inches long, 14 inches wide and 14 inches deep; the tank for the leg bath is 36 inches long, 14 inches wide and 20 to 24 inches deep. The stationary type may also combine the features of the arm bath and the leg bath and be used satisfactorily for all stumps.

If an especially manufactured apparatus is not available, a local plumber can make a whirlpool bath from a wash boiler and ordinary pipe fittings by using the specifications shown in figure 2.

MASSAGE

In stumps healing without complication, massage should be started six or seven days after amputation. As the condition of the stump permits, four types of massage are given in the following sequence: superficial stroking massage, deep stroking massage, kneading massage and friction massage. The massage table, 6½ feet long, 30 inches wide and 30 inches high, should be provided with a shelf 1 foot from the floor and covered with a mattress or pad. Such a table can be made by the hospital carpenter (fig. 3).

When massage is given, the patient is recumbent with the stump placed so that all the muscles are as relaxed as possible. The application of some form of heat usually precedes the treatment, which is given from ten to fifteen minutes daily. Massage should not be used in the presence of infection; the reaction of a latent infection must be carefully watched.

Superficial Stroking Massage.—The operator's hand is passed over an area of skin with a slow, gentle movement aiming only to produce a reflex effect on the circulation. The movement may be in either direction but must continue in the same direction in which it is started. Such massage is given proximal to the protective dressing; when the condition of the stump permits, the movement may be performed with the

dressing removed. Superficial stroking massage should never cause pain; it prepares the way for the more vigorous forms of massage by gaining the patient's confidence.

Deep Stroking Massage.—The movements, deep but not heavy, are always made in the direction of the venous flow, aiming to empty the veins and lymphatics and to press their contents in the direction of natural flow. The distal segment will be blocked if the venous and lymphatic circulation of the proximal segment is not improved in the beginning. As in superficial stroking massage, deep stroking massage is given proximal to the protective dressing, and with the dressing removed when feasible. Deep stroking massage should not put traction on a recent scar.

Kneading Massage.—The operator grasps a part of the muscle or a group of muscles, lifting up as much as possible, and kneads it. The hand is then moved up on the stump a hand's breadth, and the manipulations are repeated. One or both hands may be used. This form of massage aims at improving venous and lymphatic circulation, hastening the removal of waste

massage in unhealed stumps is to free adherent wound edges, render the skin free, reduce edema and increase the local circulation; in healed stumps it is used to free scars adherent to the bone, to reduce edema and to

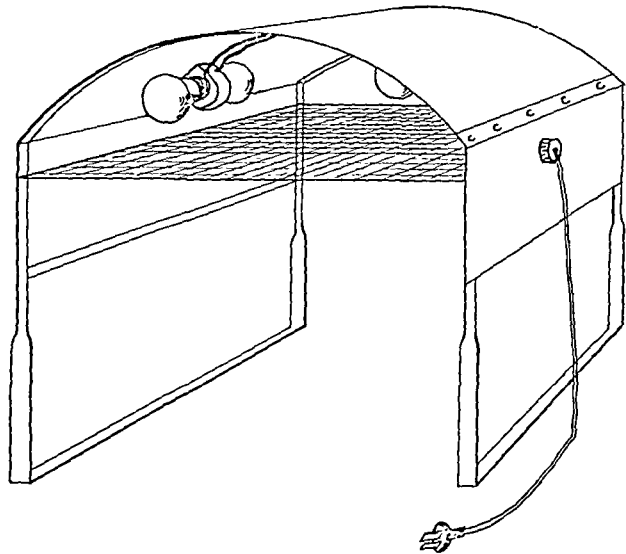


Fig. 1.—Electric lamp baker:

Specifications	Large Size	Small Size
Length	20 inches	14 inches
Width	20 inches	17 inches
Height	20 inches	15 inches
Size of tin	20 by 28 inches	14 by 20 inches
Size of screen	16 by 20 inches	14 by 16 inches

Screen made of 4 mesh galvanized hardware cloth attached to frame 5 inches from top at center
Frame $\frac{1}{8}$ by $\frac{1}{4}$ inch galvanized bar iron
Reflector, highly polished tin sheeting
Altitude of arc of reflector, 5 inches
Two double receptacles, General Electric Company catalogue 66722, 250 volts, 650 watts
Four 60 watt Mazda lamps
The tin is riveted to the iron; receptacles are connected in multiple with heavy lamp cord 6 feet long; huddle plug at end of cord
The baker is designed for applying heat to the legs or arms; if the baker is to be used for the body, supports should be 2 or 3 inches longer.

products from the muscles, at stretching retracted muscles and tendons, and also at stretching adhesions. While the procedure is a massage of the muscles it cannot, nor can any other form of massage, develop muscle strength.

Friction Massage.—The operator's hand presses deeply on the skin or scar of the stump and moves in a circular direction, thus moving the skin or the scar tissue over the underlying parts. The aim of friction

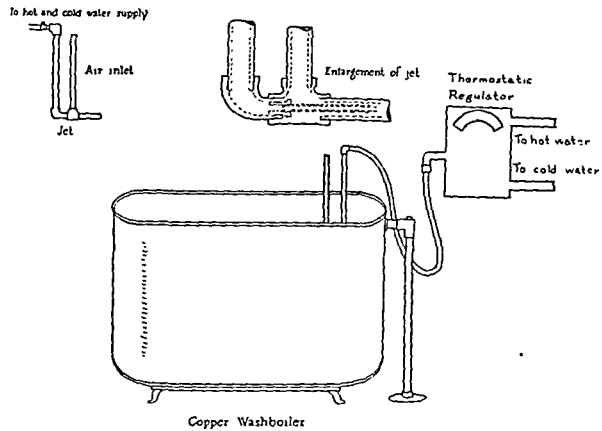


Fig. 2.—Whirlpool bath: Specifications.—Copper washboiler; $\frac{1}{2}$ inch 90 degree elbow; $\frac{1}{2}$ inch 90 degree street elbow; $\frac{1}{2}$ inch tee; $\frac{3}{8}$ to $\frac{1}{2}$ inch bushing; $\frac{3}{8}$ inch pipe; outlet, $\frac{1}{4}$ inch nipple with locknuts and gasket; $\frac{1}{2}$ inch galvanized iron pipe enameled white; street elbow is tapped inside at male end to fit $\frac{3}{8}$ inch bushing; $\frac{1}{8}$ inch pipe used for nozzle.

increase tolerance to trauma. Friction massage must be used with caution because it may stir up a latent infection.

EXERCISE

The exercises devised for the stump are classified in the following groups: passive exercise, stretching exercise, pressure exercise, active exercise which embodies special reeducation exercises. All exercises are prescribed by the surgeon, and, as the condition of the stump permits, the physical therapist instructs the patient in the various exercises and supervises a regular exercise period. When the more active exercises are not practicable because of pain, the stump can be exercised under water in a tank or in a whirlpool bath.

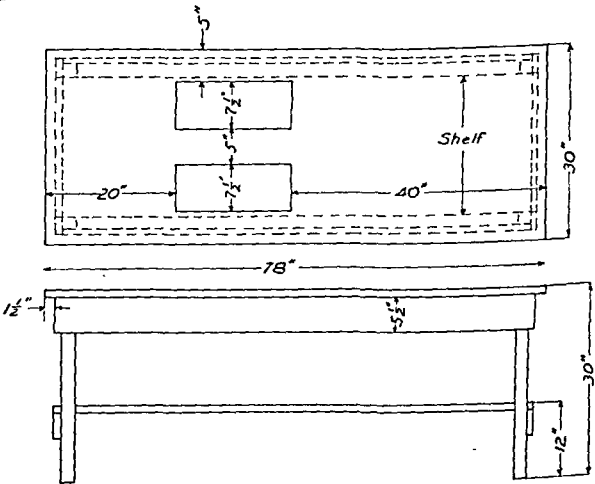


Fig. 3.—Construction plans for massage table. All boards are $\frac{3}{4}$ inch thick. Legs measure 2 by 2 by 29 $\frac{1}{4}$ inches.

Passive Exercise.—Four or five days after amputation the stump is removed from its elevated position twice daily, and the stump and its adjacent joints are moved passively without putting undue traction on the wound or causing too much pain. These passive move-

ments take the stump and joints through what would be their normal range of motion; the stump is also moved as far as possible in the direction opposite to that in which a contracture is likely to develop. As soon after amputation as the patient's general and local condition permit, the stump is placed, with the aid of pillows, for one hour daily in the opposite direction to which a contracture may develop. Within a short time the patient is directed by the surgeon to move the stump and adjacent joints in all directions four or five times daily. The physical therapist instructs and supervises these exercises at the massage period.

Stretching Exercise.—Such exercises are used when massage and passive exercise have not served to prevent muscle contracture. After amputation through the upper third of the thigh, contractures often limit hip extension and abduction. Contractures of this type are effectively stretched by using a special table devised during the first world war and used in England and the United States. In constructing this table, two parallel slits 6 inches wide, starting at hip level and extending downward for 18 inches, are cut in an ordinary massage table. The pelvis is fixed to the table by a wide webbing strap, and the patient, who is in a recumbent position, pulls on a webbing strap under the normal knee, thus holding the pelvis in flexion. A webbing loop extending over the stump and through the slit in the table provides traction to pull the stump into extension; a sufficient number of sand

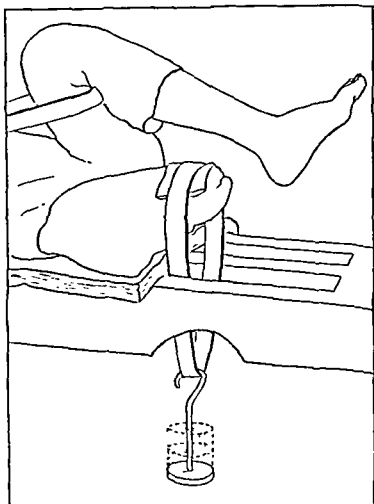


Fig. 4.—Method of applying traction for contractures limiting extension of hip after amputation through the upper third of the thigh.

bags or other weights are attached to the lower end of this webbing loop. Traction is applied by this method (fig. 4) for several periods daily, and during at least one of these periods the tense muscles on the anterior surface of the stump and groin are massaged.

Pressure Exercise.—Unless there is some contraindication, the patient is directed, while the dressings are still in place a week or ten days after amputation, to pound gently the end of the stump with the palm of his hand. The force and number of blows increase as rapidly as the condition of the stump permits. Using this exercise with accompanying massage, the patient loses his fear of hurting the stump. If it is an end bearing stump of the lower extremity he is next instructed to bear his weight on the stump by standing with it placed on a soft pillow on an adjustable metal stool. At first he will bear only part of his weight on the soft pillow; later a hard pillow is substituted and after that a few layers of toweling.

Active Exercise.—For efficient use of an artificial limb the strength of the muscles in the remaining part of the amputated extremity must be equal to the muscle

power of the opposite normal member. Active exercise is the means by which muscle strength of the stump is increased, and application of such exercise diminishes the two great difficulties accompanying the use of an artificial limb—limitation of joint motion and weakened muscles in the stump. Such exercise is essential not only for healed stumps but also for unhealed stumps if no immediate operative procedure is contemplated. Definite directions should be given for active and resistive exercises, which should be performed at least four times a day.

Many of the army hospital centers in France and the United

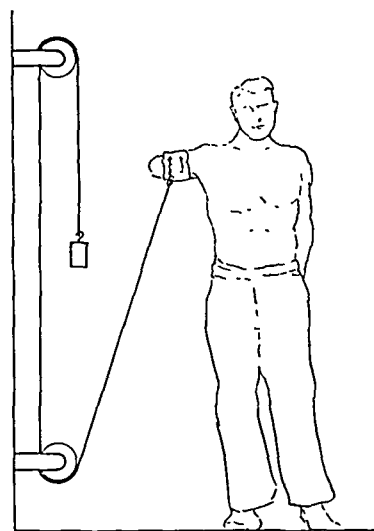


Fig. 5.—Apparatus for shoulder abduction exercises in arm amputations.

States during the first world war organized patients in groups of thigh, leg, arm and forearm amputations. Exercises were performed in groups, and one member assisted another in resistive exercises. A modification of this plan may be practical in large hospitals where there are a number of amputees.

Arm Amputation.—It is essential to prescribe definite active exercise for all the joints proximal to an arm amputation as soon as possible. Adduction exercises for the shoulder prevent atrophy of the deltoid and supraspinatus, and external rotation prevents atrophy of the infraspinatus and teres minor. Numerous exercises can be devised for patients having arm amputations by using a simple apparatus consisting of a weight, cuff, rope and two pulleys. In this apparatus (fig. 5) the rope passes through one pulley fastened to the wall near the floor, over the other pulley fixed to the wall near the ceiling, then to the weight, and is attached to the cuff fitted around the stump. By varying the size of the weight, the exercises may be graded.

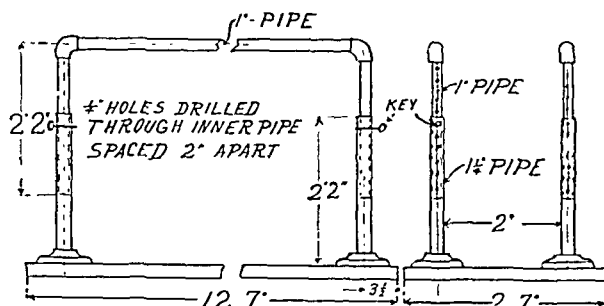


Fig. 6.—Specifications of adjustable parallel bars used for walking reeducation.

Leg Amputations and Reeducation.—Learning the mechanics of standing and walking with an artificial limb involves reeducation as to the coordination of movement in the muscles of the stump and as to the tactile, muscular and joint sensation in the remaining

part of the limb. Patients having amputations below the knee experience little difficulty in learning the mechanics of walking and standing with an artificial limb. The reeducation necessary to teach a patient with a thigh amputation the mechanics of walking depends on the length of the stump, the motion of the hip joint and the strength and function of the muscle. If while still in bed such patients have had exercises for hip extension and adduction, reeducation in standing and walking is not difficult. The patient must be taught the need of building up the strength of the gluteus maximus and adductors, and it is necessary to show him that when standing the femur will not be in a vertical position but will be inclined inward.

As a first step in learning the mechanics of using an artificial limb, the patient is taught to stand upright with his artificial leg directly under him and with his

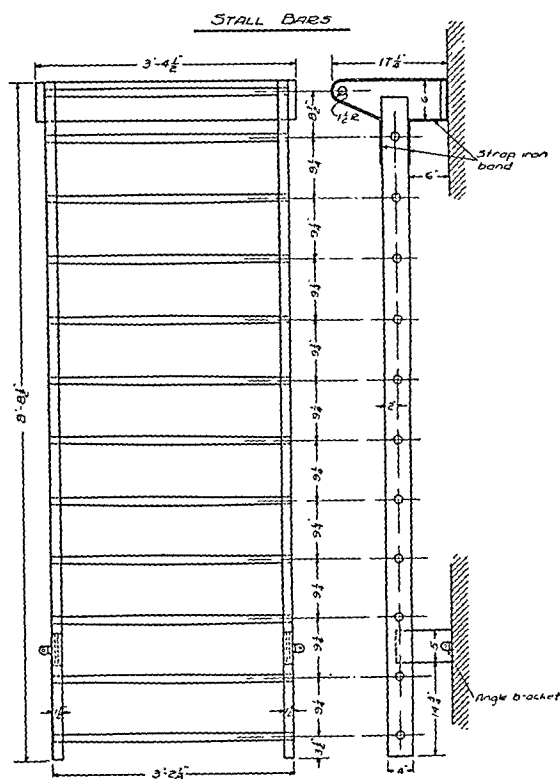


Fig. 7.—Specifications for making stall bars. All wood to be grade 1 white oak. Rungs to be tapered to 1 inch diameter at each end and 1 1/4 inches diameter in center. Surfaces to be smoothly finished and polished.

weight distributed equally on the two legs. A good standing position is taught by placing the patient between two chairs before a full length mirror. He supports himself by resting his arms on the chairs and in this position is taught not to sink the stump into the socket of the artificial limb by dropping the shoulder but to contract the gluteus maximus and the adductors at the same time, so that the stump is pressed firmly against the posterior and lateral aspects of the socket.

Standing between the chairs with the knee in complete extension and bearing equal weight on the two legs, he is then taught the mechanics of operating the artificial leg. The hip of the amputated leg is flexed and by stump movement the knee is raised; the heel and the toe then leave the floor. From the start the patient is trained to set the artificial foot down in the midline by flexing the hip without adducting it. By swinging the leg below the knee forward the knee of

the artificial limb is next extended and the foot of the limb is placed about 3 inches in front of the normal foot with some of the body weight supported by the arms. The hip joint is adducted and extended to produce backward pressure of the stump in the socket, and the knee of the artificial limb is held in extension; in this manner correct weight bearing and the forward step are executed. At first in stepping forward on the artificial foot the patient does not bear his weight on the foot but rocks back on the sound limb and repeats the forward step. Gradually he will use only one chair for support and bear more weight on the artificial limb.

After learning the mechanics of walking, the patient puts it into practice by walking between parallel bars which are used for support (fig. 6). When this has been mastered he is taught to walk with short steps using two canes and then to walk with longer steps using only one cane. In hospitals where such a plan is possible, drill classes may be formed and the members of the class taught to step forward without support, halt, turn right, turn left and about face on command in marching rhythm. Stall bars and steps may also be used as a means of exercise (figs. 7 and 8).

Serious strain of the normal foot may occur when the patient is using crutches and while he is learning to use his artificial leg. In order to prevent such strain the exercise program of a patient who has had a leg amputation should include exercises for the normal foot. These exercises are begun while the patient is still in bed and continue as he begins to sit and stand. The following exercises are performed four times a day, and each one is done ten times:

Lying or sitting on bed, with the leg over side, foot down, toes curled under; keeping foot down and toes curled under, pull foot in; with toes curled under and foot pulled in, pull foot up.

Sitting, spread bath towel on smooth floor, put front half of feet, toes turned slightly in, on edge of towel; (a) grasp towel with toes of one foot and pull in, crumpling towel under foot, (b) place weight on towel.

Sitting, foot on board one inch thick; curl toes over edge. Try to touch floor with toes.

OCCUPATIONAL THERAPY

Occupational therapy is more interesting to the patient than formal gymnasium exercise and through games and work provides exercise for increasing the muscle strength in the stump. Such therapy is of great psychologic value because in the curative workshop the patient finds that he can work or play in spite of his disability, and he also finds social contact with other handicapped persons. He becomes interested in what he is making rather than merely in exercises in which his attention is centered on himself. The occupational therapy technician must be given careful instruction as to which muscles of the stump require developing. Even with little equipment, the therapist can devise games that will not only amuse the amputee but also provide definitely useful exercise.

Occupational Therapy for Arm Amputation Patients.—An inventive occupational therapist can eliminate the necessity of waiting for provisional apparatus by making tools and devising methods for holding them even before temporary appliances can be secured for arm stumps. When the amputation has been through the forearm, the stump may be fitted with a leather cuff with a ping pong racket attached. Ping pong games played between

patients fitted with similar appliances provide exercise which cannot be obtained by formal exercise and also result in a vastly improved mental state for the patients.

Occupational Therapy for Leg Amputation Patients.—Many interesting games to be played before a leg stump is fitted with temporary appliances may also be devised by the occupational therapist. "One leg golf" is such a game and will help develop balance and confidence; it is particularly adaptable to large hospitals where there are a number of leg amputees in one ward. In playing the game the floor is marked into squares; the object is to kick around a wooden disk, 6 inches in diameter and 1 inch thick, from one marked square to another according to numbers. Sides may be chosen according to the amount of support a player must use. For example, if a man using crutches is on one side,

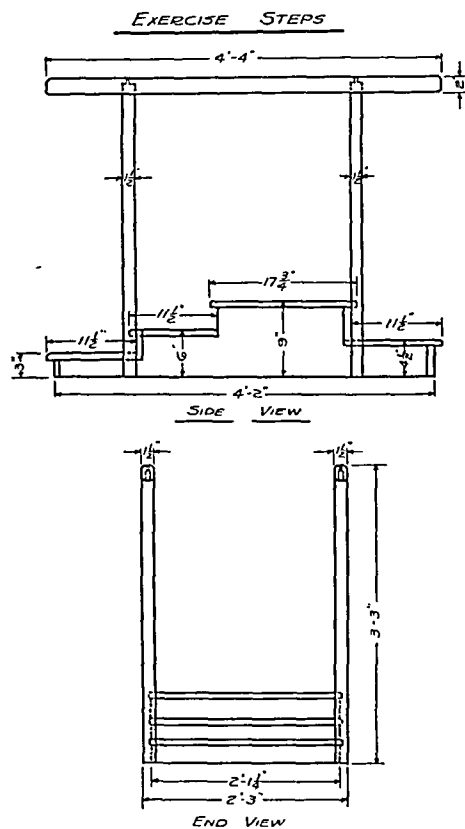


Fig. 8.—Specifications for making exercise steps. All wood to be select grade yellow pine. All exposed edges are to be neatly beveled. Wood $\frac{3}{4}$ inch thick unless otherwise indicated.

the other side could have two men without crutches. The player should be taught to fall so he won't injure his leg, on his shoulder for example.

Exercises and games may also be used to teach balancing and turning without crutches when the patient is using an artificial leg. For instance, this game devised from an exercise: The player walks on a plank 12 inches wide, 2 inches thick and 12 feet long that is raised 6 inches from the floor. Points are deducted if the player loses balance so that he must grasp a rail placed near the plank. The patients may also be taught to play ping pong and golf.

It is impossible in this short chapter more than to outline the exercise and occupational therapy program. An extensive and varied program can be devised by the physical and occupational therapy technicians who work together in planning the patient's program.

Council on Pharmacy and Chemistry

PRELIMINARY REPORT OF THE COUNCIL

THE COUNCIL ON PHARMACY AND CHEMISTRY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING PRELIMINARY REPORT.

OFFICE OF THE COUNCIL.

PRELIMINARY REPORT ON PROGESTERONE AND THE STATUS OF CORPUS LUTEUM HORMONES THERAPY

Some time ago it was demonstrated that the crude lipid extracts of corpora lutea possessed qualities which corresponded to the physiologic activity of the corpus luteum. After considerable investigation it was found that of the many crystalline steroids isolated from such lipid extracts one could duplicate the reactions attributed to the corpus luteum. This compound, named progesterone, was obtained in two crystalline forms of equal potency.

On the basis of the structural formula postulated for progesterone, this substance was synthesized from both stigmasteryl and pregnandiol. It was soon demonstrated that crystalline progesterone, either synthetic or natural, could reproduce all the physiologic responses of the corpus luteum. The functions considered most important were ability (1) to relax the smooth musculature of the uterus, (2) to inhibit contractions following the administration of solution of posterior pituitary or estrogens, (3) to change endometrium to the secretory phase, (4) to maintain pregnancy in castrated pregnant laboratory animals and (5) to neutralize the action of estrogens on the uterus and vagina.

At about the time that preparations first became available, Corner¹ wrote in his chapter in *Glandular Physiology and Therapy*:

Here then is a definite hormone, about to be handed to the medical profession to take the place of the meaningless corpus luteum preparations of the past. It has the property of bringing about premenstrual changes and the uterine conditions of early pregnancy. What is to be done with it?

On a theoretical basis, the common disorders which appeared to hold promise for corpus luteum therapy were (1) habitual or threatened abortion, (2) dysmenorrhea and (3) functional menorrhagia.

The published data on progesterone therapy in these conditions have been on the whole inconclusive and in many instances disappointing. The following review of the literature on this subject includes investigations in which both the natural product and the synthetic material were used. In general, the early work was performed with extracts of corpus luteum; later there was a greater tendency to utilize the synthetic crystalline compound.

HABITUAL ABORTION

It is generally considered that the ovaries of the pregnant woman secrete progesterone up to about the one hundredth day of pregnancy, after which the placenta takes over this function. It has been frequently postulated that certain pregnant women have a relatively inactive corpus luteum, resulting in a sensitive uterus which on contracting expels the fetus. On the basis of experimental work in which progesterone maintained pregnancy in ovariectomized animals, delayed parturition in normal animals and inhibited uterine contractions induced by estrogens, it appeared that progesterone would be the agent of choice in treating patients who habitually aborted because of a sensitive uterus.

Many papers have appeared relating to such investigations. The evaluation of the clinical data on progesterone therapy of habitual abortion is difficult at the present time. The very nature of the disturbance interferes with an accurate analysis of the evidence. It is well known, for instance, that women who have in the past repeatedly aborted may carry their children to term in subsequent pregnancies and it is, of course, impossible to predict whether or not any particular patient would have aborted without therapy. The investigators who have reported on this therapy have, furthermore, used different preparations,

1. Corner, G. W.: *Corpus Luteum Therapy*, J. A. M. A. **104**: 1899 (May 25) 1935; *Glandular Physiology and Therapy*, Chicago, American Medical Association, 1935, p. 211.

some the luteum extract standardized biologically, some the synthetic material, and a few, water-soluble extracts of corpus luteum not assayed according to its progestational activity. As will be noted, the technic of administration differed considerably and the dosages were far from uniform.

In 1935 Falls, Lackner and Krohn,² using an extract of corpora lutea, reported the successful treatment of habitual abortion in 5 out of 8 cases. The doses which they reported using were 1 rabbit unit twice weekly, but according to two of the authors there has been some doubt as to the reliability of the assay, since it was suspected that larger amounts of progesterone were present in the preparation than that stated on the labels. Shortly thereafter, Kane³ claimed good results in treating 26 patients of this type with corpus luteum extract (fat soluble) and with progesterone. Of these 26, successful pregnancies were obtained in 22 patients. Of 14 treated with progesterone, all had normal deliveries. Kane used dosages of $\frac{1}{2}$ rabbit unit (approximately $\frac{1}{2}$ international unit or $\frac{1}{2}$ mg. of crystalline progesterone) every other day for ten days. The corpus luteum extract was apparently unstandardized. The patients received, in addition, 15 grains (1 Gm.) of thyroid and 12 grains (0.8 Gm.) of sodium iodide daily, thus clouding the issue. In 1937 Clauberg⁴ recommended doses of 2 to 10 mg. of progesterone every other day for two weeks before and two weeks after the "critical" period (one hundredth day of pregnancy) in women who habitually aborted. Clauberg stated also that occasionally 0.5 to 2 mg. doses were sufficient. It seems difficult to be able to predict when the small or large doses would be indicated. Siegmund⁵ treated habitual abortion with doses of 2 to 5 mg. every two or three days. Elden⁶ reported excellent results in this condition by administering progesterone to 8 patients for six months with amounts averaging 3 to 8 mg. per month. He stated that even smaller doses should be effective. Paterson⁷ reported satisfactory therapy in a few cases with 2 to 5 mg. doses weekly for four months. Potter⁸ was satisfied with an extract of corpora lutea and reported that 16 of 19 habitual aborters had successful pregnancies after this therapy. The preparation was administered orally and was unstandardized. It is well known, however, that progesterone is without effect when taken by mouth. Peters⁹ in 1939 obtained successful treatment in 4 cases with 1 mg. injections of progesterone twice weekly up to the fourth month. MacGregor¹⁰ reviewed most of the literature on the therapy of habitual abortion and concluded that progesterone treatment was worth while. Frohnwieser¹¹ treated 8 patients with 5 to 10 mg. of progesterone weekly with good results. Campbell and Sevringhaus¹² recently presented the records of 6 patients of 13 treated for habitual abortion. The doses were 2 to 5 rabbit units of corpus luteum extract once or more weekly for twenty-eight weeks, with normal pregnancies in 11 of the 13 patients.

In the treatment of threatened abortion, the results do not appear in general to be as satisfactory. Falls, Lackner and Krohn² reported that 9 of 11 patients went to term when treated with 2 to 3 rabbit units of extract weekly. Clauberg⁴ used larger amounts of progesterone than for habitual abortion. Frohnwieser¹¹ and Paterson⁷ have obtained good therapeutic results with several patients. On the other hand, failures in treating

threatened abortion should not be construed as a failure in treatment, since it is well known that abortion is often nature's way of ridding the uterus of a defective fetus. Also frequently the first signs of abortion, bleeding and pains, occur after the death of the fetus, and no amount of endocrine therapy would be of value.

It is indeed difficult to conclude from the available data whether or not progesterone or active corpus luteum extracts are of value in the treatment of habitual and threatened abortion. There seems, at present, considerable doubt as to the significance of the investigations in which several rabbit units of extract or several milligrams of progesterone were administered. The recent trend in treatment is to give much larger doses than those administered by some of the early investigators. According to Browne, Henry and Venning,¹³ who demonstrated by means of pregnandiol determinations the activity of the corpus luteum in normal pregnancies and in women who habitually abort, the calculated minimum amount of progesterone for the purpose of replacing an active corpus luteum of pregnancy is 5 mg. daily. It appears that a considerable amount of clinical data on progesterone therapy is of doubtful value and the result of overenthusiasm. With the development of chemical or other objective tests for the study of habitual or threatened abortion, it is possible that more substantial evidence for progesterone therapy in these conditions will be forthcoming.

DYSMENORRHEA

A generally accepted theory of the causation of dysmenorrhea holds that the pain is the result of an excessively contracting uterus. No conclusive evidence has been presented to support this theory. Certain investigators have failed to demonstrate exaggerated contractions of the uterus in dysmenorrhea patients.¹⁴ Nevertheless, it appeared reasonable that progesterone would be effective in relaxing the uterus and thus prevent pain.

There are few comprehensive reports in the literature on the treatment of dysmenorrhea with progesterone.

Campbell and Hisaw¹⁵ reported the use of extracts of corpus luteum, free from estrogen, in the treatment of 11 patients with functional dysmenorrhea. The dosages used were 5 to 8 rabbit units daily for five to six days preceding the expected onset of menstruation. They obtained gratifying relief for these patients although they were aware of the possibility that this relief might be only temporary and that the symptoms might recur after the cessation of therapy.

Elden¹⁶ reported that of 17 dysmenorrheic patients treated with progesterone, 8 obtained complete relief, 2 partial relief and 7 no relief. The dosages were $\frac{3}{4}$ to 1 rabbit unit three to six days before the onset of the menses. Lackner, Krohn and Soskin¹⁴ reported satisfying results in 8 of 10 such women with unstated amounts of progesterone. Kotz and Parker¹⁷ obtained therapeutic success in this disorder with 1 to 5 rabbit units every two days, starting two weeks before the onset of menses. These patients received, in addition, thyroid, chorionic gonadotropin and/or roentgen irradiation of the pituitary at the same time.

It is obvious that this evidence is scanty and too inadequate on which to base a recommendation for such therapy. There has also arisen a certain amount of questioning of the rationale for progesterone treatment in this condition. Wilson and Kurzrok¹⁸ state that they have never observed a woman with severe dysmenorrhea who has not had a secretory type of endometrium. Since this indicates an active corpus luteum, it is naturally asked of what use is exogenous progesterone in patients who are

2. Falls, F. H.; Lackner, J. E., and Krohn, Leon: Effect of Progestin and Estrogenic Substance on Human Uterine Contractions: Value of Progestin in the Treatment of Habitual and Threatened Abortion, *J. A. M. A.* **106**: 271 (Jan. 25) 1936.

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4. Clauberg, C.: Clinical Indications for Use of Specific Hormone of Corpus Luteum, *Practitioner* **138**: 634 (May) 1937.

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14. Lackner, J. E.; Krohn, Leon, and Soskin, Samuel: Etiology and Treatment of Primary Dysmenorrhea: Physiologic and Clinical Study, *Am. J. Obst. & Gynec.* **34**: 248 (Aug.) 1937.

15. Campbell, R. E., and Hisaw, F. L.: The Use of Corpus Luteum in the Treatment of Dysmenorrhea, *Am. J. Obst. & Gynec.* **31**: 508 (March) 1936.

16. Elden, C. A., and Wilson, K. M.: Progesterone Treatment for Dysmenorrhea, *Am. J. Obst. & Gynec.* **32**: 91 (July) 1936.

17. Kotz, J., and Parker, E.: Primary Dysmenorrhea—Endocrine Problem, *Am. J. Obst. & Gynec.* **34**: 38 (July) 1937.

18. Wilson, Leo, and Kurzrok, Raphael: Studies on Motility of Human Uterus in Vivo: Functional Myometrial Cycle, *Endocrinology* **23**: 79 (July) 1938.

secreting from their ovaries sufficient amounts to induce a secretory phase of the endometrium.

It is possible that there are other hormones in the corpus luteum besides progesterone (and estrone). Phillips¹⁹ has obtained greater inhibition of estrus in animals with extracts of corpora lutea than with progesterone, and Freed and Soskin²⁰ have postulated the presence of another factor in the corpus luteum of rats which strongly inhibits the action of estrogens on the uterus.

FUNCTIONAL BLEEDING

It is generally accepted that patients with excessive bleeding of a functional nature are prone to have a hyperplastic endometrium. Such an endometrium is considered evidence that the ovaries are elaborating an excessive amount of estrogens or that the action of the estrogens is unopposed by the hormone of the corpus luteum. Progesterone has been recommended for the treatment of functional bleeding on this basis. Additional rationale for such therapy is derived from experiments which demonstrated that progesterone inhibited in the monkey the bleeding that follows withdrawal of estrogens. Inhibition of menses was also produced by means of injections of progesterone preceding the expected onset.

The clinical results with this therapy are not, in general, satisfactory. Wilson and Elden²¹ claimed good results in treating 5 patients with functional bleeding, using the doses of $\frac{3}{32}$ rabbit unit daily. Claiberg⁴ recommended injections of 1 to 2 mg. daily in mild cases but found it necessary to administer 5 to 20 mg. daily at times. MacGregor²² used 1 to 5 mg. daily for five to six days in 9 patients. Good results were obtained with 7 of these patients. Proust and Moricard²³ treated 3 patients successfully with progesterone. Paterson⁷ recommended the use of progesterone in moderate doses in functional bleeding and obtained results which she considered satisfactory in several patients. Hamblen²⁴ has recently used progesterone in conjunction with other sex steroids in the treatment of menometrorrhagia. It is still too early, however, to decide whether or not such therapy is satisfactory. There is considerable evidence, however, that in the human being much larger doses than those usually tried are required to suppress uterine bleeding. Wiesbader and others²⁵ succeeded in suppressing the bleeding which follows removal of a corpus luteum with at least 50 rabbit units of progesterone. Morgan and Davidson²⁶ were unable to alter menstrual flow in the human being with as much as 100 mg. injected premenstrually. Mazer and Israel²⁷ also were unable to influence menstruation by administering 10 mg. daily for the second two weeks of the menstrual period. It is indeed questionable, therefore, that much smaller doses would have a significant therapeutic value in dysfunctional bleeding.

Furthermore, several investigators have cast some doubt on the rationale for progesterone therapy in this disorder. There has been frequently encountered full-blown secretory endometrium in patients who have excessive flow. This indicates that these patients had a normally active corpus luteum and, therefore, it appears that in these cases exogenous progesterone is not indicated. In addition, bleeding has been found in association with endometriums of all types, which leads to questioning the theory that functional menorrhagia is due to unopposed action of estrogens and the subsequent need for progesterone.

In this connection, the alteration of the endometrium to the secretory phase has often been the aim in progesterone therapy of menorrhagia. This concept has been challenged by Greenhill and Freed:²⁸

... the significance of endometrial changes in ovarian dysfunction has been frequently postulated but never conclusively demonstrated for such common disorders as menorrhagia or dysmenorrhea. One may find any stage of endometrial development from the resting phase to the secretory. The fact that normal secretory endometrium is frequently found in patients with excessive menstrual flow indicates that this bleeding is not due to the lack of corpus luteum activity as is frequently postulated. Hence, the proposed therapy of this condition with progesterone is not on a sound basis. In reality, evidence indicates that relatively large doses of progesterone, amounting to 100 mg. or more in the last ten days of a cycle, are usually ineffective in controlling uterine bleeding. The concept that functional bleeding is due to endometrial hyperplasia might also be abandoned, since it has been sufficiently demonstrated that hyperplasia is not as frequently associated with menorrhagia as formerly believed. In fact, hyperplasia is often seen in cases of amenorrhea or in women with normal menstrual cycles. The attempt to control excessive flow should therefore not consist primarily of attempting to alter the endometrium, since it seems quite possible that there is no correlation between excessive bleeding and histologic changes of the endometrium. It is our belief that we must look elsewhere than to the endometrium for the etiology of these ovarian dysfunctions and the explanation for the therapeutic responses in these conditions.

OTHER CONDITIONS

Progesterone has been used by Israel²⁹ in the treatment of premenstrual tension with gratifying results in patients. This work has not been adequately confirmed.

Several investigators have also claimed significant results in the progesterone treatment of preeclampsia.³⁰ A good deal more evidence with such therapy is required since numerous other agents, including estrone, have been used with reported success in this condition.

Progesterone has been used in treating secondary amenorrhea by some investigators. The permanence and practicability of such therapy is questionable.

CONCLUSIONS

It appears from a survey of the literature that progesterone therapy is of limited value at present. Its use in the treatment of certain menstrual disorders (menorrhagia and dysmenorrhea) has been of doubtful value. Psychic factors have not been ruled out satisfactorily. Certainly the data obtained with progesterone have not been more favorable than those with other endocrine substances such as estrogens, gonadotropic substances or the androgens. In the treatment of habitual abortion, some of the evidence appears to be based on results with dosages which appear entirely too small to be effective from the point of view of the recent investigations of more objective nature. The dosages used in the past few years are considerably larger than in the earlier reports, which strengthens the suspicion that the initial reports were overenthusiastic. Theoretically progesterone seems to be definitely indicated for those patients who have a relatively inactive corpus luteum, but proof of the existence of such conditions is lacking.

The place of progesterone therapy in the treatment of ovarian dysfunctions is, therefore, still experimental. Much of the failure of progesterone therapy may have been due to the use of inadequate doses. On the other hand, the rationale for the uses of progesterone may be fallacious in some instances. Further investigations are awaited which will make clear the role of progesterone as a therapeutic agent on which the physician may rely.

The lack of sufficient confirmatory clinical evidence does not warrant the acceptance of progesterone for inclusion in New and Nonofficial Remedies at the present time and further consideration of preparations of progesterone has therefore been deferred. The Council authorized publication of the foregoing preliminary report with the view of giving further consideration to the subject as more evidence becomes available.

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SATURDAY, APRIL 5, 1941

OUR POPULATION

Recent news releases from the Bureau of the Census¹ based on the 1940 decennial census provide information on the present composition of the population of the United States and on trends now in evidence. If the present birth and death rates continue, the population of the United States will fail to maintain its numbers by approximately 4 per cent per generation. This contrasts with 1930 birth and death rates; if continued, those rates would have resulted in an increase of population of about 11 per cent per generation. Obviously at some time during the decade 1930-1940 the birth and death rates changed so as to pass the critical point at which the population would remain stationary. The decline in the net reproduction rate during this period was greater for the white than for the nonwhite population. In 1940 the net reproduction rate of the white population (including the Mexicans) had dropped to about 95 from a rate of about 111 in 1930, while that for the nonwhite population declined to 107 in 1940 from 110 in 1930. The net reproduction rate takes into account not only the present birth and death rates but also the age distribution of the population, which is changing rapidly in this country. The net reproduction rate may be calculated from the average number of daughters that would be born per hundred females starting life together if present birth and death rates at different age levels should remain unchanged.

The census figures bring out the fact that the median age of the population of the United States increased to 28.9 years in 1940 from 26.4 years in 1930. Furthermore, the persons 65 years of age and over now number 8,956,000, an increase of 35 per cent over the number in this age group in 1930. The data also disclose that the median age of white persons in 1940 is

29.4 years as compared with 28.5 years for nonwhite persons. There has been a steady increase in median age of the population since 1890, at which time the overall figure of the median age was 21.4 as contrasted with the 28.9 today. All these figures serve to illustrate graphically the increased aging of the population.

The urban population, defined as those persons living in incorporated places having a population of 2,500 or more and including a few townships not incorporated but having a total population of 10,000 or more and a population density of 1,000 or more per square mile, numbered 74,423,702 on April 1, 1940. At the same time there were 57,245,573 persons living in rural areas. The increase in the urban population between 1930 and 1940 amounted to about 5½ million, or 7.9 per cent, as contrasted with an increase in rural population of about 3½ million, or 6.4 per cent. The rate of increase in urban areas has declined remarkably and apparently is attributable in large measure to the economic conditions of the past decade. Only a slight change in the urban-rural distribution has occurred for the country as a whole in the 1930-1940 decade, although the ratios in different parts of the country are widely divergent.

One census bureau release deals with the average size of the American family in 1940. The information submitted indicates that the average population per occupied dwelling unit in the United States in 1940 was 3.8, which figure may be compared with an average of 4.1 per private family in 1930. There has been a continuous decline in average population per family from the comparable 4.9 figure in 1890. The decline in the average size of the family appears to be due primarily to the increase in urbanization and the decline in the birth rate. Between 1930 and 1940 the population of the United States, while increasing 7.2 per cent, showed an increase in the number of families of 16.3 per cent. If there had been no change in the average size of the family from 1930 to 1940, the percentage increase in the number of families would have been the same as that for population. Instead of an increase of about 4,900,000 families, which actually occurred during the past decade, the increase would have amounted to only a little over 2,000,000 families. The decline in the size of the family may thus be said to account for or explain more than half of the gain in the number of families between 1930 and 1940. These figures represent averages for the entire population and cannot be applied without further analysis to individual states or localized areas. They are merely significant as indicating a trend, which may even be reversed by the time of another decennial census. Nevertheless, such information can be used with profit in helping to solve several economic and social problems, such as required housing and educational facilities, which are particularly related to variations in population size and distribution.

1. Composition of the Population by Age, Sex and Color, United States (Preliminary): 1940, Department of Commerce, Bureau of the Census, Washington, series P-5, no. 1. The Net Reproduction Rate—The Measure of Future Population Growth in the United States (Preliminary): 1940, *ibid.*, no. 2. Urban and Rural Population of the United States: 1940, *ibid.*, series P-3, no. 7. Preliminary Data on Average Size of Family: 1940, *ibid.*, series PH-3, no. 1.

DIATHERMY IN THE HOME

Diathermy for use in the home has been extravagantly promoted by various agencies. THE JOURNAL has emphasized repeatedly that any kind of self treatment without scientific diagnosis may be hazardous because it permits neglect of serious conditions that may require professional attention. In several cities, firms have come into being practically over night, advertised in the daily papers, broadcast over the radio, released high pressure salesmen to sell or rent their products; then they have suddenly disappeared, although in some instances the promoters have appeared in the same role in new firms which repeated this program. Some of these instruments promulgated to the public have been efficient, others have not! Apparatus for diathermy should have sufficient output to heat the tissues, since heat is the only therapy it provides for which critical evidence is available. If the instrument is efficient, it may be dangerous unless its use is supervised by a trained observer. If the machine is inefficient and of low power output, it will not heat the tissues and will be without therapeutic effect.

Recently the Federal Trade Commission has modified a cease and desist order which it issued last November against the Home Diathermy Company, Inc., New York, directing cessation of misleading representations in the sale of a "home diathermy" device. "The modified order directs the respondent to cease and desist from misrepresentation of the therapeutic value and merit of its product, as did the original order," but in the modified order, now in effect, "the respondent is directed to cease disseminating advertisements which fail 'to conspicuously reveal that the device may be safely used only after a competent medical authority has determined, as a result of diagnosis, that diathermy is indicated and has prescribed the frequency and amount of application of such diathermy treatments and the user has been adequately instructed in the method of operating such device by a trained technician.'"

If a physician believes diathermy is indicated, he may prescribe for his patient an efficient apparatus which is accepted by the Council on Physical Therapy. The Council found the Home Diathermy Machine not acceptable and published a report in THE JOURNAL, March 20, 1937, page 973. The decision of the Federal Trade Commission helps solve this problem.

The Federal Communications Commission has been cooperating with the medical profession and the manufacturers of electrical therapeutic equipment in the development of a practical way to suppress interference with the radio. In some instances complaints of interference have been traced to home-operated diathermy machines. The extent to which the medical profession is being held responsible for interference which is in fact caused by home diathermy equipment is not known.

*Current Comment***SULFATHIAZOLE CONTAMINATED WITH PHENOBARBITAL—A WARNING**

The contamination of a considerable amount of sulfathiazole, manufactured by the Winthrop Chemical Company, with phenobarbital—luminal—and its widespread distribution throughout the United States was widely reported in the press and on the radio on March 28. Information first received indicated that only one lot of the product, marked MP 029, was contaminated and all of it was distributed in bottles containing 100, 500 or 1,000 tablets each weighing 0.5 Gm. None of this material was reported to have been distributed along the Pacific Coast. Approximately 410,000 tablets were distributed, and approximately 118,000 tablets were still in circulation on March 20. In the Chicago area only bottles containing 500 tablets were distributed. Word just received, however, indicates that lot MP 118 may also be involved. Of this lot there were 110 bottles containing 100 tablets each. This lot was distributed between December 18 and December 25 and was made by mixing broken tablets from lot MP 029. The attention of the company was first called to the possible contamination by physicians in Louisville late in December 1940. After the contamination was discovered, the company recalled all of the product that could be recalled. The Food and Drug Administration received information on March 20 from the Health Department of Boston. Immediately steps were taken to seize and examine, and inspectors were sent throughout the nation to secure every bottle of the shipment still in circulation. The attention of the headquarters office of the American Medical Association was called to this matter on March 26 through receipt of a report. Just as soon as enough evidence was available to indicate the scope of the accident, a general warning was first issued to the press and over the radio by the American Medical Association. The examinations thus far made indicate that not all of the sulfathiazole was contaminated. Apparently some of the tablets did not contain any phenobarbital, and the dosage varied from no phenobarbital at all to as much as 0.4 Gm. in a 0.5 Gm. tablet. The reports coming from some of the hospitals throughout the country indicate that patients who received the tablets that were heavily contaminated passed into unconsciousness, and indeed some physicians thought that the coma thus produced represented a new form of reaction to sulfathiazole. This would, of course, be exceedingly unusual, since rapid loss of consciousness has not been reported as a reaction to the use of the drug. The chief use of sulfathiazole has been in pneumonia and to some extent in gonorrhea. Loss of consciousness in patients seriously ill with pneumonia was possibly considered a manifestation of the disease. It would be considered an unusual manifestation in gonorrhea. Phenobarbital is, of course, a powerful sedative, producing sleep even in small doses and narcosis when administered in large doses. The average dose would be 0.1 Gm., or from 1 to 2 grains. The case reports thus far available indicate a few patients who slept from thirty-six to forty-eight hours following the

administration of the contaminated tablets, whereas there is the record of another patient who took 4 tablets, 1 every three hours, and merely felt drowsy. The Food and Drug Administration issued a report on March 31 indicating that the Winthrop Chemical Company has not yet explained its failure to notify the Food and Drug Administration when this matter first came to the firm's attention in December. The evidence thus far available seems to show that the contamination may have occurred as a result of the practice of the firm to utilize broken and spoiled tablets in the making up of new batches of the drug. The vast majority of sulfathiazole now on the market is thoroughly dependable. The investigation is being continued, and a complete report of the incident will be published when it becomes available.

ECZEMATOUS RINGWORM OF THE HANDS AND FEET

Whether or not ringworm of the extremities can be cured in the sense of complete mycologic sterilization was the subject of a recent symposium,¹ the second in a projected series on common dermatoses developed by the *Journal of Investigative Dermatology*. Obviously clinical cures are possible to the extent that eczematization and vesiculation do not reappear over several years. The therapeutic regimens proposed exhibit variations, with similar divergences in clinical and laboratory experience. The technics suggested and the formulas given for the management of acute, subacute and chronic phases of ringworm infection will be found helpful in general practice. Roentgen therapy is generally credited with beneficial results, though one author believes that permanent curative effects are not achieved. Moreover, it is asserted that eczematous recurrences are more difficult to control in persons who have been exposed to large amounts of roentgen ray dosage. Superinfection, autogenous infection and flare-ups of dormant infections are variously regarded as etiologically responsible for recurrences. The laxness of patients in practicing prophylaxis after apparent cure may well be a contributing factor. An analysis of the various proposals involving personal cleanliness, disinfection and the use of chemicals seems to indicate that entirely satisfactory defenses against recurrence in the patients and against spread to persons in the patients' environment have not yet been found. "Cures" are estimated to occur variously between two and six weeks, yet apparently identical cases may require years, especially in *Trichophyton purpureum* infection. One contributor treated two cases vigorously but unsuccessfully for eighteen months with practically all known methods. Patients with chronic ringworm conditions seem finally to grow skeptical of the value of medication and fail to return. Occupational dermatitis, according to one contributor, is the most difficult dermatosis to differentiate from eczematous ringworm. The diagnostic value of trichophytin and oidiomycin cutaneous tests is variously appraised. Some discount both tests; others attach significance to the former and express distinct

disapproval of the latter because patients with and without Monilia infection react to it. The majority of the contributors regarded eczematous ringworm of the hands and feet as ranking third or fourth among common dermatoses. One of them, making both a winter and a summer survey of 100 consecutive cases of ringworm and then selecting 100 cases at random from the files, found that eczematous ringworm of the feet was the fifth most frequent condition in the winter, the third most frequent in the summer and occupied the first place in the random survey, sharing this place with acne. The proved proportion of primary ringworm of the feet to secondary eczematous eruptions of the hands is set variously at 3, 15, 20, 25, 30, 35 and 50 per cent, with two contributors abstaining from a positive estimate. An inquiry as to whether or not eczematous ringworm of the extremities predisposes to other allergic eczematous contact dermatitis, especially occupational dermatitis, provoked decided affirmative and negative reactions and clearly indicated the need of further investigation. The lower incidence of ringworm infection of the feet in adult females and collaterally the relative frequency with which male children acquire ringworm of the scalp may suggest endocrine involvement. Children do not apparently contract ringworm of the extremities easily.

THE DISTINGUISHED SERVICE MEDAL

The Distinguished Service Medal of the American Medical Association will be presented for the fourth time at the opening general meeting at the annual session of the Association in Cleveland on June 3. This medal was awarded, for the first time, in 1938 to Dr. Rudolph Matas of New Orleans, in 1939 to Dr. James B. Herrick of Chicago and last year to Dr. Chevalier Jackson of Philadelphia. By the system of selection this award has come to be recognized as one of the most distinguished honors within the gift of the Association. The method of selection of the recipient of the Distinguished Service Medal is specifically defined in the By-Laws of the Association. Any Fellow of the Association may submit nominations, which should be sent, together with a record of the scientific services of the nominees, to the chairman of the Committee on Distinguished Service Awards or to the Secretary of the Association. Dr. A. A. Walker, 2250 Highland Avenue, Birmingham, Ala., is chairman of the Committee on Distinguished Service Awards. Of all nominations received by the Committee, five are submitted to the Board of Trustees of the Association, from which the Board selects three to be submitted to the House of Delegates at its first meeting. Immediately on submission of the nominations by the Board of Trustees, the House of Delegates by official vote selects the recipient of the honor, to whom the Distinguished Service Medal is presented on the evening of the following day. Obviously an extended list of distinguished physicians nominated for this award will enable the Committee, the Board of Trustees and the House of Delegates, all of whom participate in the selection, to determine for 1941 a recipient of distinction, whose nomination again will reflect favorably not only on himself but also on the Association.

1. Epstein, E.; Lewis, G. M.; Loveman, A. B.; Pillsbury, D. M.; Schech, A. G.; Shelmire, Bedford; Smith, D. C.; Swartz, J. H., and Wieder, L. M.: Symposium on the Practical Management of Eczematous Ringworm of the Hands and Feet (Athlete's Foot—Dermatophytosis and Dermatophytids), *J. Invest. Dermat.* 3: 523 (Dec.) 1940.

MEDICAL PREPAREDNESS

In this section of The Journal each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY WAR DEPARTMENT

The following additional medical reserve corps officers have been ordered to active duty by the War Department:

ADELMAN, Louis, 1st Lieut., Denver.
BEUCHAT, Eugene, Captain, Denver.
BROWN, Clarence R., 1st Lieut., Washington, D. C.
CLARK, James F., Captain, Hot Springs, Ark.
COHN, Harold A., 1st Lieut., Los Angeles.
CURTIS, Selvie Jewell, 1st Lieut., Denver.
DIMMICK, Ivan Charles, 1st Lieut., Benson, Minn.
DISHARON, Hugh B., Captain, Lewisburg, Tenn.
DOUGHTIE, Jack L., 1st Lieut., Austin, Texas.
DRYDEN, James S., Captain, Raleigh, N. C.
DUNCAN, William Henry, 1st Lieut., Kansas City, Mo.
ELDRIDGE, Irving C., Major, Fort Worth, Texas.
FRAZIER, John W., Jr., 1st Lieut., Denver.
GOODWIN, Franklin H., Captain, Welch, W. Va.
GORDON, William C., 1st Lieut., Washington, D. C.
GRAY, Augustus Clagett, Lieut. Col., Washington, D. C.
GRAY, John T., Captain, Denver.
HARDAWAY, Robert Morris III, 1st Lieut., New York.
KERN, Clyde Vincent, 1st Lieut., Tulsa, Okla.

LOTES, James O., 1st Lieut., Cape Girardeau, Mo.
LUCAS, Thomas L., 1st Lieut., Chesterfield, S. C.
MAYFIELD, George C., Captain, Hot Springs, Ark.
METHENY, Ralph Samuel, Major, Hot Springs, Ark.
MORRIS, Howard L., 1st Lieut., Rosebud, Texas.
MOUSEL, Claude M., 1st Lieut., Denver.
POTNOSKI, Leopold A., 1st Lieut., Philadelphia.
REYNOLDS, Arthur Simpson, 1st Lieut., Llanerch, Pa.
ROBINSON, Donald W., 1st Lieut., Denver.
SALOPEK, Joseph J., 1st Lieut., San Francisco.
STILL, Oscar Wilcox, 1st Lieut., Dallas, Texas.
ULFERTS, Ulfert R., 1st Lieut., Hot Springs, Ark.

Orders Revoked

ABERNETHY, Lynn Dunlap, 1st Lieut., Holly Springs, Miss.
BARKER, Carl D., 1st Lieut., Paris, Texas.
DODSON, Charles Albert, Jr., Captain, Los Angeles.
FAIER, Samuel Z., 1st Lieut., Omaha.
FRENCH, Adam James, 1st Lieut., Ann Arbor, Mich.
FRIEDMAN, Eliot Marvin, 1st Lieut., New York.
GRAY, Luther Wilson, Captain, Washington, D. C.
HANNA, John Thomas, Major, Burlington, Iowa.
MARINACCI, Albert Antonio, 1st Lieut., Los Angeles.

FIRST CORPS AREA

The following additional medical reserve officers have been ordered to extended active duty by the Commanding General, First Corps Area, which comprises the states of Maine, Vermont, New Hampshire, Rhode Island, Massachusetts and Connecticut:

ARLEN, Richard P. S., Lieut., Providence, R. I., Camp Edwards, Mass.
BANKS, Benjamin M., Major, Boston, Fort Banks, Mass.
BARCOMB, Albert E., Lieut., Rochester, N. H., Camp Edwards, Mass.
BERKOWITZ, Joseph, Lieut., West Bridgewater, Mass., Camp Edwards, Mass.
BERNASCONI, Ezio J., Captain, Providence, R. I., Providence, R. I.
BLUHM, Samuel, Lieut., Dorchester, Mass., Camp Edwards, Mass.
BROWN, Albert A., Lieut., Lynn, Mass., Camp Edwards, Falmouth, Mass.
BRUNO, Joseph J., Lieut., New Haven, Conn., Camp Edwards, Mass.
BUCHOLZ, Donald J., Lieut., Boston, Camp Edwards, Mass.
CASTALDO, Louis F., 1st Lieut., Bridgeport, Conn., Fort H. G. Wright, N. Y.
COSTANZO, Ralph E., Captain, Stamford, Conn., Fort H. G. Wright, N. Y.
CUMMINGS, Harwood W., Lieut., Greenfield, Mass., Camp Edwards, Mass.
DEPRIZIO, Carl J., Captain, Mansfield, Mass., Fort H. G. Wright, N. Y.
DORIAN, Neshon Edward, 1st Lieut., New Britain, Conn., Fort Devens, Mass.
DOYLE, George M., Lieut., Gloucester, Mass., Camp Edwards, Mass.
ECKELS, John C., Major, Littleton, N. H., Camp Edwards, Mass.
EMERSON, Burton L., Lieut., Johnson, Vt., Camp Edwards, Mass.
ERINAKES, Peter C. H., Lieut., West Warwick, R. I., Camp Edwards, Mass.
FERRITER, Thomas F., Lieut., Westfield, Mass., Camp Edwards, Mass.
FIELD, Eugene A., Lieut., Providence, R. I., Camp Edwards, Mass.
FLYNN, Herbert L., Captain, Belchertown, Mass., Camp Edwards, Mass.
FRANCESCHI, Aldo G., Lieut., St. Johnsbury, Vt., Fort Devens, Mass.
GALLO, Francis, Lieut., Winsted, Conn., Camp Edwards, Mass.
GORDON, Sydney R., Lieut., Worcester, Mass., Camp Edwards, Mass.

GROSBURG, Samuel, Lieut., Cambridge, Mass., Fort Devens, Mass.
HUBER, William M., Lieut., Boston, Camp Edwards, Mass.
JOSEPH, Lester G., 1st Lieut., New Haven, Conn., Fort Devens, Mass.
KING, Alfred E., Lieut. Col., Watertown, Mass., Headquarters, First Corps Area Army Base, Boston.
LEPORE, John J., Lieut., Marlboro, Mass., Camp Edwards, Mass.
LEVINE, Julius, Lieut., Dorchester, Mass., Camp Edwards, Mass.
LEWIS, Emil H., Lieut., East Boston, Mass., Camp Edwards, Falmouth, Mass.
LOMBARD, Reginald T., Major, South Portland, Me., Camp Edwards, Mass.
MAINVILLE, Albert L., Captain, Leominster, Mass., Fort Banks, Mass.
MAISLEN, Sidney E., Lieut., Hartford, Conn., Hillsport, Airport, R. I.
MASSIMIANO, Antonio G., Lieut., Pittsfield, Mass., Camp Edwards, Mass.
MAZZACANE, James E., Lieut., Hamden, Conn., Camp Edwards, Mass.
MOZES, Edward, Lieut., Malden, Mass., Camp Edwards, Mass.
MURRAY, Martin B., Lieut., Springfield, Mass., Camp Edwards, Mass.
OBERSON, Henry J., Captain, Lynn, Mass., Fort Banks, Mass.
POWERS, William J., 1st Lieut., Rutland, Vt., Fort Ethan Allen, Vt.
ROBINSON, Norman E., Major, Waterbury, Conn., Fort Devens, Mass.
SCANLON, John J., 1st Lieut., Norwalk, Conn., Camp Edwards, Mass.
SEALE, Earl S., Lieut., Boston, Camp Edwards, Mass.
SELTZER, Joseph P., Lieut., Fairfield, Me., Fort Devens, Mass.
WADSWORTH, George L., 1st Lieut., Howard, R. I., Fort Devens, Mass.
WEISS, Samuel, Lieut., Dorchester, Mass., Camp Edwards, Mass.
WILCOX, Lloyd M., 1st Lieut., Terryville, Conn., Camp Edwards, Mass.

Orders Revoked

CANTER, Bernard, Lieut., Springfield, Mass.
DAVIS, Donald A., Lieut., Derby, Conn.
HEELS, George E., 1st Lieut., Cambridge, Mass.
HENDERSON, John W., Jr., Captain, Worcester, Mass.
RATTENNI, Arthur, Lieut., Providence, R. I.
SMITH, Charles Scaver, Major, New Haven, Conn.
WADSWORTH, George L., Lieut., Howard, R. I.

THIRD CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Third Corps Area, which comprises the states of Pennsylvania, Virginia, District of Columbia and Maryland:

BATTAGLIA, Frederick Ignatius, 1st Lieut., McKeesport, Pa., Indiantown Gap, Pa.
BLAIR, Albert John, 1st Lieut., Waynesburg, Pa., Indiantown Gap, Pa.
BRONK, Theodore Tobias, 1st Lieut., Irwin, Pa., Camp Lee, Va.
BYVINGER, Lawrence Camp, 1st Lieut., Pittsburgh, Fort Story, Va.
CLARK, Joseph Gibbons, 1st Lieut., West Chester, Pa., Indiantown Gap, Pa.

COREY, Merle Irving, 1st Lieut., Washington, D. C., Indiantown Gap, Pa.
CREW, Robert Stuart, Captain, Chestnut Hill, Pa., Fort George G. Meade, Md.
CROSS, Allen Slayman, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.
CRUVANT, Bernard Alan, 1st Lieut., Washington, D. C., Fort Belvoir, Va.
ELY, Thomas Harrison Southgate, 1st Lieut., Jonesville, Va., Fort George G. Meade, Md.
EMMERLING, John Frederick, Captain, Pittsburgh, Indiantown Gap, Pa.
FINLEY, Charles Francis, 1st Lieut., Arlington, Va., Fort George G. Meade, Md.

HADEN, Earl Joseph, Major, Ore Bank, Va., Fort Monroe, Va.
HAMRICK, Hayward Russell, 1st Lieut., Philadelphia, Indiantown Gap, Pa.
HUNTER, Oscar Benwood, Major, Washington, D. C., Fort Belvoir, Va.
KNOLL, George Monroe, 1st Lieut., Hamburg State Sanatorium for Tuberculosis, Hamburg, Pa., Fort Belvoir, Va.
KOLMAN, Lester Norman, 1st Lieut., Baltimore, Fort George G. Meade, Md.
LEVER, Haseltine Smith, Jr., 1st Lieut., Abington, Pa., Fort George G. Meade, Md.
MANCE, Andrew Emerik, 1st Lieut., Oakland, Md., Fort George G. Meade, Md.
MEANS, Louis Lamont, Captain, McKeesport, Pa., Fort Monroe, Va.
MELNICOVE, Sidney, 1st Lieut., Pine Grove, Pa., Indiantown Gap, Pa.
MILBURN, Robert Edward, 1st Lieut., Dixmont, Pa., Fort Story, Va.

NAPLES, Carmon Robert, 1st Lieut., Silver Spring, Md., Fort Eustis, Va.
NAVE, John Albert, Captain, Beaver Falls, Pa., Indiantown Gap, Pa.
OWCZYKOWSKY, Bernard John, 1st Lieut., Oil City, Pa., Fort George G. Meade, Md.
RAINES, Herbert Smith, 1st Lieut., Philadelphia, Fort Monroe, Va.
READY, Thomas Joseph, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.
REIS, Paul Byron, Captain, Palmyra, Pa., Fort George G. Meade, Md.
SILVERTON, George, 1st Lieut., Baltimore, Fort George G. Meade, Md.
SMITH, John Beverly, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.
TALIAFERRO, William Lyons, 1st Lieut., Norfolk, Va., Fort George G. Meade, Md.
WOOLWINE, John Hoge, Jr., 1st Lieut., Blacksburg, Va., Fort George G. Meade, Md.

FOURTH CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Fourth Corps Area, which comprises the states of Tennessee, North Carolina, South Carolina, Alabama, Georgia, Mississippi, Florida and Louisiana:

CARDWELL, Edward S., Jr., 1st Lieut., Memphis, Tenn., Fort Jackson, S. C.
HENRY, Jennings L., 1st Lieut., Atlanta, Ga., Camp Stewart, Ga.
HESTER, Marion W., Captain, Atlanta, Ga., Fort Bragg, N. C.
HOLLOWAY, Charles T., 1st Lieut., Charleston, S. C., Fort Bragg, N. C.
JONES, Andrew M., 1st Lieut., Athens, Ga., Fort Bragg, N. C.

KESSLER, Sidney N., 1st Lieut., Atlanta, Ga., Camp Croft, S. C.
NARDIN, Gene, 1st Lieut., Atlanta, Ga., Orlando Air Base, Orlando, Fla.
TILLMAN, George C., Major, Gainesville, Fla., Camp Livingston, La.

Orders Revoked

ANDERSON, William E., 1st Lieut., Dyersburg, Tenn.
McMANUS, Hugh F., Jr., 1st Lieut., Raleigh, N. C.
MICHEL, Marshall L., Jr., 1st Lieut., New Orleans.
PARSONS, Hugh E., 1st Lieut., Tampa, Fla.
RAMSAY, Thomas R., 1st Lieut., Laurel, Miss.
ROGERS, Howard M., Captain, St. Petersburg, Fla.
ROPER, C. James, 1st Lieut., Jasper, Ga.
SUMMER, William C., Major, Minden, La.
TEEM, Martin V. B., 1st Lieut., Marietta, Ga.

FIFTH CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Fifth Corps Area, which comprises the states of Ohio, West Virginia, Indiana and Kentucky:

ALBANESE, Nicholas A., Colonel, Columbus, Ohio, Fort Knox, Ky.
ALLEY, Rufus C., 1st Lieut., Lexington, Ky., Fort Thomas, Ky.
AUCREMAN, Charles J., 1st Lieut., Montpelier, Ind., Fort Benjamin Harrison, Ind.
BEARD, Harry E., 1st Lieut., Huntington, W. Va., Huntington, W. Va.
COHEN, Sander, 1st Lieut., Cincinnati, Fort Thomas, Ky.

CONN, Harry G., Captain, Toledo, Ohio, Fort Knox, Ky.
EDDY, Howard C., Major, University Heights, Ohio, Fort Knox, Ky.
FOX, William L., Colonel, Cleveland, Fort Knox, Ky.
GOSE, William C., 1st Lieut., Pikeville, Ky., Louisville, Ky.
HANNA, Myron, Lieut. Col., Findlay, Ohio, Fort Knox, Ky.
ITERMAN, George E., Major, New Castle, Ind., Fort Knox, Ky.
MISSAL, Sylvester C., 1st Lieut., 7040 Broadway Ave., Cleveland, Cleveland.
PENNINGTON, Porter C., Lieut. Col., Findlay, Ohio, Fort Knox, Ky.
POCOTTE, Robert W., 1st Lieut., Toledo, Ohio, Toledo, Ohio.
POLLACK, Alexander, 1st Lieut., Columbus, Ohio, Fort Hayes, Ohio.
SCHNEIDER, Bernard, 1st Lieut., Louisville, Ky., Louisville, Ky.
TOMAK, Milton E., 1st Lieut., Linton, Ind., Fort Benjamin Harrison, Ind.

SIXTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Sixth Corps Area, which comprises the states of Wisconsin, Illinois and Michigan:

BURTON, Stanley D., 1st Lieut., Chicago, Station Hospital, Fort Sam Houston, Texas.
DIORETO, Panfilo C., 1st Lieut., Detroit, 5th Division, Fort Custer, Mich.
FEINERMAN, Albert H., 1st Lieut., Augusta, Ill., 5th Division, Fort Custer, Mich.
FORT, Richard G., 1st Lieut., Evanston, Ill., 5th Division, Fort Custer, Mich.
FOX, Francis H., 1st Lieut., Arthur, Ill., 5th Division, Fort Custer, Mich.
FRIEDLAENDER, Alex S., 1st Lieut., Detroit, 5th Division, Fort Custer, Mich.
JOHNSTONE, John H., 1st Lieut., Eldorado, Ill., William Beaumont General Hospital, El Paso, Texas.
KASTLE, Karl G., 1st Lieut., Appleton, Wis., 27th Division, Fort McClellan, Ala.
KRUEGER, Emil Robt., 1st Lieut., Hayward, Wis., 30th Division, Fort Jackson, S. C.
LOCKHART, Edmund S., 1st Lieut., Nokomis, Ill., Station Hospital, Fort Bliss, Texas.
MESSMAN, Lorrell E., 1st Lieut., Onarga, Ill., 5th Division, Fort Custer, Mich.
MOFFATT, John S., 1st Lieut., Byron, Ill., Station Hospital, Chanute Field, Ill.
MONROE, Clarence W., 1st Lieut., Oak Park, Ill., Station Hospital, Fort Sheridan, Ill.
MULLEN, John P., 1st Lieut., Chicago, 5th Division, Fort Custer, Mich.
NELL, Edward Rabb, 1st Lieut., Kalamazoo, Mich., Station Hospital, Fort Sill, Okla.
NELSON, Charles A., 1st Lieut., Pekin, Ill., 5th Division, Fort Custer, Mich.

NESMITH, Harry D., 1st Lieut., Salem, Ill., 5th Division, Fort Custer, Mich.
NEUCHILLER, Bernard B., 1st Lieut., Woodstock, Ill., 5th Division, Fort Custer, Mich.
ORSBORN, Ernest V., 1st Lieut., Chicago, Station Hospital, Fort Sam Houston, Texas.
OSTRANDER, Robert A., 1st Lieut., Ludington, Mich., Station Hospital, Selfridge Field, Mich.
PARKER, Elliott F., 1st Lieut., Moline, Ill., 5th Division, Fort Custer, Mich.
PARKER, Forest C., 1st Lieut., Danville, Ill., Station Hospital, Chanute Field, Ill.
PISZCZEK, Edward A., 1st Lieut., Chicago, 5th Division, Fort Custer, Mich.
RAIDER, Jack H., 1st Lieut., Chicago, 5th Division, Fort Custer, Mich.
REUTER, Clarence William, 1st Lieut., Bay City, Mich., Station Hospital, Selfridge Field, Mich.
ROBBINS, Robert H., 1st Lieut., Waukegan, Ill., Station Hospital, Chanute Field, Ill.
SCOVILL, Henry A., 1st Lieut., Union City, Mich., 5th Division, Fort Custer, Mich.
WILLIAMSON, Holland, Captain, Danville, Ill., Station Hospital, Camp Grant, Ill.
WRIGHT, Marvin, 1st Lieut., Rhinelander, Wis., 5th Division, Fort Custer, Mich.
ZBUDOWSKI, Myron R., 1st Lieut., Detroit, Fort Custer, Mich.

CORRECTION

Captain Grossmann.—Capt. Erwin E. Grossmann writes that he is assigned to the Station Hospital, Fort Sam Houston, Texas. The listing of this officer as a first lieutenant stationed at Fort Sill, Okla., in THE JOURNAL, March 8, page 958, under the Sixth Corps Area, was erroneous.

SEVENTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Seventh Corps Area, which comprises the states of North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri, Arkansas and Wyoming:

AQUINO, Philip Joseph, 1st Lieut., Caruthersville, Mo., Fort Leonard Wood, Mo.

BRILLHART, Everett Guy, 1st Lieut., Shelby, Neb., Camp J. T. Robinson, Ark.
BURT, Elmer Gordon, 1st Lieut., Crossett, Ark., Camp J. T. Robinson, Ark.
CAIRNS, Robert Johnson, 1st Lieut., Sanborn, Minn., Camp J. T. Robinson, Ark.
CALLEY, John Harry, Captain, Little Rock, Ark., Camp J. T. Robinson, Ark.
CHRISTENSON, Earle Henry, Captain, Eldora, Iowa, Camp J. T. Robinson, Ark.
DEYOUNG, George Marion, 1st Lieut., George, Iowa, Camp Murray, Wash.

DOWNING, John Edwin, 1st Lieut., Omaha, Camp J. T. Robinson, Ark.
DOZIER, Floyd Spivey, 1st Lieut., Wilson, Ark., Camp J. T. Robinson, Ark.
FRIEDMAN, Michael, 1st Lieut., St. Louis, Camp J. T. Robinson, Ark.
GANSLOSER, Wilbert Max, 1st Lieut., St. Louis, Fort Leonard Wood, Mo.
GARCIA, Charles Leon, Captain, Warrenton, Mo., Camp J. T. Robinson, Ark.
GASTON, Cecil Lorrain, Jr., 1st Lieut., Little Rock, Ark., Camp J. T. Robinson, Ark.
HALLADAY, George John, 1st Lieut., Brainerd, Minn., Camp J. T. Robinson, Ark.
HARTWIG, John Adam, Captain, St. Louis, Camp J. T. Robinson, Ark.
HOGG, Garrett, Jr., 1st Lieut., Cabool, Mo., Camp J. T. Robinson, Ark.
HOOVER, Paul Williams, 1st Lieut., Arkadelphia, Ark., Camp J. T. Robinson, Ark.
JOHNSTON, Thomas Edward, Captain, Topeka, Kan., Fort Leavenworth, Kan.
JONES, Paul Leonidas, 1st Lieut., Flat River, Mo., Camp J. T. Robinson, Ark.
KELLING, Douglas George, 1st Lieut., Waverly, Mo., Camp J. T. Robinson, Ark.
MAGNESS, Guy Norton, Captain, University City, Mo., Camp J. T. Robinson, Ark.
MARTIN, Lee Roy, 1st Lieut., Council Bluffs, Iowa, Camp J. T. Robinson, Ark.
McCRAY, Raymond Vaughn, 1st Lieut., Malvern, Ark., Camp J. T. Robinson, Ark.
McVAY, Melvin Josiah, Captain, Lake City, Iowa, Camp J. T. Robinson, Ark.
MINER, Paul Floyd, 1st Lieut., Laramie, Wyo., Camp J. T. Robinson, Ark.
MOERKE, Robert Frank, 1st Lieut., Burlington, Iowa, Camp J. T. Robinson, Ark.
MOORE, Ernest Monroe, Jr., 1st Lieut., Higginsville, Mo., Camp J. T. Robinson, Ark.

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Eighth Corps Area, which comprises the states of Colorado, Arizona, New Mexico, Oklahoma and Texas:

ALLISON, Joe M., 1st Lieut., Emery, Texas, 14th Medical Regiment, Camp Bowie, Texas.
ARCHER, James T., 1st Lieut., Houston, Texas, Station Hospital, Fort Sam Houston, Texas.
BARRETT, John H., 1st Lieut., Palestine, Texas, 14th Medical Regiment, Camp Bowie, Texas.
BARSH, Albert G., 1st Lieut., Stephenville, Texas, 215th General Hospital, Camp Bowie, Texas.
BAYER, Bernard H., Captain, Houston, Texas, Station Hospital, Camp Barkeley, Texas.
BECKWITH, Harry S., 1st Lieut., Winslow, Ariz., 368th Infantry, Fort Huachuca, Ariz.
BENAVIDES, Simon I., Jr., 1st Lieut., Thornton, Texas, 14th Medical Regiment, Camp Bowie, Texas.
BOGUSKIE, William M., Captain, Hearne, Texas, 14th Medical Regiment, Camp Bowie, Texas.
BOLTON, Vernon L., 1st Lieut., Oklahoma City, Station Hospital, Fort Sam Houston, Texas.
BOYLE, Frank B., 1st Lieut., Big Spring, Texas, 156th Station Hospital, Camp Wolters, Texas.
CARSWELL, Winston E., Captain, Dallas, Texas, 14th Medical Regiment, Camp Bowie, Texas.
CLARK, Albert I., 1st Lieut., Galveston, Texas, 14th Medical Regiment, Camp Bowie, Texas.
CLARK, Dan Hines, 1st Lieut., Corpus Christi, Texas, 14th Medical Regiment, Camp Bowie, Texas.
CLARKE, Doyce M., 1st Lieut., Lubbock, Texas, Station Hospital, Fort Sill, Okla.
COVODE, William M., 1st Lieut., Port Arthur, Texas, Station Hospital, Fort Sam Houston, Texas.
CROCKER, Ed S., 1st Lieut., Houston, Texas, Station Hospital, Fort Sam Houston, Texas.
DAVIS, Henry T., 1st Lieut., Galveston, Texas, Station Hospital, Fort Sill, Okla.
DOWNING, Gerald G., 1st Lieut., Lawton, Okla., Station Hospital, Fort Sill, Okla.
EVANS, Russell J., 1st Lieut., Denver, Station Hospital, Fort Bliss, Texas.
FILMORE, Angus J., 1st Lieut., Mesa, Ariz., 368th Infantry, Fort Huachuca, Ariz.
FORBES, Burton L., 1st Lieut., Denver, 14th Medical Regiment, Camp Bowie, Texas.
FOX, Kermit W., 1st Lieut., Bryan, Texas, Station Hospital, Fort Sam Houston, Texas.
FRANCIS, James Donald, 1st Lieut., Tucson, Ariz., Station Hospital, Fort Bliss, Texas.
GALBRAITH, Biven R., Captain, Honey Grove, Texas, 14th Medical Regiment, Camp Bowie, Texas.
GROSSMAN, Bernard E., 1st Lieut., Denver, Station Hospital, Camp Barkeley, Texas.
GRUMBLES, Ernest W., 1st Lieut., Atlanta, Texas, 165th Station Hospital, Harbor Defenses, Galveston, Texas.
HILL, Wayne Calvin, 1st Lieut., Brownfield, Texas, 14th Medical Regiment, Camp Bowie, Texas.
HOEFLICH, W. F. A., 1st Lieut., Houston, Texas, Fort Sam Houston, Texas.

MORIARTY, Lauren Reiter, 1st Lieut., Villisca, Iowa, Camp J. T. Robinson, Ark.
MOWREY, William Oliver, 1st Lieut., St. Louis, Camp J. T. Robinson, Ark.
MULKEY, James Robert, 1st Lieut., Farmington, Mo., Fort Francis E. Warren, Wyo.
RARICK, Ivan Heath, 1st Lieut., Sioux City, Iowa, Camp J. T. Robinson, Ark.
REDMOND, James Joseph, 1st Lieut., Cedar Rapids, Iowa, Camp J. T. Robinson, Ark.
SHANDORF, James Frederick, 1st Lieut., Northfield, Minn., Camp J. T. Robinson, Ark.
SHEPPARD, Julius Kelly, 1st Lieut., El Dorado, Ark., Camp J. T. Robinson, Ark.
SHERIDAN, Edmund Reid, 1st Lieut., St. Louis, Camp J. T. Robinson, Ark.
SMITH, Clifford Lamar, 1st Lieut., Buffalo, Wyo., Camp J. T. Robinson, Ark.
STACK, Bernard Dennis, 1st Lieut., Thermopolis, Wyo., Camp J. T. Robinson, Ark.
TAMISIEA, Francis Xavier, 1st Lieut., Missouri Valley, Iowa, Camp J. T. Robinson, Ark.
TANOUS, Edward Michael, 1st Lieut., Omaha, Camp J. T. Robinson, Ark.
TRYTTEN, Edwin Gerhardt, 1st Lieut., Middle River, Minn., Camp J. T. Robinson, Ark.
VERSER, Joe, 1st Lieut., Harrisburg, Ark., Camp J. T. Robinson, Ark.
VIRANT, John Aloysius, 1st Lieut., St. Louis, Camp J. T. Robinson, Ark.

Orders Revoked

HELBING, Edward John, 1st Lieut., Richmond Heights, Mo., Fort Knox, Ky.
KARN, Jacob Francis, 1st Lieut., St. Paul, Fort Knox, Ky.
LARSON, Ernest J., 1st Lieut., Jamestown, N. D., Fort Riley, Kan.
RETTENMAIER, Albert Joseph, 1st Lieut., Kansas City, Kan., Fort Francis E. Warren, Wyo.

EIGHTH CORPS AREA

HOLT, Russell, 1st Lieut., El Paso, Texas, 14th Medical Regiment, Camp Bowie, Texas.
HOWLE, Thomas M., 1st Lieut., Snyder, Texas, 14th Medical Regiment, Camp Bowie, Texas.
HYDE, William A., 1st Lieut., Durant, Okla., Station Hospital, Camp Barkeley, Texas.
JACKSON, James E., 1st Lieut., Houston, Texas, Station Hospital, Camp Livingston, La.
JONES, Edgar F., Jr., 1st Lieut., Aransas Pass, Texas, 368th Infantry, Fort Huachuca, Ariz.
JONES, Malcolm A., Captain, Hempstead, Texas, 165th Station Hospital, Harbor Defenses, Galveston, Texas.
KING, Everett G., 1st Lieut., Duncan, Okla., 14th Medical Regiment, Camp Bowie, Texas.
LEBERMAN, Lowell H., 1st Lieut., Commerce, Texas, 36th Evacuation Hospital, Fort Sam Houston, Texas.
LENEX, Walter R., 1st Lieut., Fort Worth, Texas, 14th Medical Regiment, Camp Bowie, Texas.
McCLURE, Wayne N., 1st Lieut., Kermit, Texas, 14th Medical Regiment, Camp Bowie, Texas.
McCURDY, William C., Jr., 1st Lieut., Purcell, Okla., 2d Medical Battalion, Fort Sam Houston, Texas.
McFATRIDGE, Keith W., 1st Lieut., Wichita Falls, Texas, Station Hospital, Fort Sill, Okla.
McGEHEE, Charles L., Captain, San Antonio, Texas, 213th General Hospital, Camp Bowie, Texas.
McKENNA, Daniel Stewart, 1st Lieut., Upper Darby, Pa., Station Hospital, Fort Bliss, Texas.
McKINSEY, S. Joe, Captain, McAllen, Texas, Station Hospital, Fort Sam Houston, Texas.
McRAE, Louis Addison, 1st Lieut., Houston, Texas, Station Hospital, Fort Bliss, Texas.
MELVIN, James H., Jr., 1st Lieut., Oklahoma City, 14th Medical Regiment, Camp Bowie, Texas.
MILLER, Hubert W., 1st Lieut., Artesia, N. M., 349th Field Artillery, Fort Sill, Okla.
MILLIGAN, Gatewood C., 1st Lieut., Englewood, Colo., Lowry Field, Colo.
MITCHELL, Robert H., 1st Lieut., Plainview, Texas, Station Hospital, Camp Barkeley, Texas.
MOLHOLM, Clifford E., 1st Lieut., Crownpoint, N. M., 14th Medical Regiment, Camp Bowie, Texas.
MOORE, Rufus D., Captain, Omaha, Texas, Station Hospital, Fort Sam Houston, Texas.
PALMER, Maxwell R., 1st Lieut., Tucson, Ariz., 25th Infantry, Fort Huachuca, Ariz.
PARA, Andrew W., Major, Brownsville, Texas, 36th Division, Camp Bowie, Texas.
PARK, Barton E., 1st Lieut., Dallas, Texas, 156th Station Hospital, Camp Wolters, Texas.
PARRISH, B. R., 1st Lieut., Galveston, Texas, Lowrey Field, Colo.
PECORA, Tony Lawrence, 1st Lieut., Beaumont, Texas, Camp Barkeley, Texas.
PERRY, Fred T., 1st Lieut., Hilderton, Okla., Camp Barkeley, Texas.
PHELPS, Malcolm E., 1st Lieut., El Reno, Okla., Camp Barkeley, Texas.
PLUMMER, Thomas C., 1st Lieut., Montrose, Colo., 14th Medical Regiment, Camp Bowie, Texas.
von POHLE, Charles L., 1st Lieut., Chandler, Ariz., 368th Infantry, Fort Huachuca, Ariz.
POLKA, James B., Major, San Antonio, Texas, Station Hospital, Fort Sam Houston, Texas.
PUIG, Valentine L., Jr., 1st Lieut., Laredo, Texas, 14th Medical Regiment, Camp Bowie, Texas.
QUAY, John Edward, Captain, Waco, Texas, Recruit Reception Center, Fort Sam Houston, Texas.

RAWLINGS, J. Mott, 1st Lieut., El Paso, Texas, Station Hospital, Camp Barkley, Texas.
 RAY, John Wyeth, 1st Lieut., Houston, Texas, 14th Medical Regiment, Camp Bowie, Texas.
 REAGAN, Tom B., 1st Lieut., Beeville, Texas, 36th Evacuation Hospital, Fort Sam Houston, Texas.
 RIKLIN, Henry H., 1st Lieut., Safford, Ariz., 14th Medical Regiment, Camp Bowie, Texas.
 ROBINSON, Cecil A., 1st Lieut., Kermit, Texas, 368th Infantry, Fort Huachuca, Ariz.
 ROGERS, Thurman M., 1st Lieut., Sterling, Colo., 25th Infantry, Fort Huachuca, Ariz.
 ROSS, Jesse Ellick, 1st Lieut., Henderson, Texas, Camp Barkley, Texas.
 RYAN, Bert M., Captain, Houston, Texas, Kelly Field, Texas.
 SLOAN, John J., 1st Lieut., Corpus Christi, Texas, Station Hospital, Fort Sam Houston, Texas.
 SMITH, Carroll C., 1st Lieut., Mart, Texas, 14th Medical Regiment, Camp Bowie, Texas.
 SMITH, Donald Hector, 1st Lieut., Fairview, Okla., Fort Bliss, Texas, Station Hospital.
 SMITH, John McCollough, 1st Lieut., Port Neches, Texas, Camp Barkley, Texas.
 SMITH, Millard F., Major, Raton, N. M., 25th Infantry, Fort Huachuca, Ariz.
 SOUTHWICK, Lloyd M., 1st Lieut., St. Edinburg, Texas, 36th Division, Camp Bowie, Texas.
 SPEED, H. K., 1st Lieut., Clovis, N. M., Lowry Field, Colo.
 STEPHEN, James J., 1st Lieut., Goldthwaite, Texas, 14th Medical Regiment, Camp Bowie, Texas.
 STOUGH, Austin R., 1st Lieut., McAlester, Okla., Station Hospital, Fort Sill, Okla.
 SWANSON, Wayland R., Captain, Taylor, Texas, Lowry Field, Colo.
 TERRY, John Banner, 1st Lieut., Wewoka, Okla., Kelly Field, Texas.
 THORNTON, Harold H., 1st Lieut., Trinity, Texas, Camp Barkley, Texas.
 TRAVERSE, Clifford A., 1st Lieut., Alva, Okla., 213th General Hospital, Camp Bowie, Texas.
 TUCKER, Jesse Norris, 1st Lieut., Houston, Texas, Kelly Field, Texas.
 TYNER, Furman H., Captain, Fort Arthur, Texas, Fort Sam Houston, Texas, Station Hospital.
 VAN SWERINGEN, Walter, Major, Amarillo, Texas, Station Hospital, Fort Bliss, Texas.
 WACHSMAN, David V., 1st Lieut., Houston, Texas, 14th Medical Regiment, Camp Bowie, Texas.
 WALBORN, Kenneth Boone, 1st Lieut., Dallas, Texas, Fort Brown, Texas, Station Hospital.
 WALKER, Price M., Captain, Dallas, Texas, 368th Infantry, Fort Huachuca, Ariz.
 WATERS, Floyd Leo, 1st Lieut., Hugo, Okla., Camp Barkley, Texas.
 WHEELER, Frank B., Jr., 1st Lieut., Winnsboro, Texas, 14th Medical Regiment, Camp Bowie, Texas.
 WIEDEMAN, John Elmer, 1st Lieut., Junction, Texas, Camp Barkley, Texas.

WIER, David T., 1st Lieut., Belen, N. Mex., Kelly Field, Texas.
 WILKINS, Afton Norvell, 1st Lieut., Conroe, Texas, Camp Bowie, Texas.
 WILKINSON, Wallace B., 1st Lieut., Dallas, Texas, Camp Wallace, Texas.
 WILLESS, Hersel F., 1st Lieut., Dallas, Texas, 368th Infantry, Fort Huachuca, Ariz.
 WILLIAMS, Onie Owen, Captain, Phoenix, Ariz., Station Hospital, Fort Bliss, Texas.
 WILLIAMS, William H., Jr., Abilene, Texas, Station Hospital, Fort Sam Houston, Texas.
 WOLFE, Reed, Captain, Oklahoma City, 368th Infantry, Fort Huachuca, Ariz.
 WOODALL, Jack Miller, 1st Lieut., Big Spring, Texas, Station Hospital, Fort Sam Houston, Texas.
 WOOLF, Jack I., 1st Lieut., Dallas, Texas, 36th Division, Camp Bowie, Texas.
 ZAMPETTI, H. A., 1st Lieut., Lawton, Okla., Fort Logan, Colo.

Orders Revoked

ANDERSON, Robert E., 1st Lieut., Woodmen, Colo.
 BARTHELD, Floyd T., 1st Lieut., McAlester, Okla.
 BECK, Harold J., 1st Lieut., Jersey City, N. J.
 BOGUSKIE, William M., Captain, Hearne, Texas.
 COHEN, Matthew, 1st Lieut., Phoenix, Ariz.
 COLLINS, William A., Jr., 1st Lieut., El Paso, Texas.
 DAVIS, James H., Lieut.-Col., Fort Worth, Texas.
 EVANS, Alfred M., 1st Lieut., Perry, Okla.
 HOWLE, Thomas Matison, 1st Lieut., Snyder, Texas.
 KUPKA, John F., 1st Lieut., Haskell, Okla.
 MARTIN, Claud A., 1st Lieut., Austin, Texas.
 McVEIGH, Joseph Fielding, Captain, Fort Worth, Texas.
 MILLER, John Burr, Jr., 1st Lieut., San Antonio, Texas.
 PHELPS, Maloon E., 1st Lieut., El Reno, Okla.
 RAWLINGS, J. Mott, 1st Lieut., El Paso, Texas.
 ROGERS, Thurman M., 1st Lieut., Sterling, Colo.
 SMITH, Thomas Edwin, Captain, Dallas, Texas.
 THORNTON, Harold H., 1st Lieut., Trinity, Texas.
 WACHSMAN, David V., 1st Lieut., Houston, Texas.
 WADE, David Chapel, 1st Lieut., Galveston, Texas.
 WIEDEMAN, John Elmer, 1st Lieut., Junction, Texas.
 WILKINSON, Wallace B., 1st Lieut., Dallas, Texas.

CORRECTION

Captain Curtis.—The Surgeon, Eighth Corps Area, writes, with reference to the report published February 1, listing Capt. Wickliffe Reid Curtis, Medical Reserve, as being ordered to extended active duty: This was in error, as Captain Curtis was not ordered to extended active duty.

EXAMINATION FOR COMMISSIONS IN NAVY MEDICAL CORPS

Applications for commissions as medical officers in the U. S. Navy are now being received in the Bureau of Medicine and Surgery, Navy Department, Washington, D. C. Examinations for entrance into the Medical Corps of the regular Navy will be held on May 12 to 15, inclusive, 1941, at all of the larger naval hospitals, including those at Chelsea (Boston), Mass., Brooklyn, Philadelphia, Portsmouth (Norfolk), Va., Great Lakes, Ill., Charleston, S. C., Pensacola, Fla., San Diego, Calif., Mare Island, Calif., Puget Sound (Bremerton), Wash., and at the Naval Medical Center, Washington, D. C. Successful candidates from this examination will receive their appointments approximately two months from the date of the examination.

Applicants are required to be citizens of the United States between 21 and 32 years of age at the time of appointment, graduates of a class A medical school, and to have completed at least one year of intern training in a hospital accredited for intern training by the Council on Medical Education and Hospitals of the American Medical Association. They are required to be physically qualified and to demonstrate their professional qualifications by written, oral and practical examinations embracing the subjects of general medicine, general surgery, obstetrics and gynecology, and preventive medicine and jurisprudence. The physical and professional examinations usually require from three to four days for completion.

Successful candidates are commissioned as assistant surgeons with the rank of lieutenant (junior grade) in the Medical Corps of the Navy. An officer of this rank receives compensation of \$2,699 a year if he has no dependents and \$3,158 a year if he has dependents.

A "Circular for the Information of Persons Desiring to Enter the Medical Corps of the United States Navy," including data pertaining to physical requirements, promotion and retirement, may be obtained by addressing a request to the Surgeon General of the Navy, Navy Department, Washington, D. C.

ASSISTANT TO SURGEON GENERAL TO RETIRE

Brigadier General Raymond F. Metcalfe, assistant to the Surgeon General, will retire May 31, having reached the age limit, and will make his future home in San Francisco. His last assignment on active duty was as commandant of the Army Medical Center in Washington, D. C., from which position he will be on leave of absence from January 31 until he is retired. Born in New York, General Metcalfe graduated from the University of Buffalo in 1900 and entered the Army Medical Corps the following year. His army career was especially notable for the practice of operative surgery. At various times he was head of the surgical services at the Walter Reed General Hospital, Washington, D. C., the Letterman General Hospital in San Francisco, the Tripler General Hospital in Honolulu, and the Station Hospital at Fort Sam Houston, Texas. He also served in the Philippine Islands and as a Division and Corps Surgeon with the American Expeditionary Forces in France.

FREE FRENCH AND BRITISH AFRICA FORCES NEED MEDICAL SUPPLIES

A cablegram from the Committee of Free French Volunteers in Brazzaville, French Equatorial Africa, to the Medical and Surgical Supply Committee of America appeals for immediate shipments of surgical instruments of all types and medical supplies and for millions of quinine, sulfanilamide and vitamin tablets. A public appeal has been issued by the Medical and Surgical Supply Committee of America for funds with which to purchase the supplies requested. The cablegram cited the urgent need of bandages, absorbent cotton, iodine and boric acid. Checks should be made out to Arthur Kunzinger of the Chase National Bank and mailed to the Medical and Surgical Supply Committee of America, 420 Lexington Avenue, New York City.

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA
VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGEONS, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOE, ROSCO GENUNG LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MCGOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 1451)

MARCH 12—MORNING

TESTIMONY OF DR. CHARLES GORDON HEYD

By Mr. Leahy:

Charles Gordon Heyd, New York City, said he had been practicing in New York since 1909. He received his preliminary education at the University of Toronto, B.A. degree in 1905, University of Buffalo, M.D., 1909. Four years as intern and surgical resident in the New York Post Graduate Hospital and Medical School. He has the degree of doctor of science from Temple University and is professor of surgery in the Medical School, Columbia University, and attending surgeon in the New York Post Graduate Hospital. He is also consulting surgeon, Women's Hospital, in New York; Dover Hospital in New Jersey; Greenwich Hospital in Connecticut; Rockaway Hospital in New York City, and maybe one other. He was President of the American Medical Association in 1936 and 1937. He is also former vice president of the American College of Surgeons. In the last war he was about twenty-three months in service, twenty-one of which was in the American Expeditionary Forces and also commanding officer of Mobile Hospital No. 7. At present he is a member of the Council on Medical Education and Hospitals, beginning in November 1937.

Q.—How many are in that Council? A.—Seven, I think, with the secretary—excluding the secretary.

Q.—Without going into too great detail, can you just tell us briefly the functions and purposes of the Council on Medical Education and Hospitals? A.—The function of the Council on Medical Education and Hospitals is primarily to educate the people of the United States to improved medical service, by improvement in medical schools, and to improve the quality of medical services in the hospitals. As part of its duties it inspects medical schools and inspects hospitals, but only when invited to do so. In other words, the Council does not come in and investigate a hospital unless the hospital requests the Council to come in and make an investigation.

Q.—Do you recall now, Doctor, how many hospitals there are in the United States which have been investigated or inspected by the Council on their request? A.—I don't know the exact number; probably eight hundred to a thousand.

Q.—Does the American Medical Association maintain any other register or list of hospitals other than the ones that the Council inspects? A.—Oh, yes. There are three divisions of registration. There is, first, the registration of hospitals that want to be listed in the register of hospitals and in the Directory of the American Medical Association. That is done without inspection. Then there is the registering of the hospitals that ask to be inspected and that want to be approved for the training of interns; and the third division is the approval and listing of hospitals that feel that they have the proper organization and teaching facilities for the training of residents.

Q.—What is the distinction between the training of residents and the training of interns, Doctor? A.—The training of an intern is a basic training in a hospital that embraces a course in medicine, in surgery, in obstetrics, or childbirth, in pediatrics,

or diseases of children, x-ray and laboratory work. It is a basic, general, broad preliminary training for a young man who is going out into practice.

A residency is a continuation of that, where the young man elects to take a special course of training, for instance, in the diseases of children—and that may vary from two years to four years or seven years. A hospital that wants approval for the training of residents has got to be a big hospital with very ample facilities and an extensive and complete teaching unit.

Q.—What is the inspection of medical schools which is conducted? A.—The inspection of medical schools embraces a survey of the physical plant—Has the medical school sufficient plant area? Second, are they equipped with sufficient laboratories in what are known as the basic sciences, physiology, anatomy, and so forth? Have they the right number of teachers? Are the teachers qualified? Are the teachers ethical? Are the teachers sufficiently well known by their affiliations with all of the national societies, including the American Medical Association? Have they a library? Is it in juxtaposition or near the medical school? Have they proper hospital facilities in hospitals with a sufficient number of beds? In other words, the Council purely, by the effect of public education, has reduced the number of medical schools from one hundred and sixty-one to about sixty-six at the present time; and they are graded as class A schools that are complete in their educational equipment.

Q.—What jurisdiction, if any, does the Council claim over either medical schools or hospitals? A.—None whatsoever.

Q.—What effort does the Council make with reference to controlling the administration of either a medical school or a hospital? A.—None whatsoever.

Q.—How does it attain or attempt to attain the maintenance or elevation of the standards of medical care? A.—Well, a medical school will want to be approved and it will request the Council on Medical Education and Hospitals to come and inspect it, and the technical inspectors will go and make an inspection more or less along the categories that I have indicated. When that report is brought in the secretary will usually digest it and analyze it, and then he will send a copy of it to the medical school so that the medical school can make a rebuttal or can offer explanations if there are certain criticisms. When that comes back, then it is considered and efforts are made, by talking with the dean of the school, to see where it may be improved. Our purpose is to keep good medical schools going, to assist them; but only through the province of education and helpfulness. We have no legal authority or no power, except the value of public opinion in raising standards.

Q.—What have you to say with reference to your conduct toward the hospitals? A.—The same mechanism. The Council on Medical Education and Hospitals does not come into a hospital unless invited. A hospital invites the Council to come and inspect it or approve it, and make suggestions, because on the basis of our inspection their organization, their board of trustees, competent staff, conferences, lectures, library, sufficient beds, an inspection is made; and again the same technic is carried out, of sending the report, before it comes to final action, to the hospital, and after interview with the representatives of the hospital as to how they can improve here or benefit there with reference to their services for the benefit of the community. Only after that is it done.

Q.—You have just mentioned the staff. What control, if any, does the Council exert over the staff of a hospital? A.—None whatsoever.

Q.—In whom lies the selection of staffs of hospitals? A.—The board of trustees or directors that are accountable to the state department that gives them their charter or license to run a hospital.

Q.—You are familiar, are you, with hospitals generally, from your experience? A.—Yes, sir.

Q.—Can you tell us how doctors are selected to be on staffs of hospitals? A.—Well, will you make a distinction between governmental hospitals and private hospitals?

Q.—A private hospital? A.—In a private hospital, how does a man get on the staff? Well, there are a number of ways, and they all more or less verge upon this mechanism. A doctor makes application to join the staff. He is ordinarily a young man. He presents his credentials—whether he has a university degree, or his medical degree, where he had an internship, whether he has had special training such as in the army or in hospitals other than the one he applies to. He is then granted a position in what is known as the outpatient department, or so-called clinic. After a variable period of time, depending upon his energies, his ability and his character, he gets a promotion and he takes care of patients in a ward, and then, by and large, upon his merits and his ability and his services, he becomes in the course of time a senior member of the staff.

Q.—Doctor, do you know what the practice of hospitals generally is with reference to admitting doctors to practice in hospitals who have not been admitted to staffs? A.—They admit them; but the tendency is to ask all men on the staff to be members of their local county medical societies. That is not a subdivision of the American Medical Association, the local county medical society. The Medical Society of the District of Columbia, the Medical Society of the County of New York, for instance. Because a hospital feels that a man seeking responsibilities and appointment on the hospital staff must have the endorsement of his professional colleagues in his city; and he gets that by being a member of the local county medical society.

Q.—Assume that a doctor has not been appointed to a staff, either the regular or the courtesy staff, of a hospital: Can you tell us from your experience with hospitals, Doctor, what right an ordinary physician who has not been admitted to either staff has to practice in the hospital? A.—He has every right to practice; and I know of hardly a hospital in which there are not doctors occupying the higher staff positions who are not members of their local county medical societies.

Q.—Assume that a doctor has not been accorded privileges to practice in a hospital: what right has he, regardless of whether he is a member of his local society or not, to practice in the hospital? A.—He has no right.

Q.—Why do you say that? A.—You cannot admit of probabilities, or just because a man has got an M.D. degree and a license to practice in the state that he can walk into a private hospital and take care of patients there. That would spell hospital and medical chaos. It just cannot be done and it is not done. He must affiliate himself with a hospital and, by due and proper training, get the right to operate in that hospital.

Q.—Does the fact that a doctor is a member of his local society of itself warrant his right to selection to the staff of a hospital? A.—No, sir.

Q.—In other words, in addition to any requisite such as membership in a local society, should that exist, what else does the hospital usually do, in your experience, before appointment is accorded? A.—Well, the hospital, through one of its agents, the head of the department, inquiries into the character of this man. Is he ethical? That is the basis of hospital service—the character of the individual, how he stands with his colleagues. Second, his training. Has he had training over years? Then his natural aptitude and competence. Some men go to the top and some do not. That is inherent in the individual. Those are all disposed of before the question comes up whether he is a member of his local county medical society or not.

Q.—You stated that ordinarily a person desires to obtain membership on the staff and makes an application. Can you tell us how such applications are made, personally or through agencies, or in what shape? A.—The usual procedure is that a doctor comes to somebody on the staff—to me, for instance, and he says, "Dr. Heyd, I would like to work at your hospital." I have a talk with him. I say, "Send me your whole story of your professional life." Then I formally recommend him for a position. My letter will usually go before the Committee on Appointments in the hospital, and then the young man will

probably be asked to come to see them. Or he may be an older man with a good reputation in the community. He would usually be investigated, if you will, by the Committee of Appointments, and finally he would be recommended by a medical board to the board of trustees or the directing body of the hospital, and if the man's record was clear, if he was ethical, if he enjoyed the due regard of his colleagues in the community, he would probably get the appointment.

Q.—You have frequently used the word "ethical," Doctor, in talking about the qualifications of an applicant for membership on a staff. What do you mean by the use of the word "ethical"? A.—First, that the man is a gentleman and follows the Golden Rule and the Ten Commandments. That is all there is to medical ethics.

Q.—Does the American Medical Association have a code of ethics? A.—Yes, sir.

Q.—When you speak of an applicant possessing fundamentally an ethical qualification for membership on a hospital staff, does that refer only to members of the local society, or to all doctors generally? A.—All doctors.

Q.—What have you to say with reference to all doctors, regardless of whether they are members of a local society or not, in regard to the practice of medicine ethically or otherwise? A.—Every doctor has a code that he must go on, because when he graduates he swears by the Hippocratic Oath, which is a condensed form of everything that is decent and right living in the conduct of man with his fellows.

Q.—Doctor, will you tell us again when it was you became a member of the Council on Medical Education and Hospitals? A.—The first meeting that I attended was in November 1937.

Q.—What has been your practice in attending meetings of the Council since that? A.—I have attended every meeting.

Q.—Has a resolution come to your attention as a member of the Council or otherwise which we have been calling here the Mundt Resolution? A.—Yes, sir.

Q.—Are you familiar with that resolution? A.—Yes, sir; I think so.

Q.—What has been the attitude of the Council with reference to the Mundt Resolution? A.—It has had very little effect on the deliberations of the Council; with me personally it has had very little. I am a strong believer in the Mundt Resolution. I believe it is a step for the benefit of the community, possibly a little bit premature; public opinion, hospital minds and medical minds are not prepared for it, but basically in the Mundt Resolution is implicit a benefit in medical services and hospital services for the community.

Q.—Why do you say that, Doctor? A.—Because the whole progress of medicine has been based on development in medical societies. We face a changing era in medical practice. Individuals are living longer, and the medical practice of the future is going to be preventive medicine, preventing heart disease, cancer, hypertension, and the source of graduate instruction and new things in medicine will come from the local county medical societies. The local county medical society is the repository of new advances in medicine, and it is the ideal of medicine and service to the community to have every doctor reeducated in contact with the center where medical knowledge originates and is dispersed. That is implicit in the Mundt Resolution. It is a matter of policy in the House of Delegates which says that staff membership shall be limited to doctors who are in good standing in their local county medical societies—understand, not the A. M. A., but the local county medical societies.

Second, this resolution shall be submitted to the Council on Medical Education and Hospitals. The Council was given a large measure of deliberation and debate to it, as to how to bring this ideal expectation before the medical profession.

Q.—How did the Council bring that to the hospitals? A.—The Council instructed its secretary, Dr. Cutter, to send the resolution to all of the six-odd thousand registered hospitals. After that had been done the feeling, I think, was that we had accomplished the main purpose that was intended in giving a wide diffusion to a principle of the House of Delegates. Then when the hospital asked the Council to inspect it, after the inspection had been made and this report sent back to the hospital again, a copy of the Mundt Resolution was enclosed and the hospital was asked, for informative purposes, "What is your reaction to this? Is it possible of attainment?" and so forth.

Q.—Doctor, has the Council at any time ever taken the attitude that the Mundt Resolution should be used as a threat? A.—Never in my experience on the Council.

Q.—Has the Council ever taken the attitude that before approval of a hospital would be granted it must conform to or adopt the principle contained in the Mundt Resolution? A.—Never, to my knowledge.

Q.—By the way: who finally orders the approval of hospitals? A.—The seven men sitting with the secretary, and the technical staff.

Q.—Who is chairman of your Council? A.—Ray Lyman Wilbur.

Q.—There was offered in evidence here a communication dated December 31. I do not find the original with the number on it, but I am showing you what purports to be a copy.

(After a pause) I now have the original, Doctor, and I would like to have you look at it. It is marked "Defendants' 14," and it is dated December 31. Would you scan that, please? A.—I am familiar with this.

Q.—Is that the communication to which you referred when you stated that the Council authorized the secretary thereof, Dr. Cutter, to acquaint the various hospitals for intern training with the Mundt Resolution? A.—I cannot say; I cannot answer that, because there must have been hundreds of communications along this line, and I cannot say whether that was the one or not. But what is in that letter is the general spirit and purpose of the mind of the Council.

Q.—Doctor, when the Council authorized the sending of this Defendants' Exhibit No. 14—and it states:

"In hospitals approved for the training of interns the professional standing of the members of the staff is a matter of importance. For your information I submit a resolution dealing with this subject, adopted at Cleveland last June"—

had the Council on Medical Education and Hospitals any purpose of threatening a hospital when it sent that resolution under those terms? A.—None whatsoever. May I qualify that?

Q.—Yes. A.—The hospital asks for our inspection, and therefore when they ask for our inspection we have, I believe, the right to tell them under what circumstances we approve. If they do not wish to meet those standards, why, then, the whole thing falls. But if they want to go through with it and be approved, then they have to submit to certain points of view, and one is based upon their physical organization and upon their ability to train people. But at no time is there any coercion or any threat that if you don't have a staff of men who are all members of your medical society you will not be approved. That would be stupid and absurd.

Q.—They state in the letter also—I think I know the substance of it—that in a hospital for intern training the selection of the staff is a matter of importance. Do you agree with that? A.—One hundred per cent.

Q.—Why is the selection of a staff in an intern hospital of more importance, for instance, than in the ordinary hospital that you have in your yearly register? A.—Because these hospitals which are asking approval for interns are going to train the doctors that are going to take care of people ten years from now—that are going to attend you when you die.

Q.—Don't speak about it! A.—Therefore they must be trained.

THE COURT:—You mean, when he gets sick and gets well again.

The Witness:—Yes, I thought I would make it personal.

By Mr. Leahy:

Q.—I want you to look at Exhibit No. 11, Doctor. What is that which you hold in your hand? A.—It is entitled "Essentials of a Registered Hospital."

Q.—Who was it that prescribed these essentials? A.—The Council on Medical Education and Hospitals.

Q.—When you use the phrase "Essentials of a Registered Hospital," what do you mean by that? A.—If a group organizes a hospital and gives forth that they are prepared to take care of sick people, we believe society has a right to demand certain basic things—that there is a competent body of men running the hospital; that they have floor space and air space, sanitary plumbing; that when people die somebody other than the immediate doctor looks over the record to see that everything was done; that they have a library near at hand of current medical journals, everything assuring that the human individual is passed upon by a competent doctor as to its nature, and that all the things that happened to the patient are reported. We believe that no institution should hold forth to take care of sick people unless they have a minimum at least of the essentials of the profession.

Q.—Do you think that these essentials set forth in Exhibit 11 represent the minimum requirements that you feel a hospital should have when it attempts to maintain itself as an institution for the care of the sick? A.—Yes, sir.

Q.—I want to ask you this, Doctor. Has the Council on Medical Education and Hospitals, in prescribing these essentials of a registered hospital or in sending around the Mundt Resolu-

tion with reference to the composition of the staff, a purpose in mind for the advancement of the profession or for the public or for the patients, or what is the purpose?

Mr. Lewin:—We object to that, your Honor.

Mr. Leahy:—If your Honor please, I will just reframe the question.

By Mr. Leahy:

Q.—Doctor, with reference to these essentials of a registered hospital which you have just told us about, and also the Mundt Resolution and the action of the Council upon the Mundt Resolution and the Essentials, what purpose had the Council in mind in sending those Essentials to hospitals and in sending the Mundt Resolution to hospitals? A.—One purpose—

Mr. Lewin:—Wait a minute. I am sorry to interrupt you, Doctor.

THE COURT:—Are you objecting?

Mr. Lewin:—Yes sir.

THE COURT:—Objection overruled.

A. (Continuing)—The Council on Medical Education and Hospitals had one purpose and one purpose only, and that was the improvement of medical service, to better medical service to the community, and that is all. The economic status of the doctor, his position, is of no moment whatsoever in that concept.

By Mr. Leahy:

Q.—Doctor, do you know whether a hospital which is making application for approval as one for intern training receives a copy of this pamphlet called Essentials with the application blank which is forwarded to it for execution by it? A.—I know they are sent such.

Q.—Did you, when you joined the Council as a member of it in November 1937, know anything about G. H. A. here in Washington? A.—No, sir.

Q.—Had you ever heard of it when you attended the first meeting in November 1937? A.—No, sir.

Q.—With respect to any action which was taken by your Council in acquainting the hospitals with the Mundt Resolution was there any discussion of G. H. A. in that matter? A.—I may possibly be mistaken, but I cannot recall any time since I was on the Council that G. H. A. was ever discussed at a meeting of the Council.

Q.—Did you ever personally discuss it with any members of the Council outside of a meeting of the Council? A.—Not until after somebody, Judge Bailey or some one, passed a decision in July. I may have discussed it with somebody.

Q.—Up to that time had you heard anything about G. H. A.? A.—No, sir.

Q.—What connection, then, if any, was there between what was done by the Council with reference to hospitals seeking approval, and more particularly with reference to the information which was supplied by the Council, the Mundt Resolution—what connection had that action of the Council in any way with G. H. A.? A.—None.

Q.—I will ask you whether in any of the meetings of the Council the Council had sought to restrain G. H. A. or to restrain trade in the District of Columbia? A.—Subject to a lapse of memory created by presentation of data, the minutes or something, I can recall that no action was taken.

Q.—Did you personally have any intention when you voted to send out the Mundt Resolution or these Essentials of a Registered Hospital to in any way interfere with the business of G. H. A.?

Mr. Lewin:—Wait a minute. I object to that, and I would like to approach the bench if I may.

THE COURT:—Very well.

(Mr. Lewin, Mr. Kelleher and Mr. Leahy approached the bench and conferred with the court in a low tone.)

(The pending question was read by the reporter as follows:)

"Q.—Did you personally have any intention when you voted to send out the Mundt Resolution or these Essentials of a Registered Hospital to in any way interfere with the business of G. H. A.?"

A.—No, sir.

By Mr. Leahy:

Q.—What connection has any action of the Council since you have attended in November 1937 had with G. H. A. with respect to anything done with any hospital in the United States? A.—Nothing.

Q.—Doctor, you said something about membership in a county society. Are you a member of your own county society? A.—Yes, sir.

Q.—How does a doctor become a member of a county society? A.—The easiest thing in the world—a license to practice medicine—of good moral character—no restrictions upon admission.

Q.—Do you recall whether there is any form of application for membership? A.—In my own society, the County of New York, there is a form of application.

Q.—And as former President of the American Medical Association do you have any memory now, Doctor, as to whether anything is asked of a doctor when he applies for membership to a county society about subscribing to any ethics? A.—In his application it is said, "If elected a member you will subscribe to the code of ethics of the Medical Society." When he signs that he of course agrees to that.

Q.—Of what importance, if any, is the code of ethics to the profession? A.—The importance is that it places a high standard for the individual, to be a useful member of society, a gentleman, honorable and upright. That is all.

Q.—Do you recall now whether the county society has any machinery set up at all for the disciplining of members who do not practice ethically under the standards which they promised to practice under? A.—Yes, sir. May I qualify it?

Q.—Yes. A.—After a man becomes a member of a county medical society, that is, the local medical society—it has nothing to do with the A. M. A.—he agrees to abide by a code of rules and ethics. He frankly agrees to do that. After he is elected to membership he is held accountable under that code and those rules. If he gets into some difficulty with his local medical society a copy of the charges is presented to him. In my own county they are sent by registered mail. And he is asked to appear before a committee usually called a Board of Censors. He may come alone and tell his story or he may have counsel. Then a decision is made.

If that decision goes against him or he is dissatisfied with it he may, without cost to him, appeal to a higher body in the state medical society and the whole question is there reviewed again. If that decision is against him he can appeal to the Judicial Council of the American Medical Association, but he cannot reach the Judicial Council of the American Medical Association until he has exhausted his remedy with the local society and the state body. If the decision of the Judicial Council of the American Medical Association is unsatisfactory to him he can appeal to the House of Delegates for a rehearing. If that goes against him and he still thinks he is right, he can still appeal to the courts of the land for redress.

Mr. Leahy:—I think that is all.

Mr. Lewin:—No questions.

TESTIMONY OF CHRISTOPHER G. PARNALL

By Mr. Leahy:

Christopher G. Parnall, Rochester, New York, said he has been administrator of Rochester General Hospital over sixteen years. He graduated in medicine from the University of Michigan Medical School in 1904.

Q.—Had you taken any preliminary degrees in any of the arts before that? A.—Yes, I was a graduate of the University of Michigan, Academic Department, 1902, and I was an assistant in gynecology and obstetrics, University of Michigan, prior to my graduation in medicine, and later in 1906 I went into practice and was for twelve years in Jackson, Mich., so engaged. The last three years I organized and was the director of the Department of Public Health and Hospitals in Jackson. From there I went to the University of Michigan as Professor in Administrative Medicine and Director of the University Hospital, from 1918 to 1924. Thereafter I was Medical Director of the Rochester General Hospital, where I have been since that time.

Q.—Are you a consultant on any hospital administration? A.—Yes, I am.

Q.—Which one? A.—Well, as a matter of fact, a good many: that is, I am available for consultation work on hospital administration and hospital construction, and I acted in that capacity in various places in this country.

Q.—Were you ever president of the American Hospital Association? A.—Yes.

Q.—What is the American Hospital Association? A.—It is an association of American hospitals: that is, the membership is composed of representatives of various hospitals of various types in this country and Canada.

Q.—How many hospitals are there in the association? A.—I can't give you the exact figures now, but approximately three thousand.

Q.—Are you at present connected with the American Hospital Association? A.—I am a member of the American Hospital Association.

Q.—Were you ever trustee of it also? A.—Yes, I was trustee during the time I was president-elect, and while I was president, that covers a period of three years; and later on, another period of three years.

Q.—And did you ever hold any position of a public character with reference to the administration of public welfare in the city of Rochester? A.—Yes, I was Commissioner of Public Welfare for one year; I was loaned to the city.

Q.—Are you a fellow of the American College of Surgeons? A.—Fellow of the American College of Physicians.

Q.—Are you a member also of the American Public Health Association? A.—Yes.

Q.—Doctor, how large a hospital is yours in Rochester? A.—A hospital of three hundred and seventy-five beds.

Q.—In your capacity as president of the American Hospital Association, and trustee in that association, did you become familiar otherwise generally with the administration of hospitals in the United States and Canada? A.—Yes, somewhat.

Q.—Are you a member of the American Medical Association? A.—Yes.

Q.—Are you a member of your county association? A.—Yes.

Q.—What county is that? A.—Monroe County.

Q.—Doctor, as president of the American Hospital Association, did you have occasion to become familiar with the inspection and examination of hospitals as made by the American Medical Association? A.—I did.

Q.—As a hospital man, could you tell us something about what benefit, if any, has accrued to the hospitals by reason of inspection or examination by the American Medical Association?

Mr. Kelleher:—Objected to as immaterial.

THE COURT:—Objection overruled. As I understand the Government's position, that gives the American Medical Association a power which they unlawfully exercise. I think they are entitled to show the effect of that power.

Mr. Kelleher:—Whether it is beneficial to the hospitals doesn't make any difference.

THE COURT:—Yes, but the manner in which it is used in fact is material.

Mr. Lewin:—The use of the power in this case some place else is immaterial to the issues here. They may have done some wonderful things, but that is not the issue here.

THE COURT:—If they did the same things in these hospitals in Washington as they did throughout the land; if you can argue that this power is being used for improper purposes, certainly they have the right to show, if they can, the contrary.

Mr. Lewin:—They may do both things at the same time.

THE COURT:—Overruled.

The Witness:—To answer that completely would require considerable time.

By Mr. Leahy:

Q.—Just briefly. A.—Briefly; it is largely a voluntary matter; that is to say, that the American Medical Association, representing organized medicine, of course, has a distinct interest in the administration of hospitals, because, after all, hospitals exist primarily to enable the profession to render medical service to the citizens.

Mr. Lewin:—Object to this as not responsive. He was asked, and I understood your Honor to rule, what benefit they got from the American Medical Association examinations and inspections.

THE COURT:—Yes.

By Mr. Leahy:

Q.—Have you noticed in your own experience, as president of the American Hospital Association, any beneficial effect accruing to the hospitals of the country by reason of these inspections and examinations made by the Council on Medical Education and Hospitals of the American Medical Association? A.—Very decidedly so.

Q.—How is that reflected; in what way? A.—It is reflected in better coordination of the medical work of hospitals; better direction, supervision of the educational work of hospitals, particularly as relating to interns and resident physicians, and indirectly, of course—or rather directly—better service to the patient.

Q.—Is your hospital on the approved list? A.—Yes, it is.

Q.—What has been the practice with reference to inspecting or examining your hospital? A.—Well, the hospital is examined by inspectors from the American Medical Association and other medical organizations occasionally or periodically to check on the work the hospital is doing.

Q.—Doctor, I am going to show you three documents here in evidence, I think—a few letters just while I am looking at the others and, to save time, will you kindly take a look at that letter. Are you the Dr. Parnall who wrote that letter? A.—Yes.

Q.—Dated Dec. 17, 1936 and identified as U. S. exhibit 254. Is that your signature on it? A.—Yes.

Q.—Would you kindly look at these two carbon copies identified as Government's 255 and Government's 246, dated respectively Dec. 21, 1936 and Dec. 1, 1936. Directing your attention to the carbon, dated Dec. 1, 1936, Government's 246, I ask you if this is the original of that letter? A.—Yes, it is.

Q.—Did you receive that in the ordinary course through the mail? A.—Yes.

Q.—Reading from December 1—check with me on the carbon—it says: it is addressed to you:

"We wrote you on September 8 calling your attention to a recent resolution passed by the House of Delegates of the American Medical Association, as follows:"

Then follows the Mundt Resolution. Over whose signature is that letter directed to you? A.—Dr. Cutter.

Q.—Is that his writing? A.—It doesn't correspond with his signature as I am familiar with it.

Q.—Now, then, that letter of December 1 refers to a letter dated September 8, does it not? A.—Yes.

Q.—Is that the letter of September 8 (handing document to the witness)? A.—It is.

Q.—Is that over the signature of anybody? A.—Well, the signature is "William D. Cutter."

Q.—Is that his handwriting? A.—Not as I am familiar with it.

Mr. Lewin:—May I ask a qualifying question: Have you ever seen Dr. Cutter sign his name? The Witness:—No.

Mr. Lewin:—Have you any special knowledge of his handwriting? The Witness:—I am not a handwriting expert, but I am familiar with his signature because I have received various communications from him.

Mr. Lewin:—Do you know which of these two is his signature and which is not? The Witness:—I don't think either one is.

Mr. Lewin:—You don't think either one is?

THE COURT:—They are in evidence?

Mr. Leahy:—No, September 8 is not. I want to offer it now. That is why I have given it to him.

Mr. Lewin:—We have no objection to it.

Mr. Leahy:—We offer it in evidence.

THE COURT:—It will be admitted.

By Mr. Leahy:

Q.—Prior to the receipt of the letter of September 8, which is now marked Defendants' Exhibit 28, what information had you with reference to the Mundt Resolution, if any? A.—Before September 8?

Q.—Yes. A.—Well, I had no official notice of that resolution; I may have read of it in the proceedings of the House of Delegates.

Q.—To your recollection, now, when was the first time your attention was brought to the Mundt resolution? A.—In the letter of September 8.

Q.—What effect did the Mundt Resolution have so far as you were concerned on the approval of your hospital?

Mr. Lewin:—Objected to.

THE COURT:—Sustained. I don't think we can go into individual cases. I think you can go into the work of the committee, but I don't think we can go into individual cases.

Mr. Leahy:—Then I won't bother pressing that.

THE COURT:—That would be for effect rather than the intent.

Mr. Leahy:—May we approach the bench?

THE COURT:—Yes.

(Thereupon counsel for both sides approached the bench and conferred with the Court, in a low tone of voice.)

By Mr. Leahy:

Q.—Doctor, so far as your recollection goes at that time am I correct in saying that the September 8 letter initiated this series of correspondence? A.—Yes.

Mr. Leahy:—This letter of September 8—letterhead of the American Medical Association, Council on Medical Education and Hospitals, reads as follows:

"Dr. Christopher G. Parnall, Med. Dir., Rochester General Hospital, Rochester, New York.

"Dear Dr. Parnall:

"We are pleased to submit a copy of Dr. F. H. Arestad's report on the present status of intern training at Rochester General Hospital. Similar documents have been sent you in the past and we hope this will prove a useful addition to your files. Will you kindly refer this statement to Dr. Prince and his committee as well as other staff members interested in these matters?

"It is very pleasant to know that training of house officers continues on the same high level noted formerly and that approval of these positions by the Council is amply merited. It will be our purpose, therefore, to continue to publish in our lists that Rochester General Hospital is approved for intern training and for residencies in surgery and medicine.

"Special approval for mixed residencies is no longer necessary, in accordance with the Council's policy of assigning full credit for such services in any hospital previously approved for the general internship.

"May we call your attention to a recent resolution passed by the House of Delegates of the American Medical Association:

(Here the Mundt resolution was read.)

"What possibility, if any, exists for observance of the principle laid down in this resolution? Very truly yours,

"William D. Cutter."

By Mr. Leahy:

Q.—Do you recall whether you replied to that letter before you received a letter of Dec. 1, 1936? A.—I don't think I did.

Q.—Then on Dec. 1, 1936, there was received by you—am I correct—the original of Exhibit 246 for the prosecution? A.—Yes.

"We wrote you on September 8 calling your attention to a recent resolution passed by the House of Delegates of the American Medical Association, as follows:"

Then follows the resolution:

"Our analysis of the recently submitted staff list was quoted in the inspection report which was sent to you at the same time."

By Mr. Leahy:

Q.—Doctor, who was the Dr. Arestad mentioned in your letter of September 8? A.—He was an inspector of the American Medical Association.

Q.—Inspector of what? A.—Inspector of hospitals.

Q.—And when in the letter of September 8 they refer to a submission of a copy of Dr. Arestad's report on the present status of intern training: What was that report—not the contents of it, but just identify it. A.—That was a report giving his findings as a result of that inspection.

Q.—So that in the letter of December 1 the words "Inspection Report" refers to what in the letter of September 8? A.—Dr. Arestad's report.

Q.—"We are anxious to learn from approved hospitals as to whether they are in general agreement with the principle laid down in this resolution, and would be pleased to have your comments in the matter."

Now, Doctor, did you reply to that letter where they ask you for your comments on the resolution? A.—Yes.

Q.—And is that U. S. Exhibit 254, dated December 17? A.—Yes.

Q.—That is directed to Dr. Cutter, is it? A.—Yes.

Q.—And is there—without reading the whole letter, unless it is requested—didn't you state as a fact that your staff had met on the Mundt Resolution and you had unanimously disapproved it? A.—The Medical Board, which represents the staff, yes.

Q.—And didn't you state in your letter to—

Mr. Lewin:—Why don't you read the letter?

Mr. Leahy:—I will be glad to:

U. S. EXHIBIT 254

"Dr. William D. Cutter, Secretary, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

"Dear Dr. Cutter:

"Relative to the resolution of the House of Delegates favoring a rule by the Council on Medical Education and Hospitals limiting membership on a hospital staff to members in good standing of local county societies, I am in somewhat of a quandary as to just what to say. Personally I feel that members of hospital staffs should be members of their local county societies. However, I do not believe in any inflexible rule setting up such a standard of eligibility.

"I suggested to our Board of Directors a change in the By-Laws relating to staff appointments, requiring that unless otherwise voted by the Medical Board, no physician would be eligible to the Visiting and Associate positions of the staff unless he is a member in good standing of the county medical society. When this proposal was referred to the Medical Board for an opinion, I was rather surprised to find that its members—all members of the county medical society—were unanimously against it. Their feeling was that the county medical society should stand on its own merits and that it should offer enough of itself so that practically every member of a hospital staff would seek membership, and that everything that savored of compulsion would subject Medicine to the same thing that rouses the resentment of doctors to the actions and attitudes of non-medical organizations.

"It was pointed out that only a small percentage of the staff were not members of the county society and that most of this group were younger men, most of whom will shortly join the county society. I am sending you a list of our staff appointments for the hospital year 1935-1936, with the nonmembers checked. You will note that allowing for duplications, excluding the Honorary and Consulting divisions, there are one hundred and twenty-eight members, one hundred and eighteen of whom are members of the county society, leaving ten, or 8 per cent, who are not. Even on the Honorary inactive staff of seven members, all but one being over 75 years of age, there is only one who is not a member of the county society. Of the twenty-two on the Consulting Staff, the only

two who are not members of the county society are the Professor of Bacteriology at the University and a bacteriologist who is not an M.D. Our staff represents practically one fourth of the active membership of the county society. On its membership are the President of the New York State Medical Society; the President, the President-Elect and the Secretary of the Medical Society of the County of Monroe.

"I personally have been a member of the American Medical Association continuously for over thirty years and two of my sons are members of county societies.

"Under the circumstances, as far as support of organized medicine is concerned, could the House of Delegates very well hold that the Rochester General is an unfit place for the training of interns?

"With warmest personal regards and wishes for a Merry Christmas and a successful New Year, I am, Sincerely yours,

"C. G. Parnall."

By Mr. Leahy:

Q.—Following that, then, Doctor, did you receive Government's Exhibit 255, of which this is a copy? A.—I did.

Q.—Was any action taken by the Council on Medical Education and Hospitals of the American Medical Association other than that letter 255, following your letter to them stating that they were not all members of the local medical society. A.—No, sir.

Q.—Was anything further said about approval of your hospital by the Council on Medical Education and Hospitals? A.—No.

Mr. Lewin:—What about his letter?

Mr. Kelleher:—Here is his letter of September 21.

Mr. Leahy:—I said following the receipt of this letter.

By Mr. Leahy:

Q.—Is that the only communication you received?

Mr. Lewin:—I object to that; it can't be understood.

Mr. Kelleher:—We don't understand it.

Mr. Lewin:—Here is the letter.

By Mr. Leahy:

Q.—Following the letter of December 17, which you wrote to him, did you then receive Exhibit 255, do you remember, in reply? A.—Yes.

Q.—Did you receive that? A.—Yes.

Q.—Now, following this letter of December 21, what other communication, if any, did you receive from the Council on Medical Education and Hospitals from the American Medical Association with reference to approval of your hospital? A.—None that I know of, except subsequent examination.

Q.—With reference to this examination. A.—No.

Q.—With reference to subsequent examinations, was ever the approval or disapproval of your hospital as one suitable for intern training predicated on your adoption or rejection of this Mundt resolution? A.—No.

Q.—What effect, if any, had your rejection, as noted in your letter of Dec. 17, 1936 on your approval of the hospital of which you are the director, as a hospital suitable for intern training? A.—None whatsoever.

Q.—As the president of the American Hospital Association or the consultant now of the American Hospital Association, have you ever heard of a hospital in the United States—

Mr. Lewin (interposing):—We object to that. That was objected to and your Honor ruled in our favor.

By Mr. Leahy:

Q.—As president of the American Hospital Association, and as a consultant in the American Hospital Association, have you ever heard of approval for intern training of any hospital in the United States depend upon either the rejection or the adoption of the Mundt resolution, or the principle contained therein?

Mr. Lewin:—Just a minute; that is the same question.

THE COURT:—Objection sustained. I think that would broaden the field. It opens up a collateral issue. If I permit that, it would, perhaps, bring in every hospital in the country.

Mr. Leahy:—Yes, I will read every letter. This is the "smoke-out" letter:

EXHIBIT 255

Dec. 21, 1936.

"Dr. C. G. Parnall, Medical Director, Rochester General Hospital, Rochester, New York.

"My dear Dr. Parnall:

"In response to your letter of December 17, let me express my appreciation of your information and your comment on the affiliation of your staff members with your medical society.

"The intention behind the resolution referred to was to smoke out from the staff of some hospitals certain men who were regarded as objectionable but whom the hospital felt a delicacy in removing.

"I notice in the figures which you have kindly supplied, that your staff enjoys a very fortunate position with regard to the support of your professional organization, and that apparently any object which the Council might have had in view has already been anticipated. Cordially yours."

Mr. Lewin:—Did he say who signed that letter?

By Mr. Leahy:

Q.—You got a letter from Dr. Cutter in reply to this? A.—Yes.

Mr. Lewin:—The letter you read was signed by Dr. Cutter?

Mr. Leahy:—Well, he received a letter from Dr. Cutter.

Mr. Lewin:—Not a letter, but that letter?

By Mr. Leahy:

Q.—Now, Doctor, did you have in your county in which the Rochester Hospital is situated any group who are practicing group practice medicine?

Mr. Lewin:—Objected to as immaterial; collateral, outside the scope of the indictment.

THE COURT:—I don't see offhand what it has reference to.

Mr. Leahy:—With reference to what we had to listen to for two days when Dr. Leland was accused of being the birth control artist.

Mr. Kelleher:—Well, let's have that limited to a prepayment basis anyway. So confined, it may have some remote connection with the issue.

Mr. Leahy:—You shut that out.

Mr. Kelleher:—The only question here is whether there was this birth control technic applied to groups operating on a prepayment basis.

THE COURT:—I am perfectly willing to speak about group practice, contract practice, but I don't get this birth control.

Mr. Leahy:—That was the designation given it by the prosecution.

Mr. Lewin:—The idea is when you have a doctor who is engaged in cutting off such ideas at their inception the only contribution he is making to medical science is practicing birth control.

THE COURT:—My own view of the term is that it had better be reserved to argument, anyway.

Mr. Lewin:—The only time that was used was out of the presence of the jury, and addressed to your Honor. The jury was discharged so we could take down our hair.

THE COURT:—Well, it is all before the jury now.

Mr. Lewin:—Well, we didn't bring it in, this invidious term before the jury.

THE COURT:—Well, I think we ought to speak of things as we know them, without characterizing them. I think your question is pretty broad, Mr. Leahy.

By Mr. Leahy:

Q.—I will narrow it: Doctor, do you have practicing in the county, or in an adjoining county, a plan of some shoe company—we heard of it—the Endicott-Johnson? A.—Well, that is at Binghamton.

Q.—How far is that from you? A.—A hundred miles, a little more.

Q.—Do you know whether plans like this Endicott-Johnson plan are operating through there? A.—There is a prepayment plan recently started under the auspices of the Erie County Medical Society; that is the county in which Buffalo is.

Q.—Is that the county adjoining your county? A.—Genesee County intervenes.

Q.—Is that composed of doctors of the American Medical Association? A.—It is.

Q.—Do you know whether the Endicott-Johnson plan has doctors of the American Medical Association? A.—That is my understanding.

Q.—Do you have any other plans up there; is there some bakery plan? A.—Yes, indefinitely I recall there is one.

Q.—Is there an Agfa plan there? A.—Yes.

Q.—A group practice, prepayment plan? A.—Yes, there is.

Q.—And are they all being served by doctors of the American Medical Association? A.—I think so.

Q.—And with reference to any prepayment plan in the county where you reside, or in an adjoining county, are members of the local medical society engaged in serving the plan? A.—I understand so, yes.

(Thereupon at 11:30 a. m. there was a short informal recess, at the expiration of which the proceedings were resumed as follows:)

CROSS EXAMINATION

By Mr. Kelleher:

Q.—Dr. Parnall, is the Genesee plan a group practice prepayment plan, to your knowledge? A.—The Genesee plan?

Q.—Yes. A.—I am not familiar with the Genesee plan.

Q.—Didn't you say there was a plan in Genesee with which you were familiar, a prepayment plan? A.—No.

THE COURT:—No, he said that Genesee County intervened.

By Mr. Kelleher:

Q.—I am sorry. There is a plan in Buffalo? A.—Erie County.

Q.—What is the name of that plan? A.—I can't tell you the name of it, but it is a plan under the auspices of the Erie County Medical Society, in connection with the group hospitalization plan.

Q.—And it doesn't involve group practice; it is the so-called panel system? A.—I wouldn't call it the panel system; it includes everybody in the medical society.

Q.—It doesn't have doctors on a salary basis? A.—No.

Q.—They receive fees? A.—Yes.

Q.—When was that plan started? A.—I can't tell you accurately but it is rather a recent plan; I don't think in operation for more than a year.

Q.—Now, did you call the other plan that you mentioned the "Agfa Plan"? A.—Agfa Company.

Q.—Is that also sponsored by the medical society? A.—No, I can't say it is; I think it is sponsored by a group with the approval of the medical society; at least that is my impression; I am not familiar enough with it.

Q.—You are not familiar with the plan? A.—No.

Q.—You can't give us the details of it? A.—No.

Q.—Now, let me show you a photostatic copy of Exhibit 255. You saw 255, which was a carbon copy of the original. Where is the original?

Mr. Leahy:—I have it; I have found it in my folder.

By Mr. Kelleher:

Q.—Is that the letter you received; the original of Exhibit 255? A.—It is.

Q.—Is that Dr. Cutter's signature? A.—That is my impression.

Mr. Lewin:—Is that the "smoke-out" letter? A.—Yes.

By Mr. Kelleher:

Q.—Did you have on your staff on Dec. 21, 1936 any doctors whom you desired to remove but whom you felt the delicacy toward in removing from the staff? A.—No, sir.

Q.—So it wasn't necessary for the American Medical Association to smoke out from your staff any doctors? A.—No, sir.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Did you have any doctors at that time who had made application for membership to your staff who you were trying to smoke out? A.—No, sir.

Q.—So there was no necessity for the American Medical Association to try to smoke out such applicants either, was there? A.—No.

Q.—Doctor, under that plan which you say you cannot give us the name of, but which is in force under the supervision of the Erie County Medical Society, did the members of the plan pay in advance for services to be rendered them? A.—Yes.

Q.—They do that. How do they pay, monthly dues? A.—Payroll deduction, as I understand it.

Q.—Then the Erie County doctors take care of those members of the plan? A.—Yes.

Mr. Leahy:—May I pass this around to the jury, the three letters I now have, so they may see the signatures? (Thereupon the aforesaid documents were passed among and examined by the jurors.)

By Mr. Kelleher:

Q.—Does the Medical Society in New York consider that where members of an organization pay monthly dues for medical services that is ethical? A.—I don't quite understand the question.

Q.—Where members are participating in this plan and pay monthly dues, is that ethical? A.—Yes.

Q.—And where there is an arrangement for deduction of dues from their salaries, is that considered ethical? A.—Yes.

Mr. Leahy:—Isn't the only question involved in any plan, on the ground of the ethical character of the plan, as to whether or not it can deliver a good quality of medicine in the public interest?

The Witness:—I think so.

By Mr. Leahy:

Q.—Whether it can do what it promises it can do?

Mr. Lewin:—Is it necessary for this witness to be led like this?

THE COURT:—That is quite leading.

(The witness left the stand.)

TESTIMONY OF WILLIAM C. WOODWARD

By Mr. Leahy:

Q.—Would you kindly state your full name, please?

William C. Woodward, Washington, D. C., said he had been living in Washington since January 1940. Prior to that time, for the preceding seventeen years, he resided in Chicago. He was born in Washington in 1867, was graduated by the Washington High School in 1885, took a medical degree at Georgetown University in 1889, was given the LL.B. by Georgetown University in 1899, and the LL.M. in 1900. He is a member of the bar of this court, and of the Supreme Court of the United States, also a member of the bar of the state of Massachusetts and the state of Illinois. He has an honorary degree LL.D. by Georgetown University in 1925. He was coroner for the District of Columbia in 1893 and 1894, health officer for the District of Columbia in 1894 until 1918 and secretary of the Medical Supervisors, the Examining and Licensing Board for the District from 1896 for about ten years. He was Health Officer in Washington for twenty-four years, from 1894 to 1918. The Health Officer is charged to execute and enforce the laws of the District relating to Public Health and, by implication, to do whatever else might be possible to prevent diseases and promote health.

Q.—Did you hold a similar position in any other city of the United States? A.—I was the health commissioner of the city of Boston from 1918 to 1922.

Q.—What were your duties as health commissioner of the city of Boston? A.—They were somewhat similar, but the authority of the health commissioner of the city of Boston was much more extensive; in fact as such health commissioner at Boston I had the power to make rules, regulations and orders—the statute of Massachusetts had conferred on the health officer all of the ordinary duties of a board of health in a city, and, as a result, I was a legislative agency as well as an executive agency, so to speak.

Q.—From that position where did you go? A.—I went to assume the duties of Director of the Bureau of Legal Medicine and Registration of the American Medical Association in 1922 and retired in December 1939.

He stated that he taught medical jurisprudence in the law school and medical school of the University of Georgetown, medical school of George Washington University, and medical school of Howard University; also the medical school and law school of Loyola University in Chicago. When he left Chicago he was professor-lecturer of medical jurisprudence on the faculty teaching in both medical and law schools of the University of Chicago. He is a Fellow of the American Public Health Association and an ex-president; honorary life member of the Conference of State and Territorial Health Authorities and Boards of Health, and an ex-president; a member of the Medical Society of the District of Columbia, and an honorary member of the American Veterinarian Medical Society; also a member of the International Association of Milk Sanitariums; a member of the Royal Society of Public Health and Hygiene of London.

Q.—Now, Doctor, would you kindly repeat again the particular bureau which you were in charge of while you were with the American Medical Association? A.—Bureau of Legal Medicine and Legislation.

Q.—When was that bureau formed? A.—That was formed under authority of a resolution adopted by the House of Delegates of the American Medical Association in 1922, May 1922.

Q.—At that time when you went to Chicago, what organization had the bureau: Did you organize the bureau? A.—I did.

Q.—You were its first head? A.—Yes.

Q.—While you were there how many assistants or associates were with you? A.—When I left the bureau there were with me three assistants, all lawyers, one a doctor, and four clerical assistants.

Q.—Now, briefly—without going too much into detail—would you just tell the jury what that bureau means; what are its functions; what does it do? A.—I think the duties are well described in the resolution which authorized its creation by the Board of Trustees, that is to have charge of matters of legislation and legal medicine of general interest to the profession; to keep informed as to what was going on in the various state and county organizations in full in those fields; to coordinate public opinion, or the opinion of the medical profession as to the matters in those fields, and generally, as the resolution says, to represent the American Medical Association.

Q.—And while you were there, with reference to the medical legal side of your particular duties, could you just describe what briefly fell into that classification? A.—Well, the basic and continuous work of the bureau consisted of the analysis of all

cases reported in the National Reporter system decided by the Court of Last Resort and some of the intermediate courts; cases of medical legal interest. They were all analyzed and the result of the analyses was published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from week to week, and more recently they have been, within the last five years, and at the end of each five-year period, placed in bound volumes.

We advised physicians very commonly who required expert knowledge of medical legal problems. A physician who was expecting to be called into a case involving some matter of medical legal interest; a physician who was practicing in a small community and not knowing the least details concerning the matters to which he would be called upon to testify would write in and ask for a citation bearing on the particular subject involved and we would give him the information. Lawyers who were interested, frequently in malpractice cases, would, with the consent and advice of their clients, write in for information as to the technical aspects of a case involving medicine and we would furnish the data. Of course, some of the legislative matters involved medical legal problems such as, I have in mind now, the caustic poison act, which was formulated, and the promotion of which by Congress and the other states we advocated; the knowledge of the effects of caustic poison and the knowledge of the laws relating to caustic poisons in force at the time; the advancement of legislation to correct the evils and the promotion of its enactment. That is really a combined medical and legal matter; matters of that kind came within the scope of the bureau's activities.

Q.—Doctor, you are yourself named as a defendant in this case, are you not? A.—I am.

Q.—When was it, Doctor, if you can recall now, that your attention was first drawn to Group Health Association, Inc.?

A.—It was first drawn to Group Health Association, Inc., by a letter from Dr. Verbyckce of this city, dated May 29, 1937.

Q.—Prior to that time, Doctor, had you ever heard of Group Health Association, Inc.? A.—I never had.

Q.—Do you recall a letter which was sent to Dr. Cutter some time in March of 1937 over the signature of Merritt W. Ireland—General Ireland? A.—I do.

Q.—Do you recall whether a copy of that letter was received by you? A.—It was.

Q.—Do you recall when? A.—I don't recall the exact date, but it was some time in March.

Q.—Do you recall the fact of its receipt? A.—I do.

Q.—How did it come to you, Doctor? A.—I received a copy of it from Dr. Cutter.

Q.—What did you do with it? A.—Filed it.

Q.—What action did you take personally on it? A.—None.

Q.—What interest did you have in it personally? A.—None.

Q.—Why? A.—It was a matter relating solely to the District of Columbia, and jurisdiction with reference to the matter was vested in the Medical Society of the District of Columbia, and the American Medical Association had nothing to do with it. I knew, too, from Dr. Cutter's letter, that the matter had been or would be brought to the attention of men high up in the councils of the Medical Society of the District of Columbia and that any action would be taken by that society that the circumstances might call for.

Q.—Was any attention paid—or what attention—we will put it that way—was paid to General Ireland's letter from the date you filed it down to the date you received Dr. Verbyckce's letter? A.—None.

Q.—Do you recall the date now when you said Dr. Verbyckce wrote to you? A.—His letter was dated May 29, 1937 and came to me, as I recall it, by air mail. The original letter should bear the time stamp of the Bureau of Legal Medicine and Legislation, although I do not know whether it does or does not.

Q.—I am going to show you now a letter dated May 29, 1937, on the letterhead of Dr. J. Russell Verbyckce, Jr., and identified already as U. S. Exhibit 441-A. I note on the left hand corner in pencil "Air Mail, Spec. Del.,"—special delivery. Do you know in whose handwriting those words are? A.—I believe they are in the handwriting of Miss McDonald, my secretary, who customarily opened the mail when it was received.

Q.—Will you turn it over and see if it bears the stamp of your bureau? A.—It does—"Received June 1, 1937, 9 a. m."

Q.—When you received this letter, Doctor, what interest, if any, did you take in it? A.—I conferred with Dr. West, and Dr. West and I agreed that the wisest course to pursue would be for me, on my way to the meeting of the American Medical Association in Atlantic City within the next week or so, to come to Washington and ascertain the facts, such as they were, that could be elicited concerning the situation.

Q.—What was there, Doctor, in the letter of May 29, 1937 from Dr. Verbyckce, U. S. Exhibit 441-A, which was so different from the letter of General Ireland which we have just mentioned, that caused you to think that you should come to Washington to make an investigation? A.—Dr. Verbyckce's letter represented the situation, frankly, as one of national interest, and the view of the organization, particularly the Bureau of Legal Medicine, was that with respect to matters of national interest the American Medical Association should take the initiative. With respect to state matters, or a case in the District of Columbia, we allowed the state or District organization to take the initiative and we cooperated and advised.

Q.—The letter of May 29, 1937 to Dr. Woodward reads as follows:

"I am writing this semiofficially as chairman of the Economic Committee of the District of Columbia Medical Society to you as chairman of the Legislative Council of the A. M. A. We are faced with a new problem which would seem to be more far-reaching than a purely local difficulty. Our immediate concern is local, but two factors make it a national concern.

"The Home Owners Loan Corporation has organized a cooperative undertaking called Group Health Association, Inc. They propose to have their own set-up for medical care of themselves and families with full time personnel, and Dr. Brown, formerly of the Veterans Bureau, has been appointed Medical Director with a reputed salary of \$8,000. He is at the present time trying to organize a staff. The Home Owners Loan Corporation has about two thousand employees here and a number of regional offices through the country. This is not a great deal in itself, but we are informed that this undertaking is financed by a government loan."

The words "this undertaking is financed by a government loan" are underscored.

"That the President has given his approbation and is so interested in it that if successful he plans to recommend similar organizations through all departments.

"You, knowing the conditions in Washington, will realize that if this movement should spread to the ultimate, the private practice of medicine would be practically destroyed, and it is conceivable that the experiments started here would spread through the entire country, as it is entirely in line with what the President is said to want. We feel that two of the factors mentioned above bring this problem directly to the Board of the A. M. A. I am asking if you will not come here to confer with us or advise us as to possible methods of approach. Coming as close to the meeting at Atlantic City it seems as if the present were a very opportune time. With kindest regards, I am, Sincerely yours."

When was the convention at Atlantic City in 1937, Doctor? A.—The House of Delegates met on June 7. The board of trustees met the day before, June 6. The convention lasted until June 11.

Q.—Following the receipt of the letter did you come to Washington, Doctor? A.—I did.

Q.—Do you recall now the date that you came here? A.—Not the exact date, but it was some time during the week immediately following May 29 and the receipt of that letter, because I had other matters to attend to in the course of my visit.

Q.—When you came to Washington what did you do with reference to investigating the situation as it was presented by Dr. Verbyckce? A.—I immediately called on Dr. Verbyckce and had a conference with him to learn what he knew about the matter that was not disclosed in his letter.

Q.—Following that conversation with him what did you do? A.—He showed me some papers, as I now recollect, or at any rate I learned in the course of the conference, that the organization of G. H. A. was supposed to be based on an examination into the health conditions among employees of the H. O. L. C. and its affiliated bodies. The first thing I did, therefore, was to go to the United States Public Health Service to see if I could learn something of that investigation, because it seemed to me that that was the logical place to learn of any investigation of health conditions among Government employees in the District of Columbia.

Q.—Were you able to get any information, Doctor? A.—They knew nothing whatever of any such investigation ever having been made.

Q.—What then did you do? A.—I then went to the office of the United States Employees Compensation Commission which, as you know, is charged with the duty of paying for disabilities that arise out of official duties, thinking that that organization might have made an investigation. But the secretary—

Mr. Lewin:—Don't tell us what the secretary said, Doctor. The Witness:—No; I will not. The secretary of that commission had never heard of such an investigation.

Mr. Lewin:—That must be based on hearsay, your Honor. I think he can testify that he got nothing there, but I do not see how he can tell us what the secretary said.

THE COURT:—No.

By Mr. Leahy:

Q.—From there where did you go? *A.*—To the office of the H. O. L. C.

Q.—Do you recall where they were located? *A.*—I do not. The offices are changed so often that I have no recollection of just where they were located.

Q.—Do you recall now whom you saw at the H. O. L. C.? *A.*—I saw quite a number, serially, one after the other. When I first went to what I think was an information desk in or near the lobby and told the young man there who I was and that I wanted information about loans for health service corporations—may I say what he told me?

Q.—No. *A.*—Well, I learned there that I did not want to know anything about health service corporations; I wanted to know something about hospital service corporations; and I had to insist that that was not what I wanted at all. I learned that H. O. L. C. was not making loans. I then asked for information concerning rules under which loans were made to health service corporations when they were made at all, basing that inquiry on the statement in Dr. Verbrycke's letter.

On that basis I was referred to a gentleman on another floor. I was again told—well, I learned then that I did not want to know about health service corporations, that I wanted to learn about hospital service corporations. I had to insist that I wanted to learn about health service corporations. After a very pleasant conference with that young gentleman he thought I had better see a third gentleman. We went together to see him and talked the matter over. He told me that I had better see one of the governors, the Board of Governors, and called a young man who took me to the office of the Board of Governors, where I found that only one of the Board was present, after his secretary had gotten my message and gone in to see the governor present and had come out and said that that particular governor was in conference and could not see me and that I had better see Mr. Zimmerman.

Thereupon I went to Mr. Zimmerman's office and talked with his secretary and was ultimately ushered into Mr. Zimmerman's office.

Q.—Is that the same Mr. Zimmerman who has already testified in this case, whom you saw on that occasion? *A.*—It is.

Q.—Did you have a talk with Mr. Zimmerman? *A.*—I did.

Q.—Will you tell us what you said to him? *A.*—I gave him my card and told him that I represented the American Medical Association; that I was going to attend the meeting and that I had heard they had organized a Group Health Association. I was eager to get all the information I could because I had to report at the meeting of the Association. But I recall distinctly that I said to him I did not want any confidential information—"I want anything that you tell me is such as I will be at liberty to discuss at the meeting. That is my purpose here." And we had a very pleasant conversation about the general situation, and he gave me a copy of the law, because I had learned that H. O. L. C. might do what it pleased, and he gave me a little pamphlet containing the laws in verification of that.

Q.—Laws of what? *A.*—The laws governing the Federal Home Loan Bank Corporation and its affiliates. I did not get any information about the laws, but I had learned, I think, quite accidentally in the course of my peregrinations around the H. O. L. C. offices that there was a contract of some sort between H. O. L. C. and Group Health Association, Inc.

Q.—Did you ask Mr. Zimmerman for that contract? *A.*—I asked for a copy of the contract, and he said he had none. I asked to see the contract.

Q.—Did there come a time in that conversation when you asked him a question and when Mr. Zimmerman said, "I will have to step out and get legal advice"? *A.*—He said something to that effect—either that he would have to get legal advice or would have to consult counsel.

Q.—What did he do when he said that? *A.*—He left the room. Where he went I know nothing of, of course.

Q.—How long was he gone? *A.*—Oh, five minutes or so.

Q.—When he came back what did he say about showing you a copy of the contract? *A.*—When he came back he said counsel had advised him not to show me a copy of the contract, but that Dr. Brown would have it in Atlantic City and would show it to me.

Q.—When would Dr. Brown have it at Atlantic City? *A.*—That would be the following week. I saw Mr. Zimmerman on June 5, Saturday, and the Association met in the following week.

Q.—It met on Monday? *A.*—The House of Delegates met on Monday.

Q.—Did you then go to Atlantic City to attend the convention? *A.*—I did.

Q.—Did you see Dr. Brown there? *A.*—No.

Q.—Were you able to obtain the contract at Atlantic City, or a copy of it? *A.*—No.

Q.—How long were you at the convention in Atlantic City? *A.*—Until the Thursday or Friday following my conference with Mr. Zimmerman.

Q.—Did you see Dr. Brown there at all at the convention? *A.*—No.

Q.—What was your attendance? Did you attend each day at the convention? *A.*—Oh, yes.

Q.—What is the system there about registration? Do those in attendance register? *A.*—Every one registers, giving his name, his home address and his local address, and the Association publishes daily a list of those who have registered.

Q.—Did you so register? *A.*—I did.

Q.—You gave your name and address? *A.*—Yes.

Q.—So that your whereabouts were known at the convention? *A.*—Surely.

Q.—Where did you go from the convention, Doctor? *A.*—From the convention I returned to Washington on my way to Chicago.

Q.—Did you see anybody in connection with Group Health Association, here in Washington? *A.*—I called again at Mr. Zimmerman's office to see him, and I saw his secretary.

Q.—Were you able to see Mr. Zimmerman? *A.*—No. Mr. Zimmerman was in conference.

Q.—Then you could not see him? *A.*—I could not see him. I left a message for him.

Q.—Did you ever hear from the message you left with him? *A.*—I never did.

Q.—How long were you in Washington then? *A.*—I called at Mr. Zimmerman's office, as I recall it, on Saturday; I must have left, or probably left Washington either that day or the following, so as to be back at my duties in Chicago.

Q.—Did there come a time when you learned about the articles of incorporation of G. H. A., Doctor? *A.*—Yes.

Q.—When did you first learn about them? *A.*—It must have been a week or two weeks after my return from Chicago when I procured a certified copy of the articles of incorporation.

Q.—From what source did you get the certified copy? *A.*—From the office of the Recorder of Deeds in Washington.

Q.—At whose request, if any? *A.*—At my own.

Q.—By writing, you mean? *A.*—By writing, or I may have left a message with our representative here to get it for me; I don't recall.

Q.—Who was the representative here? *A.*—John H. Hayes.

Mr. Kellcher:—Would you mind clearing up when he got it?

By Mr. Leahy:

Q.—Could you tell us again, Doctor, when you received the certified copy of the articles of incorporation of Group Health Association from the Recorder of Deeds here? *A.*—It was probably within the next week or two weeks; I have no definite date. I have the articles of incorporation, and they will show the date of certification.

Q.—But you think it was within a week or two? *A.*—Shortly after. I would not fix the date exactly. It was shortly after, however.

Q.—Following your talk with Mr. Zimmerman just before you went to the convention at Atlantic City, and your visit on the following Saturday, what other conversations did you ever have with Mr. Zimmerman, if any? *A.*—None. I have never talked with him since.

Q.—What conversations, if any, did you ever have with Dr. Brown? *A.*—I had two conversations with Dr. Brown: one in the course of a casual meeting when he apologized for not seeing me at Atlantic City, saying he did not know where to find me, and later after his resignation from Group Health Association I had a conference with him here in Washington.

Mr. Lewin:—Can you fix the time of that?

By Mr. Leahy:

Q.—Do you remember when the second conference was had? *A.*—I cannot.

Q.—Do you remember when the first conference was had? *A.*—No, because they were casual things in the course of one's life, and I made no mental note of it, even.

Q.—Following your return to Chicago and your getting a certified copy of the articles of incorporation, what did you next do, if anything, with reference to your investigation of Group Health Association, Inc.? *A.*—I carried on a general

investigation of the matter. I was back and forth between Washington and Chicago from time to time to learn what I could regarding the activities of H. O. L. C. and Group Health Association, Inc., to see how their work was progressing and what they were doing. I met occasionally with representatives of the Medical Society of the District of Columbia. I attended, as I recall, one committee meeting, maybe more, of members of the Medical Society of the District of Columbia, and I attended at least one of the meetings of the Society.

Q.—Let us go back. You stated that you attended a committee meeting. Do you recall when it was that you attended this meeting of the committee? A.—That was about the middle of July 1937.

Q.—Was anybody with you? A.—Dr. Leland was with me.

Q.—Do you recall now who constituted the committee whom you met here in the middle of July in Washington? A.—No; I do not.

Q.—Do you recall what the general discussion was at that time, or what you learned from the meeting? A.—That would be a matter of rather dim recollection. I made no minutes of the visit and it would be hazardous to guess what happened at that moment.

Q.—What was your purpose in coming here? A.—The purpose was to ascertain everything that I could ascertain concerning Group Health Association, Inc., and its relation to the Government.

Q.—What were you able to ascertain about it? A.—I was particularly disturbed by the articles of incorporation as I found them, and was eager to learn just how rapidly Group Health Association, Inc. was developing and how it was developing either here or elsewhere.

Q.—What was it about the articles of incorporation that disturbed you? A.—I had learned, or I suppose I had learned, from Dr. Verbruyck's letter that the organization that they proposed to set up was an organization for the benefit of the employees of H. O. L. C. The articles of incorporation, however, that had been taken out, had been taken out many months before and they authorized the Corporation to take into its membership—

Mr. Levin:—I object. They speak for themselves.

Mr. Leahy:—Are they in evidence?

Mr. Kelleher:—Yes.

THE COURT:—Are they in?

Mr. Kelleher:—Yes, your Honor.

THE COURT:—If they are in evidence I think he may briefly summarize them. They may be checked if there is any question about his stating it correctly.

Mr. Levin:—Can it be confined to a summary and not to characterization and opinion?

THE COURT:—Yes. He can summarize it. That of course is not technically correct, but, I mean, just as a matter of convenience.

The Witness:—The matter that disturbed me was that, as I construed the articles of incorporation—

Mr. Kelleher:—We object to that, your Honor. He can summarize it, but he is going to construe it himself. That is the point.

Mr. Leahy:—He is a defendant here.

Mr. Kelleher:—He cannot construe them, even if he is a defendant.

THE COURT:—He may summarize a particular article if he wishes.

The Witness:—What disturbed me was the national character of the set-up, covering all officers and employees of the United States Government, everywhere, and all branches of the United States Government except commissioned and enlisted men of the Army and the Navy, indicating that the organization was a national organization of large scope.

By Mr. Leahy:

Q.—Following the meeting in July of the committee, which you have just referred to, Doctor, do you recall whether during the summer you had any other meetings with any committee members or committees of the District Medical Society? A.—I don't recall any further meetings of any committees. I think it is safe to say that I met some members of the committees, other members of the Medical Society of the District of Columbia, during my routine visits to Washington.

Q.—During the summer, June, July, August, and September, what were you attempting to do in the matter of your investigation of G. H. A.? A.—I was endeavoring to assemble all available information regarding G. H. A. in the course of my duties and for the purpose of reporting it to the board of trustees of the American Medical Association.

Q.—Was that in pursuance of any policy of the American Medical Association with reference to collecting data or infor-

mation? A.—It is a part of the duties of the Bureau of Legal Medicine and Legislation and is defined in the resolution under which it was created.

Q.—Do you recall how much information you were able to get from any source during the period of the summer of 1937, with reference to G. H. A.? A.—I got, of course, information regarding the articles of incorporation, and from time to time word came as to the set-up, it may be, but I could get no specific information except as I got hold of a copy of the constitution and by-laws and a copy of a blank application for membership and a few things of that sort, all of which forms the basis of a report that I made.

MARCH 12—AFTER RECESS

TESTIMONY OF WILLIAM C. WOODWARD

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, just before luncheon I think we had moved along on what you had done through the summer of 1937. During that period of time do you recall whether you attempted to get any information in any way, through the mails or otherwise, or received any, concerning G. H. A.? A.—Efforts were made to obtain a copy of the contract between the Home Owners Loan and G. H. A. through various Congressmen.

Q.—With what success? A.—None.

Q.—Now, to go through certain letters which have been received in evidence as having been written either by you or having been received by you, I now show you what has been identified as Government's Exhibit 198, dated July 2, and ask you if you wrote that letter. A.—I did.

Q.—The letter is dated July 2, 1937, directed to C. B. Conklin, Secretary of the Medical Society of the District of Columbia, Washington, D. C.

U. S. EXHIBIT 198

"Dear Dr. Conklin:

"Did the Medical Society of the District of Columbia at its special meeting on June 30 consider the status of the medical cooperative established by employees of the Home Owners Loan Corporation? If so, will you not let me know at once the result of the Society's deliberation? Will you not send me at the same time a copy of the minutes of the meeting at which representatives of the Home Owners Loan Corporation Medical Service Association conferred with representatives of the Medical Society regarding the proposed medical service cooperative?"

Do you recall whether you received any reply to that letter? A.—I did.

Q.—And I am going to show you what has been identified as Government's Exhibit 199, and ask you if you identify that, please. A.—That was received by me.

Q.—Was that a reply to your letter, a copy of which I have just read? A.—Yes.

Mr. Leahy:—This is dated July 6, 1937, on the stationery of the Medical Society of the District of Columbia, from C. B. Conklin, addressed to Dr. William C. Woodward.

"Dear Dr. Woodward:

"At the special meeting of the Society held on June 30 the matter of the medical cooperative for the Home Owners Loan Corporation was not discussed. Arrangements have been made, as you will see, in the transcript of the minutes of the joint meeting with representatives from the Home Owners Loan Corporation for a committee from the Society to meet with representatives of the cooperative project at a future date. Dr. F. X. McGovern is the chairman of the committee from this Society.

"Assuring you that it will always give us pleasure to keep your office fully apprised of any future developments, I am, Sincerely yours,

"C. B. Conklin."

By Mr. Leahy:

Q.—Doctor, when was that received in your office? A.—July 13, 1937, in the morning mail, 9 a. m.

Q.—I notice that there are some pencil notations on the side here. Do you recall in whose handwriting it is? A.—I think it is Miss McDonald's, my secretary.

Q.—Now, what information other than that contained in these two letters which I have read to you did you have with reference to the meeting of the District of Columbia Medical Society of June 30? A.—None.

Q.—Do you recall whether any copy of the minutes of that meeting was received by you? A.—Let me suggest that Mr. Hayes attended that meeting and made a report, possibly; I am not sure. If so, the letter is in the record.

Q.—Now, I am going to show you what has hitherto been identified as Government's Exhibit 180, dated the 17th of July, 1937. Did you receive that letter? A.—I did.

Q.—And read it? A.—Yes.

Q.—On the bottom of the letter I see again some pencil writing, do you know in whose handwriting that is? A.—That clearly is in Miss McDonald's handwriting.

Q.—And she is your secretary? A.—She was.

Mr. Leahy:—That is dated July 17, on the stationery of the District Medical Society, sent to you from Dr. Conklin. It reads:

"In connection with the recent meeting that was held on the evening of July 14, 1937, with the subcommittee of the executive committee, I would ask, if at all possible, that you send a photostatic copy of the articles of incorporation of Group Health Association, Inc., and such other material as was presented that evening which is pertinent and should be in our files. Thanking you, I am, Very truly yours."

Q.—Do you recall, Doctor, what meeting is referred to in that letter as having occurred on the 14th of July, 1937? A.—That is a meeting of one of the committees of the Medical Association that Dr. Leland and I attended.

Q.—Can you approximate the date when you and Dr. Leland and the committee met? A.—On the evening of July 14, as stated in the letter, 1937.

Q.—They ask in that for a copy of the articles of Group Health incorporation: Do you recall whether you supplied those? A.—I did.

Q.—Have you any independent recollection of what discussion was had at the meeting of the 14th, more particularly with reference to that portion of the letter:

"And such other material as was presented that evening and which is pertinent and should be in our files."

A.—I am not clear, but so far as my recollection goes I had with me however a preliminary announcement proposing the organization of a cooperative medical service of some kind.

Q.—Do you recall what shape that preliminary announcement was in? A.—It was a mimeographed statement on paper of legal cap size, single space typewritten, headed on the top to the effect that it was "Private and for Confidential Circulation only."

Q.—Do you recall from what source you received that particular communication? A.—My recollection is—and of this I can't be positive—that I obtained that from Dr. Verbyck.

Q.—Do you recall about when? A.—Probably my first visit.

Q.—Here to Washington? A.—Yes.

Q.—When you state your "first visit" is that the one you stated this morning which preceded your visit to the H. O. L. C. offices? A.—It was.

Q.—Was there anything else that you enclosed that you can now recall? A.—I can recall nothing else.

Q.—Following this letter which I have just read to you I will ask you now if you received what has been identified hitherto as Government's Exhibit 45. A.—I received that at my residence.

Q.—Your residence where? A.—7100 South Shore Drive, Chicago.

Q.—This letter dated July 29: is there anything other than that to indicate at what time time you received it at your residence in Chicago? A.—No, it came to my residence; it was so addressed as to lead me to believe that it was sent to me as an associate member of the Medical Society of the District of Columbia and not to me in my official capacity as an officer of the American Medical Association.

Q.—This purports to be a form letter? A.—Yes, a form letter.

Q.—A form letter over the signature of Dr. Conklin. I am going to take the time of the jury to read that. It is a letter dated July 29, 1937, which addressed generally to:

"Dear Doctor:

"Pursuant to action of the Executive Committee, held on the evening of July 12, 1939, and in fulfillment of Chapter IX, Article IV, Section 5 of the constitution, your attention is hereby called to the list of organizations, groups and individuals herewith enclosed. The approved list is on file with the Secretary's office. The amendment is now in force. Any violation thereof will make a member liable according to the provisions of the constitution:

"Chapter IX, Article IV, Sec. 5:

"No member of the Society shall engage in any professional capacity whatsoever with any organization, group or individual, by whatever name called or however organized, engaged in the practice of medicine within the District of Columbia or within 10 miles thereof, which has not been approved by the Society.

"The Executive Committee is authorized and directed to prepare an approved list of organizations, groups and individuals, by whatever name called and however organized, engaged in the practice of medicine within the District of Columbia, or within 10 miles thereof, and the same shall be kept in the office of the Secretary-Treasurer. Before any such organization, group or individual can be placed on the approved list of

the Society, such organization, group or individual, or the member of the Society proposing professional relations therewith, shall submit to the Compensation, Contract and Industrial Medicine Committee such evidence as the Committee or the Society may require showing the character, activities, financial condition and ethical standards of said organization, group or individual, and after considering the same, said committee shall make a report of its investigation and findings to the Executive Committee for such action as it may deem necessary."

"Very truly yours,
"C. B. Conklin, M.D."

Mr. Leahy:—And then the enclosure contains this article; and then an approved list of organizations, groups and individuals named as engaged in practice in the District of Columbia or within 10 miles thereof, again citing the same chapter IX, Article IV, Section 5.

Q.—Doctor, were you personally familiar with any of the organizations named in the third page of that letter, the second page of the enclosure? A.—Many of the persons named here are connected with organizations that I know as individuals; not as organizations.

Q.—What names do you know as individuals? A.—Charles S. White; I used to know Harry M. Lewis. I know the house officer of course.

Q.—Who is he? A.—Dr. Riddick. He is mentioned by his official title; and, of course, the names of the membership of the District of Columbia and the Homeopathic staff: I know the members but not the societies as such.

Q.—Do you know any of the compensation clinics mentioned there? A.—No, I have no knowledge of any of them.

Q.—What did you do with this letter of July 29, 1937, when you received it? A.—My recollection is that I took it to the office and left it there as a part of the office records, thinking it might be of interest in regard to our inquiries relative to Group Health Association.

Q.—I am going now to show you a carbon copy of a letter which has hitherto been identified as U. S. 187, dated Aug. 12, 1937, and ask if you wrote that. A.—I did.

Mr. Leahy:—This is a letter dated Aug. 12, 1937, addressed to Dr. Conklin:

"Dear Dr. Conklin:

"Some time ago I wrote to Dr. McGovern, asking him to inform me concerning the results of the special meeting called by the Medical Society of the District of Columbia to consider the activities of the Group Health Association. In the course of a recent visit to Washington, Dr. McGovern told me that he was no longer on the Committee having charge of the matter and that he had referred my letter to you. Will you not let me know what was done by the Society and what the present situation is?"

Q.—Does that letter refresh your recollection at all as to having met Dr. McGovern at all while you were in the city of Washington? A.—I met Dr. McGovern frequently during my visit to Washington during that period. On my frequent visits sometimes I would meet him on one occasion; sometimes more often.

Q.—Do you recall now any of the conversations in which you were advised on Aug. 12, 1937 that Dr. McGovern was no longer on the committee having charge of the matter? A.—I have no recollection of it.

Q.—You can't recall it now? A.—No.

Q.—I now show you a letter dated August 14, which has hitherto been identified as Government's Exhibit 188, and ask you if you received that letter. A.—I did.

Q.—From whom? A.—From C. B. Conklin, Secretary of the Medical Society of the District of Columbia.

Q.—And was that in reply to a letter just brought to your attention, and the carbon copy of which we read, dated August 12th? A.—It is.

Q.—This is the reply which has just been identified as having been received by you? A.—Yes.

Mr. Leahy:—It is addressed to Dr. Woodward in Chicago, and written on the stationery of the Medical Society of the District of Columbia.

U. S. EXHIBIT 188

"Dear Doctor Woodward:

"In reference to your inquiry of August 12, concerning the present status of the Medical Society's deliberations, I would state a Committee at present constituted as follows:

Dr. A. C. Macatee, Chairman
Dr. R. Arthur Hooe
Dr. Thomas A. Groover
Dr. C. B. Conklin

has been organized for the purpose of giving further study of the Group Health Association with view to making recommendations to the Executive Committee as to the Society's attitude in the premises. At the special meeting of the Medical Society to which you make reference and which was attended by some ninety members with Mr. Hayes present, a detailed

report was made of the various contracts with the Home Owners' Loan Corporation Group. Various opinions were expressed by individual members ranging from the taking of most drastic measures in the way of boycott, etc., to various conciliatory propositions. Finally, an Executive Committee recommendation was accepted to the effect that the Chairman of the Committee appoint a subcommittee of three members which in turn would select two members from the Society at large. The function of the Committee would be to seek further data and bring a recommendation to the Executive Committee as to plans for a course of action. The aforesaid Committee has had one meeting. An expressed policy is to receive reports from any individual members and to obtain proposed plans from members as to course of procedure.

"It will give me pleasure from time to time to report any developments. In the meantime, the Committee would be very much pleased indeed if the American Medical Association Headquarters would wish to be represented at any of its meetings or would have any proposals to combat the movement which has implications affecting far greater territory than the District of Columbia.

"Very truly yours,

"C. B. Conklin, M.D.,
"Secretary."

Q.—With reference to that letter, Doctor, can you tell us now whether or not the American Medical Association headquarters expressed any wish, hope, to be represented at any of its meetings, referring to the meetings of the committee therein mentioned? A.—The bureau which I directed did not.

Q.—Do you know whether any other bureau or any other person attended any meetings of the Executive Committee? A.—There is no reason to believe they did because it was filed in my office after I received it; no other bureau knew of it.

Q.—By the way, let me ask you about that: When letters are received in your bureau and directed to your attention as the executive member of the bureau, what information as to the correspondence is given to any other bureau of the association? A.—It depends altogether on the nature of the correspondence. If it was a matter that involved the economics of the bureau or of the Association that would be sent directly to the Bureau of Economics, Medical Economics, and to Dr. Leland. If it was a matter involving medical education or hospitals, that would go to the Council on Medical Education and Hospitals, Dr. Cutter, and so on. Correspondence which pertained to other matters would go to Dr. West, to Dr. Fishbein—depending on the nature of the correspondence—others from time to time to the Council on Pharmacy and Chemistry, and so on.

Q.—More particularly to the subject matter of the letter which has just been read to you, to what other bureaus would that go? A.—None.

Q.—Where would that be routed, to what file? A.—The files of the Bureau of Legal Medicine and Legislation.

Q.—For example, did you confer in any way with Dr. Cutter with reference to the matters contained in the letters which we read? A.—No, I don't recall ever doing so.

Q.—Do you recall conferring with Dr. Cutter with reference to G. H. A. matters? A.—I have no recollection of having done so.

Q.—Outside of the occasion when you stated you came to Washington with Dr. Leland on the 14th day of July, 1937, did you ever come to Washington with Dr. Leland again? A.—I believe we came in November of 1937.

Q.—And do you recall what the purpose of that visit was? A.—To attend a meeting of the Medical Society.

Q.—With reference to what particular matter? A.—Group Health.

Q.—Do you recall who it was you saw on that occasion? A.—I think several hundred people.

Q.—Was that a general meeting of the Society? A.—A general meeting of the Medical Society.

Q.—Did you, Doctor, at any time, take any action with respect to so much of this letter which states that Dr. Conklin would be very much pleased indeed if the American Medical Association headquarters wished to be represented at any of the meetings or would have any proposal to combat the movement which has implications affecting far greater territory than the District of Columbia? A.—No.

Q.—No proposals were sent by you? A.—No.

Q.—Or anybody else in the American Medical Association, so far as you know? A.—Not so far as I know.

Q.—What was it you were doing, Doctor, during this period of time covered by these letters, with reference to Group Health? A.—I was assembling information from whatever source I could obtain it: from members of the Society, Mr. Hayes would pick up some information. I would get other information, maybe some court decisions or statute books, for the purpose of writing my report to the Board of Trustees.

Q.—I am now going to show you a carbon copy of a letter dated Aug. 18, 1937, hitherto identified as Exhibit 202 for the prosecution, addressed to Dr. Conklin. A.—I wrote that.

"Aug. 18, 1937,

"C. B. Conklin,
"Secretary, Medical Society of the District of Columbia,
"1718 M. Street, Northwest,
"Washington, D. C.

"Dear Dr. Conklin:

"I thank you for your letter of August 14th stating the present position of the District Medical Society with reference to Group Health Association, Inc.

"I understand from your letter that everything that was said and done by Dr. Leland and me in the course of our recent conference with the committee then having Group Health Association under consideration is now before the committee newly appointed to study the matter. If there is anything in what either of us said or did that was obscure and calls for explanation or elaboration we shall be glad to undertake to explain or elaborate for the information and guidance of the committee. Neither of us has at the present time any further proposal looking toward forestalling the growth of Group Health or towards preventing the organization or growth of similar groups in the District of Columbia.

"Has the Medical Society of the District of Columbia taken the advice of counsel with respect to the situation? If so, we shall appreciate it very much if you will let us know what that advice was, with citations and statutes and cases supporting it."

Q.—Now, Doctor, does the letter of August 18th indicate anything to you in your recollection now as to what was said or done by you or by Dr. Leland, either or both of you, on the occasion to which you referred in your letter? A.—It brings to my mind the fact that I advised them to procure counsel if they didn't have it and be guided by the advice of counsel.

Q.—Do you recall anything further that was said or done by either or both of you, Doctor, in August 1937? A.—No, I do not.

Q.—Doctor, did you continue your efforts to get information with reference to Group Health? A.—I did.

Q.—And in what manner did you attempt to get such information? A.—I attempted to get it, I think at the time, through various members of Congress who I thought might be able to get it where I couldn't.

Q.—Now, I show you what has hitherto been identified as a letter which you wrote on September 8. It is Government's Exhibit 190. I will ask you if you wrote such a letter, the original of which Exhibit 190 is a copy. A.—I did.

Mr. Leahy:—It is addressed to Dr. Conklin as Secretary of the District Medical Society.

"Sept. 8, 1937.

"Dear Dr. Conklin:

"Our Executive Committee and Board of Trustees meet in Chicago next week, September 15, 16, and 17. They are much interested in developments with respect to Group Health Association, particularly with respect to any activities and plans of the Medical Society of the District of Columbia in relation to it. If you drop me a line giving the latest information available, in time for me to have your letter mimeographed for the use of the Executive Committee and the Board, I shall appreciate it.

"Yours truly."

By Mr. Leahy:

Q.—Did you receive any reply to that letter? A.—I believe I did.

Q.—Do you recall just how much information you had been able to obtain about Group Health Association up to the time of writing that letter? A.—Practically none, except as I might have gotten what was purported to be a copy of the constitution and by-laws of the corporation.

Q.—Do you recall about what date it was you got that copy of the by-laws and constitution? A.—No, I can tell you the date of that only by reference to the date of my report to the Board of Trustees, and that was made under date of September 1st; so I must have had it before that time.

Q.—I now show you what has hitherto been identified as prosecution's Exhibit 84, dated September 13, and ask you if you can identify that as a letter which you received. A.—Yes, that was received by me.

Q.—Was that in response to the letter which I just read? A.—Yes, of September 8.

Mr. Leahy:—This again is on the letterhead of the Medical Society of the District of Columbia, addressed to Dr. Woodward at his official office in Chicago:

"In reference to your letter of inquiry under date of Sept. 8, 1937, I would state that there have been no further developments of importance relating to Group Health Association, Inc."

Q.—Doctor, up to that time what developments had there been relative to Group Health Association so far as the Medical Society of the District of Columbia was concerned, of which

you had knowledge? *A.*—My knowledge was hearsay; it had only reference to the conference of the District Medical Society officials and representatives of the H. O. L. C.

Mr. Leahy:

"There is a subcommittee of the Executive Committee, about which you may have information, constituted as follows: Henry C. Macatee, Chairman, R. Arthur Hooe, Thomas A. Groover, Francis X. McGovern, Coursen B. Conklin. This committee reported at a special meeting of the Executive Committee that it had no substitute plan to offer at this time; and further, that in view of apparent violation of the Code of Ethics of the American Medical Association in that the free choice of physician would not be allowed, and that contract practice was involved, no approval could be given to the movement. The general statement of the subcommittee, as imparted to the Executive Committee, was as follows:

"It is the opinion of your committee:

"1. That the Group Health Association is unethical and that the participation in it by any member of the Medical Society of the District of Columbia would render him or her subject to disciplinary action by the Society.

"2. Your committee at this time has no definite recommendation to make with respect to combatting the activities of the Group Health Association other than is embodied by implication in the preceding paragraph.

"3. It is the opinion of your committee that the Medical Society of the District of Columbia should maintain close contact through the chairman of this committee with the American Medical Association in an effort to formulate a suitable and an effective policy with respect to combatting the activity of the Group Health Association."

"The Subcommittee was instructed by the Executive Committee to prepare, for distribution to the members and the press, a detailed statement of attitude. This is now in formulation.

"Our recent information is that there has been no progress in the conversion of a second-floor building on Eye Street, between Thirteenth and Fourteenth Streets, into clinic headquarters. The large barren room itself appears devoid of any accessories such as proper lighting, plumbing, etc., for the successful carrying on of their project.

"Very truly yours,
"C. B. Conklin."

By Mr. Leahy:

Q.—Did you have, Doctor, any correspondence with this subcommittee of the Executive Committee, the names of those of whom I have just read? *A.*—I recall no correspondence directly with that committee or any member of it.

Q.—Was anything done by you or to your knowledge by the American Medical Association "in an effort to formulate a suitable and an effective policy with respect to combatting the activity of the Group Health Association"? *A.*—Not that I know of.

Q.—What did you do with this letter when you received it, Doctor? *A.*—I assume that it was filed after the Board of Trustees had been notified of the situation.

Q.—Has it any stamp on there as to when it was received? *A.*—"Received September 15." I am not sure that came in time for the meeting of the Board of Trustees for which the information was sought, but the record will show that.

Q.—Now, Doctor, I show you another letter dated October 9: When was the meeting of the Board of Trustees, if you recall? *A.*—I don't recall; it was stated in a letter to Dr. Conklin.

Q.—I show you that letter, or a carbon copy of the one which is marked Exhibit 190, dated September 8. *A.*—"Meeting of the Board of Trustees was held on Sept. 15, 16 and 17, 1937."

Q.—Doctor, at the time the Board of Trustees met in Chicago, do you recall that you were present at the meeting of the Board? *A.*—I don't recall.

Q.—What information had you at the time of the meeting of the Board of Trustees with reference to Group Health Association, or its activities? *A.*—The information that I had then was rather extensive and had been embodied in a report I had submitted under date of September 1.

Q.—It is part of Exhibit 609. Doctor, in some portion of your testimony this morning you referred to a circular which you said you had seen marked "Confidential for Private Circulation only." Will you kindly look at that which is part of Exhibit 609 and tell us if this is the "Private for Confidential Circulation only" which you saw? *A.*—It is.

Q.—Now, can you tell us about when it was that was first brought to your attention? *A.*—My recollection is—I will not be positive—but I got it from Dr. Verbycke at the time of my visit to him. I know that I did not have it before that time; I may have obtained it shortly after.

Q.—I will not read through all this. It is just identified as "Confidential for Private Circulation only," a plan for a cooperative medical service for federal employees and other employees in Washington. Up to the time of the last letter which I brought to your attention, Doctor, had you yet received a copy of the contract, information about which you had been seeking? *A.*—I had not.

Q.—The results of what information you had obtained up until the first of September, did you embody in any way, shape

or form to the Board of Trustees of the American Medical Association? *A.*—I made a report to the Board under date of Sept. 1, 1937.

Q.—Subsequently, Doctor, to that report, did it appear in any other shape than the report you rendered? *A.*—After severe editorial cutting it was published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION of Oct. 2, 1937, I think.

Q.—Doctor, I am going to show you what has hitherto been identified, but not received in evidence, as U. S. 294: Is that your original article or report which you said you made, and if you can identify it as such will you kindly do so? *A.*—That is a draft of the original report, with the addition of one page on September 7, and various additions and deletions.

Mr. Kelleher:—May I interrupt just a moment? If you are not going to offer 294, I think I ought to correct my statement. I believe it was received under limitations that it would be received to show or solely to show that there was a draft of the article sent to these other parties.

By Mr. Leahy:

Q.—Doctor, I am now going to show you a letter dated Oct. 9, 1937, received in evidence as Exhibit 111, and ask you if you received that letter. *A.*—I received this letter from Dr. West. It is addressed to Dr. West from Dr. Conklin, and was referred by Dr. West to me.

Q.—And is there anything to indicate whether it was received in your department or in what department it was received?

A.—It was opened in the general mailing office of the Association, as indicated by the time stamp thereon and was referred to me by Dr. West, as indicated by his memorandum, with a request to return it to him, which I did.

Q.—Whose mark is this up in the left-hand corner? *A.*—Dr. West—"O. W." are his initials.

Q.—And the time stamp is this red stamp? *A.*—Yes, that is the stamp used in the mailing room of the Association.

Q.—When your mail came into the American Medical Association, did it often come into the general mailing room? *A.*—It did.

Q.—And is that the stamp of the general mailing room indicating when it came? *A.*—That is a stamp indicating it was opened in the general mailing room. Not all of it was opened there for Dr. West—most of it.

Q.—And then from this general mailing room how was this mail routed? *A.*—It was distributed according to either the addressee or according to the subject matter, distributed to the various agencies of the Association in the building.

Q.—At all events this letter came to your attention? *A.*—I saw that letter.

Mr. Leahy:—Dated October 9, on the stationery of the Medical Society of the District of Columbia, addressed to Dr. West:

"Dear Dr. West:

"I thank you for your letter of Oct. 6, 1937.

"Personally I wish to express my pleasure and appreciation of learning your reaction to anything that may be proposed that would affect the doctors' best interests. I am happy to state that the Society, in session on the evening of October 6, adopted the following:

"WHEREAS, The Bureau of Legal Medicine and Legislation of the American Medical Association has prepared and published a comprehensive report on the activities of Group Health Association, Inc.; and

"WHEREAS, The Medical Society of the District of Columbia is in full accord with the content of said report, both as to the established facts set forth therein and the implications drawn therefrom; therefore, be it

"Resolved, That the Medical Society of the District of Columbia cause a copy of said report to be sent to each of its members as an indication of its future policies with respect to combatting the activities of said Group Health Association and also with respect to the ethical responsibilities of the Medical Society of the District of Columbia and of its individual members.

"This appears to eliminate what might have an undesirable statement of policy.

"Sincerely yours,
"C. B. Conklin."

By Mr. Leahy:

Q.—Doctor, do you know what that portion of the letter refers to which says:

"The Bureau of Legal Medicine and Legislation of the American Medical Association has prepared and published a comprehensive report on the activities of Group Health Association, Inc."?

A.—That refers to the article as it appeared in THE JOURNAL of Oct. 2, 1937.

Q.—I now show you what has been introduced in evidence here as Exhibit for the prosecution 293, and I will ask you if you can identify that. *A.*—That is a copy of THE JOURNAL

article of Oct. 2, 1937, and beginning on page 39B, that is in the Organization Section of THE JOURNAL, appears the article on Group Health Association based on my report.

Q.—By the way, Doctor, is that THE official JOURNAL of THE AMERICAN MEDICAL ASSOCIATION? A.—It is.

By Mr. Leahy:

Q.—How often is that published? A.—Weekly.

Q.—The American Medical Association publishes other magazines besides this, does it? A.—You are speaking to me?

Q.—Does the American Medical Association publish other— A.—Yes, several other journals.

Q.—Several other journals? A.—Yes.

Q.—Have you any idea how many it publishes? A.—Nine or ten.

Q.—How frequently? A.—They are monthly journals.

Q.—Is this journal for general public distribution, or is it a professional journal? A.—It is a professional journal.

Q.—Going to whom? A.—Going to any one who chooses to subscribe for it, without regard to affiliation with the A. M. A.

Q.—But the majority of the membership subscribes, does it? A.—A class of members known as Fellows of the Association receive it by virtue of their fellowship. A very considerable part of the members of the Association who are not Fellows subscribe for it. Then, there is an extensive subscription list in libraries and other agencies interested in medicine.

Q.—Doctor, I will now show you some more of this correspondence which I should like to bring to your attention. It was introduced, the one I now show you, as Government Exhibit 284. It is dated Sept. 13, 1937. A.—Yes.

Q.—Did you write that? A.—No. That was written by Dr. Fishbein, sent to me.

Q.—That is some handwriting up at the top. Whose is that; do you know? A.—That I don't know.

Mr. Leahy:—It is a small communication dated Sept. 13, 1937:

U. S. EXHIBIT 284

"Dr. Woodward:

"I am returning herewith the duplicates of the report on the H. O. L. C. The original is being edited for use in the Organization Section of THE JOURNAL."

By Mr. Leahy:

Q.—Is that the journal to which I just referred your attention? A.—It is.

Q.—And the organization section? A.—It is.

Q.—Is the organization section you drew the attention of the jury to? A.—It is.

Q.—And when he says, "I am returning herewith the duplicates of the report on the H. O. L. C.," does that refer to the article? A.—That's the draft of the article that you have there (indicating).

Q.—Doctor, I now show you a letter dated July 31, 1937. It has been introduced in evidence as Exhibit 186. It's on the stationery of John F. Hayes, a lawyer. Did you receive that letter? A.—I did.

Q.—Will you kindly tell us, Doctor, how it was that an attorney by the name of John F. Hayes, here in Washington, was writing a letter to you?

Mr. Levin:—Give me the date of the letter first, please, Dr. Woodward.

The Witness:—July 31, 1937.

Mr. Levin:—Thanks.

The Witness:—Received August 2.

Mr. Hayes has been for many years the Washington correspondent representing the Association generally, picking up news and matters of that sort, to forward to the Association. Since some few years past he has been connected directly with the Bureau of Legal Medicine and Legislation, for the purpose not of representing us before Congress or the departments but for the purpose of procuring for us essential data that we may need in Washington. He resides in Washington and has his law office here.

By Mr. Leahy:

Q.—Did you know him personally? A.—Yes, sir.

Q.—Over how many years had you known him so? A.—Oh, I'd say ten, fifteen, maybe longer.

Q.—Well, now, did you get this letter from him? A.—I did.

Q.—I will ask you whether or not Mr. Hayes' employment was in any way connected with G. H. A. as the occasion therefor. A.—No.

Q.—How long before G. H. A. was discussed was Mr. Hayes a correspondent of the American Medical Association? A.—

Well, to my knowledge he had been a correspondent of the Association for at least fifteen years before.

Q.—Then you just asked him to collect information for you? A.—That's all.

Q.—Was that letter received by you? A.—It was.

Mr. Leahy:—This is on the stationery of John F. Hayes, 430 Munsey Building, Washington, D. C., and it is dated July 31, 1937:

EXHIBIT 186

"Dear Doctor Woodward:

"I attended the special meeting of the District Medical Society on the night of July 29. This special meeting was called for the purpose of hearing the report of the special subcommittee appointed to secure facts and information regarding the Group Health Association, Inc.

"I am assuming that Dr. F. X. McGovern, Chairman, has sent to you a full and detailed report to you."

By Mr. Leahy:

Q.—Had Dr. McGovern done that, Dr. Woodward? Do you know? A.—I don't recall having received such a report from Dr. McGovern.

Mr. Leahy:

"I do not know that you expect any word from me relating to the meeting. It may be stated, however, that there were present about 150 members of the Society. Dr. Sprigg read a formal and somewhat lifeless report reviewing the facts and information which had been obtained regarding the Group Health Association, Inc. Nearly all of his facts were substantially the facts which you and Dr. Leland had supplied to the group which attended the meeting here about two weeks ago.

"In so far as I could observe, there was no new information in the subcommittee's report, except that it did set out the fact that the Committee had by registered letter invited or requested the President of the Group Health Association, Inc. to furnish the subcommittee certain information including:

"(1) A copy of its rules and by-laws;

"(2) A list of the physician personnel of the organization;

"(3) A copy of its contract with the Home Owners Loan Corporation.

"President Penniman replied by telephone, inviting the Committee to lunch with him at the Raleigh Hotel. Nothing worthy of review happened at the luncheon, except that Penniman agreed to supply a copy of the rules and by-laws when printed and a list of physicians when the staff had been filled. He refused to supply a copy of the contract on the ground that it was really the property of the Home Owners Loan Corporation, or some such reason.

"There was about twenty minutes of general discussion by members of the Medical Society, in which Doctors Sprigg, McGovern and Macatee took active part. Doctor McGovern mounted the rostrum and made a very clear, able and comprehensive review of this entire subject and presented his subject in a manner which impressed his hearers and showed the seriousness of the entire movement.

"His remarks had the effect of creating alarm and was just what was needed, because the reading of the subcommittee's formal report, was lifeless and stilted, and made no impression—in my opinion.

"The Medical Society then approved the formal report and—as I understood—instructed the subcommittee to investigate further as to methods and means of meeting the situation and report at a future date.

"Nothing whatever was said on the subject of legal proceedings either in the report or in the discussion. Mr. F. A. Fanning, attorney for the Association, was not present. Your name was not mentioned, nor was the name of Dr. Leland mentioned.

"The above are my impressions of the meeting. If I have made any error in the statement of facts, please understand that you should be guided by the report of Dr. McGovern who of course is in position to supply more accurate and more complete information than I.

"Very truly yours,
"John F. Hayes."

By Mr. Leahy:

Q.—Do you recall whether subsequent to that letter or at any time you received a report of Dr. F. X. McGovern mentioned by Mr. Hayes? A.—I can't recall ever having received a report from Dr. McGovern concerning that meeting. I may have.

Q.—Did you, at any time, to your recollection, receive the "formal and somewhat lifeless report" of Dr. Sprigg? A.—No, I received no such report.

Q.—On Aug. 24, Doctor, 1937 did you receive a letter from Mr. Hayes which has been introduced in evidence and identified as Government's Exhibit 182? A.—Yes, I received that letter.

Q.—When was it received by you? A.—Aug. 25, 1937, on the morning mail at 9 o'clock.

Q.—By the way, these letters which you received from Mr. Hayes, did you in any way communicate their contents to Dr. West, Dr. Fishbein, Dr. Leland or Dr. Cutter? A.—Not formally. If I communicated the contents at all, it came about in the case of contacts that I would make with them throughout the day. If there was any matter of importance that had to be—policy that had to be determined, I would confer with Dr. West, but generally there was nothing calling for conferences of that sort.

Mr. Leahy:—This is again on the same letterhead of John F. Hayes, and it is dated August 24, addressed to Dr. Woodward, Chicago:

U. S. EXHIBIT 182

"I regret that efforts made yesterday and today to secure information regarding Group Health Association, Inc., through the District Medical Society have not been very successful.

"Dr. Conklin is out of the city. A new committee or subcommittee was appointed consisting of Dr. Henry C. Macatee, Dr. R. Arthur Hooe, Dr. Thomas A. Groover and Dr. F. X. McGovern. Nearly all of these doctors are out of the city. I was able to speak to Dr. McGovern on the telephone, but he had no up to date information other than the fact that the Medical Society will hold another meeting on this particular subject on September 10.

"On some independent investigation of my own, I learned that the clinic of this Association is to be located at the Evans Electrical Building. I called there, and observed that this is a small but attractive two-story building owned and occupied by the O. R. Evans and Bro., Inc., dealers in electric fixtures and lamps, etc. This firm occupies the first floor and it has on hand and present in all directions a large supply of floor lamps, and fine merchandise of that character.

"I inquired for the offices of the Group Health Association and was informed that they have leased the second floor of this building. Thereupon I went to the second floor; there is no elevator. The second floor was entirely unoccupied. This entire floor is one enormous room, approximately 25 feet wide and possibly 70 or 80 feet long. At the present time it has no partitions, few if any electric lights; the walls and ceiling and floors require reconditioning. In my judgment it will require at least four or five weeks to put this second floor space in anything like working condition.

"This O. R. Evans and Bro. building is located at 1326 Eye Street NW. If the affairs of the Group Health Association are to be conducted from these headquarters it is my opinion that they are starting in most modest and unassuming style.

"Thereupon, I returned to my office and called on the telephone the office of Mr. William F. Penniman, of the Home Owners' Loan Corporation. Incidentally, I observe from the Congressional Directory that he is Assistant General Manager for District No. 6, comprising the states of Arizona, California, Idaho, some other states and Hawaii and Alaska.

"I asked the young lady if she could supply me with any printed information regarding the Group Health Association. She referred me to the Home Owners Loan Corporation publicity man, Mr. Acton. Thereupon I went to Mr. Acton's office and was informed by him that no news matter had as yet been prepared by him; that such matter as had appeared in the local papers was premature and without an official sanction.

"He stated that their clinic on Eye Street had not yet been started and that it would be several weeks before there would be any news to give out. He suggested that I call upon Mr. Penniman for further information. In view of the experience of the Committee of the District Medical Society at the luncheon given by Mr. Penniman to that group I considered it the part of wisdom to confer with Mr. Penniman at some remote time in the future.

"Dr. Conklin may return to Washington Saturday, and if so, I will see him then and report further to you.

"Very truly yours,
"John F. Hayes."

By Mr. Leahy:

Q.—Did you at any time talk with Mr. Hayes with reference to collecting any information or data for you in regard to G. H. A.? *A.*—I may have done so, but in any event it would be a part of his duty to collect any information of that sort, because of his—the general interest of the Association in the matter.

Q.—I am showing you a letter now dated August the 25th, again on the letterhead of John F. Hayes and identified hitherto in evidence as 183 for the Government. *A.*—I received that.

Q.—When did you receive it? *A.*—August 27, 1937 at 9 a. m.

Mr. Leahy:—It is dated Aug. 25, 1937, directed to Dr. Woodward at Chicago:

U. S. EXHIBIT 183

"Following the transmittal of my letter to you of yesterday on the Group Health Association, Inc., I awoke this morning to read in the Washington papers the enclosed articles from the *Herold* and *Post*.

"Thereupon I called at the office of Mr. W. F. Penniman, Assistant General Manager for District No. 6, of the Home Owners' Loan Corporation. He was absent from his office from 2 p. m. until 4:30 p. m., but I did see him at the latter hour.

"I referred to the statements in the papers and asked him if these statements were correct. He stated that they did not come from him and he did not know whence they did come, and that they were not correct. He did not care to amplify or be specific on any statement of facts—other than to say that 'we are in the embryonic stage and our plans are not fully worked out.'

"During my long wait in his office to see him, I asked the young lady in the outer office if she could supply me with one of the blanks used by employees of the Home Owners' Loan Corporation in applying for membership in the Group Health Association, and she replied that she had filled out her application but that she did not have another. I asked Penniman if he could supply one of these blanks to me, and his reply was that 'he did not have any of the blanks.' I will try other sources tomorrow and will send blank to you if one can be secured.

"To my request for a list of the members of the medical staff, he replied that 'that list was not yet ready.'

"I talked later to Mr. Howard Acton, in charge of Press Relations for the Home Owners Loan, and suggested that something official ought to be prepared at once to supply newsmen instead of articles such as appeared today in Washington papers, which apparently are not prepared with official approval.

"It may be advisable for you to delay publication of your article until these fellows are compelled to come out in the open and let the world know definitely what they are doing.

"Very truly yours,

"Penniman did not know that I had any connection with the A. M. A."

By Mr. Leahy:

Q.—Doctor, do you recall whether you received any further information about G. H. A. through Mr. Hayes? *A.*—I have a copy or copies of the application blank, but whether I obtained them from him or from some other source I don't know.

Q.—I now show you a copy of a letter which has hitherto been introduced in evidence as Exhibit 184 for the Government and dated Aug. 27, 1937. Who wrote it, Doctor? *A.*—I wrote that.

Mr. Leahy:—This is a letter, dated the 27th of August, to John F. Hayes at his Munsey Building address in Washington, written by Dr. Woodward:

U. S. EXHIBIT 184

"Dear Mr. Hayes:

"I thank you very much for your letter of August 25 relative to Group Health Association, Incorporated.

"I am not sure but that the situation described in your letter calls for an earlier publication by the American Medical Association concerning Group Health Association, Incorporated, rather than a later one—that is, if those who control our publication machinery deem it wise to publish anything.

"I enclose herewith a draft of the article that I prepared with a view to publication. I have not yet prepared a closing section. You can see, I believe, that I have very well anticipated everything that is going on in Washington in connection with this matter, even to Filene's part in the matter, in some cases having the facts before me and in other cases drawing deductions from these facts. Was not Fahey a labor lawyer in Boston before he assumed his present position in Washington?

"Will you not examine this draft and return it to me at the earliest possible moment with any comments and criticisms you see fit to make? Please regard it as confidential.

"Yours truly,"

By Mr. Leahy:

Q.—Doctor, what was the draft that you spoke about in that letter? *A.*—That was the draft of my report to the Board of Trustees that formed the basis of the published article.

Q.—You mention in here the name of Fahey. Who is he? *A.*—He is the chairman of the Board of Governors of the Home Owners' Loan Corporation.

Q.—And you mention another name in here: Filene. Who is he? *A.*—That's Edward A. Filene, who was a retired department store owner in Boston and the founder of the Twentieth Century Fund and its president at that time.

Q.—Doctor, I now show you a carbon copy of a letter identified as having been received in evidence hitherto as Government's 185. Would you kindly look that over and see if you wrote that letter, the original of it? *A.*—I wrote that.

Q.—And you sent it to the addressee? *A.*—I did.

Q.—Who is John F. Hayes, the Munsey Building?

Mr. Leahy:—The letter is dated August 30:

"Dear Mr. Hayes:

"I am informed that although Twentieth Century Fund, Inc., of which Mr. Edward A. Filene is President, was interested in the organization of the cooperative medical service in Washington out of which Group Health Association, Inc., grew, the Fund subsequently withdrew its support. The group that was promoting the Group Health Association, Inc., is said to have been so radical in its ideas and so unbusinesslike in the conduct of its affairs that Twentieth Century Fund, Inc., would have none of it.

"Dr. Fishbein suggests that if we could have some lay person from Washington not identified in any way with the American Medical Association write to Mr. Filene about the matter, he might get something of interest; not to write about the withdrawal of the Twentieth Century Fund but to write for information concerning the present movement, for instance:

"Dear Mr. Filene:

"The local press in Washington has recently published articles about a cooperative medical service organized here in Washington referred to as Cooperative Health Association, Inc. In one of the articles, it was stated:

"The Twentieth Century Fund of New York, backed by Edward A. Filene, Boston merchant, philanthropist, also is aiding the corporation, chartered under District of Columbia laws."

"I am therefore turning to you for information concerning the practicability and value of Group Health Association, Inc. Obviously, inquiry of the government officials who are responsible for the organization can lead only to laudatory answers, for unless they thoroughly believe in the plan they can certainly not have undertaken to underwrite it up to \$100,000. Moreover, these men, as I understand it, are all novices in this field and Twentieth Century Fund, Inc., is not. Twentieth Century

Fund, Inc., and you as its President, are however, I assume, in positions from which the plan can be viewed with unbiased minds and you will naturally keep yourselves informed concerning the activities of the organization in view of the support you have given it—if you have given it the support the newspapers say you have. I shall appreciate it very much if you let me have your frank opinion regarding the expediency of a person of limited means identifying himself with this organization. What is the likelihood of its defaulting in its obligations? What can one expect of it in the way of competent medical and hospital services? Etc.?

"Of course, Mr. Hayes, the foregoing is only a suggestion. You may have no one whom you could ask to write such a letter to Mr. Filene. If so, do not hesitate to say so. You may be able to frame a much better letter than I have suggested. What I have written is intended only to give a definite idea as to the line of thought that seemed to run through Dr. Fishbein's mind.

"Incidentally, Dr. Fishbein thought that he could not run my article on Group Health Association, Inc., until next week, so you will not see it in THE JOURNAL for September 4.

"Yours truly,
"Director."

By Mr. Leahy:

Q.—Doctor, do you know to what the association you mentioned, "Cooperative Health Association, Inc.," referred to, or what did you refer to when you used that phrase? A.—There were newspaper articles in respect to group health services of various kinds in which varying names were used, and that had some reference to the name appearing in some article. I don't—I can't identify the organization any further.

Q.—Do you recall on what you based your statement in the letter, that "The group that was promoting the Group Health Association, Inc., is said to have been so radical in its ideas and so unbusinesslike in the conduct of its affairs that Twentieth Century Fund, Inc., would have none of it"? A.—That was based on a conversation with Dr. Fishbein.

Q.—You did not obtain any information, did you, as to the source of that information? A.—I can tell you where Dr. Fishbein is said to have obtained it.

Q.—No, no; you can't. Sorry. Don't try to do that. That is hearsay.

I am going to show you now Government's Exhibit 203.

Mr. Lewin:—I won't object to that if you would like him to answer that.

Mr. Leahy:—All right. Go ahead.

Mr. Lewin:—Would you like him to answer that?

Mr. Leahy:—I thought you wanted the answer.

Mr. Lewin:—No.

THE COURT:—Well, now, gentlemen, I am not going to permit a lot of—

Mr. Leahy:—Hearsay.

THE COURT:—Hearsay to be built up here.

Mr. Leahy:—No, I don't want to.

THE COURT:—Please understand that. That is collateral. That will be the end of it, if it goes in.

By Mr. Leahy:

Q.—I am now going to show you, Doctor, what has been hitherto introduced in evidence as Exhibit 203 and ask if you ever had that exhibit before you. A.—I did.

Q.—Do you know when you received it? A.—That was received in the general mailing room of the Association on October 29 at 10 a. m.

Mr. Leahy:—This is a telegram from John F. Hayes:

"Group Health Association Medical Staff announced Doctors Brown, Raymond E. Selders, Allen E. Lee, Edmond D. Wells, R. Stephen Hulburt, M. Scandiffio stop Home Loan Bank Board has granted twenty thousand dollars a year for two years to association.

"John F. Hayes."

By Mr. Leahy:

Q.—I want to ask you whether or not on the 22d day of June 1937 there came to your attention Government's Exhibit 104 (handing an exhibit to the witness)? A.—No, I have never seen this.

By Mr. Leahy:

Q.—I now show you, Doctor, Exhibit 103, offered in evidence, and ask if you ever saw the original of which that is a carbon. A.—I did.

Q.—Where did you see that, Doctor? A.—I saw—I saw the original. I saw a copy of that letter written by Dr. West, and it was—copy came to me for my information, or else I saw the original before it came out. The text of the letter is very familiar to me.

Q.—Does that show that it was in your files or the files of your Bureau? A.—No, there is nothing to show that that was ever in the files of the Bureau of Legal Medicine and Legislation.

By Mr. Leahy:

Q.—Let me show you that 103, and let me show you again 104, and ask you, you having seen 104, if that refreshes your recollection as to whether you ever saw—put it the other way: having seen 103, whether it refreshes your recollection as to ever having seen 104. A.—No, I can't say that it does. I don't believe I ever saw that particular letter and the enclosure. The contents of that are perfectly familiar to me. I know I saw it at the time.

Q.—Exhibit 103? A.—Yes.

Mr. Leahy:—Exhibit 103 is a carbon copy on the letterhead of the American Medical Association, dated June 23, 1937 and runs to Mr. Thomas A. Hendricks, Executive Secretary, Indiana State Medical Association, Hume-Mansur Building, Indianapolis, Indiana:

"Dear Mr. Hendricks:

"I am very greatly obliged to you for your letter of June 22, for the memorandum attached to it and for the copy of 'A Plan for a Cooperative Medical Service on a Periodic Payment Basis for Federal Employees and Their Families in Washington.'

"While we already had a copy of this 'plan' and practically all of the information submitted in the memorandum attached to your letter, we are nevertheless grateful to you for sending us the material that accompanied your letter and especially for the information pertaining to the small group in Washington that seems to be acting as a steering committee for the organization of cooperative medical services among various governmental departments. We had not been able to secure this particular piece of information.

"We have known for two or three months that a movement has been started to organize medical service plans for governmental employees. We have made very diligent efforts to ascertain all the facts and we are still persisting in those efforts.

"Since the Atlantic City Session Dr. Woodward has been in Washington for a large part of the time and has had interviews with officials of the H. O. L. C., the Resettlement Administration, the Brookings Institute and numerous others. The one thing that we have tried very hard to secure is a copy of the contract to be entered into between the cooperatives and their members. Our own efforts as well as the efforts of persons in high official position in Washington have been altogether unavailing and we have not been able to secure a copy of the contract nor any specific information about its provisions.

"If you can succeed in securing any additional information, we shall appreciate it if you will pass it on to us just as we have fully appreciated your helpfulness in connection with other matters in the past.

"Very sincerely yours,"

By Mr. Leahy:

Q.—Doctor, had you, while you were in the city of Washington at any time, interviewed the officials in the Resettlement Administration? A.—I had made inquiries there concerning group medicine generally. The Resettlement Administration has been maintaining prepayment plans of its own, so to speak, throughout the country, and I doubt very much if I saw the Resettlement Administration at all in connection with G. H. A.

Q.—The Brookings Institute: had you also seen the officials of that institution? A.—I saw one or more of the officials of that institution.

Q.—On what occasion? A.—I had been told that the primary organization of G. H. A. took place at the headquarters of the Brookings Institute. I called on one or more of the officers there to see what they knew about it.

Q.—With any results? A.—No, none.

Q.—How long, to your knowledge, had the Resettlement Administration been maintaining prepayment plans for medical service for its employees? A.—I wouldn't like to estimate that, but they have been active at it for several years in the depressed—some of the depressed areas.

Q.—Throughout the United States, you mean? A.—Yes.

By Mr. Lewin:

Q.—You mean several years from that time or from today? Would you clear that up? A.—Before that. Before that time.

By Mr. Leahy:

Q.—You correct me if I am wrong, Doctor: This is dated June 23, 1937, is it not? A.—Yes, it is, and that is Dr. West's letter. You see, he wrote that, not I. Dr. West's letter.

Mr. Leahy:—I am going to try to get through quickly if I can, Doctor.

By Mr. Leahy:

Q.—Doctor, back in June 1937—and I am now showing you Government's Exhibit, hitherto received in evidence and number 106—had you received any letter such as I now show you? A.—I have seen that letter. It was, however, addressed to Dr. West. I know I had seen it from Dr. Verbyck's address on the back of it in my own handwriting, but it is not addressed to me.

Q.—The letter, at all events, regardless of whom or to whom it was addressed, came to your attention? A.—It did.

Q.—Do you know Dr. Herbst, William P. Herbst? A.—Very well.

Q.—Over what period of time had you known him? A.—Oh, I would say about ten or more years.

Mr. Leahy:—The letter is dated June 25, 1937, on the letterhead of Dr. Herbst. It is addressed to Dr. West:

"Dear Dr. West:

"I wish to thank you for your very kind letter which I received a short time ago.

"In regard to Sir Henry Brackenbury, I will be as nice to him as I know how and see if I can find out anything that is of any importance.

"We are having a great time locally here at the moment. That Group Health Service affair of the Home Owner's Loan Corporation has already been incorporated and our Executive Committee had a meeting with some of their representatives last night and it certainly looks bad. It was brought out that it is possible for them to borrow money from the Home Owner's Loan Corporation when and if necessary at any time for any purpose in regard to the health problem. It was also brought out that there are about two hundred branches scattered throughout the United States which maintain emergency rooms with a nurse which are directly under the central office here in Washington. Just what is going to come out of the whole affair is impossible to predict at this time but there are going to be some conferences in an attempt to go along with this outfit if it is possible to do so and retain our faces.

"I am on my way up to the A. U. A. in Minneapolis and if I can steal any time on the way up or way back, I shall give you a call and trust that it will be possible to have a little visit with you.

"With very kindest personal regards, I am"

By Mr. Leahy:

Q.—Doctor, after this letter came to your attention what if anything did you do to get in touch with Dr. William P. Herbst? A.—Nothing.

Q.—Did you ever discuss the matter of Home Owners' Loan Corporation loans therefrom to G. H. A. with Dr. Herbst? A.—No.

Q.—Do you recall whether this was ever kept in the files of your Bureau? A.—There is nothing on it to indicate that it was, but the memorandum there in the upper left-hand corner in handwriting indicates that it was referred to our Bureau.

Q.—All right. Doctor, in June 28 did you see that letter (indicating), copy of which I now show you, and it is dated June 28, 1937, and numbered in evidence for the Government 105? A.—Yes, I saw that.

Mr. Leahy:—June 28, 1937, a carbon copy of a letter on the stationery or the letterhead, rather, of the American Medical Association, directed to Dr. William P. Herbst here in Washington:

"Dear Dr. Herbst:

"I am greatly obliged to you for your letter of June 25.

"We have been considerably perturbed over the scheme that is being promoted under the auspices of the Home Owners' Loan Corporation and have made very earnest efforts to develop dependable information through authentic sources. While we have secured some very interesting information, we have not been able to secure other information of an absolutely essential character. The way in which this matter has been promoted in Washington is rather typical. We are grateful indeed to you for the information offered in your letter. I shall hope to see you when you are in Chicago.

"With most cordial good wishes, I am

"Very truly yours."

By Mr. Leahy:

Q.—You did not dictate the original of which this is a copy, did you, Doctor? A.—No; that is Dr. West's letter.

Q.—It bears the initials of Dr. West. Do you recall now whether anything was done by any one in connection with the correspondence which we have just read between Dr. West and Dr. Herbst? A.—I don't know of anything.

Q.—Did you ever see this? I am showing you now Exhibit 115, which is a telegram from Dr. West to Dr. Hooe, dated the 4th day of November 1937. A.—I don't know whether I ever saw that or not.

Q.—Well, let us read it, anyway. A.—That is from Dr. West.

Q.—Anything in there to denote that it ever came to your attention? A.—Yes, I knew of it a day or so after it was sent, at any rate.

Mr. Leahy:—All right. It states Nov. 4, 1937; it is addressed to Dr. Robert A. Hooe, 1746 K Street, Northwest, Washington, D. C.:

"Woodward, Leland and I will be glad to see you ten A. M. Saturday stop Doctor Hayden will not be able to be present.

Olin West."

By Mr. Leahy:

Q.—Who is Dr. Hayden? A.—Dr. Hayden was a member of the Board of Trustees, the Secretary of the Board.

Q.—Do you recall to what it refers when it states that you, Dr. Leland and Dr. West will be glad to see Dr. Hooe? A.—The Medical Society of the District of Columbia or its Execu-

tive Committee or one of its committees had authorized Dr. Hooe and Dr. McGovern to come to Chicago to confer with representatives of the American Medical Association concerning G. H. A., Inc.

Q.—And that telegram refers to that? A.—That conference.

Q.—Conference. Does this telegram numbered 116 and dated Nov. 5, 1937 refer to the same matter? A.—It does.

Mr. Leahy:—Simply a telegram with the signature on the bottom in typewriting, "R. Arthur Hooe," to Dr. West:

"Will arrive in Chicago 8:20 a. m. November 6."

By Mr. Leahy:

Q.—Doctor, was that conference held on November the sixth? A.—It was.

Q.—Were you present? A.—I was.

Q.—Who else? A.—Dr. West, Dr. Leland and Miss Niehoff, Dr. West's secretary, and I believe one other stenographer.

Q.—Doctor, I am now showing you the original, introduced in evidence as U. S. Exhibit 295, dated March 27, 1937. That is General Ireland's letter. Did you see the original? A.—I don't recall ever having seen the original.

Q.—That is the one you told us this morning—or a copy of it, rather—was sent to you and you filed it? A.—Yes.

Q.—I am now showing you something that I think I have shown you before. You have already identified No. 294, have you not? A.—That seems to be the thing I identified before. I think it is a copy of the same thing.

Q.—I am now going to show you a carbon copy of a letter dated July 17, 1937 introduced already in evidence as No. 179. Did you write the original of which that is a carbon copy? A.—I did.

Q.—To whom? A.—To Dr. F. X. McGovern, Chairman of the Special Subcommittee of the Executive Committee on Cooperative Medical Care of the Medical Society of the District of Columbia.

Mr. Leahy:—It reads:

"Dear Dr. McGovern:

"In compliance with your request I send you herewith:

"1. A copy of the articles of incorporation of Group Health Association, Inc.

"2. A copy of the prospectus sent out by the promoters of that Association.

"3. The notice sent out by William F. Penniman, President of the Association, with reference to the first meeting and election of officers.

"4. The report sent out by the same parties concerning the activities of the Association.

"I have retained the original certified copy of the articles of incorporation and have made and retained copies of the prospectus and call for the first meeting and subsequent report. If there is anything I can do with respect to this matter, please call on me."

By Mr. Leahy:

Q.—Doctor, is No. 2, "Copy of the prospectus sent out by the promoters of the Association," the copy which I just brought to your attention earlier in your testimony this afternoon? A.—Yes, sir.

Q.—Marked "Confidential"? A.—Yes.

Q.—What does this refer to in paragraph No. 3:

"Notice sent out by William F. Penniman, President of the Association, with reference to the first meeting and election of officers?"

A.—That was a notice sent out by Mr. Penniman in the capacity of an officer or some official position in G. H. A., inviting members to be present at the first meeting and containing ballots and advising the people as to how they should vote.

Q.—And paragraph 4 is "Report sent out by the same parties concerning the activities of the Association"? A.—Yes.

Q.—Do you recall what sort of a report that was? A.—No, sir.

Q.—Does the fact that this letter is dated July 17 indicate to your mind when you received this copy of the prospectus marked "Confidential"? A.—No. I must have had that some time before.

Q.—Doctor, I am showing you Exhibit 201, dated July 26, which appears to be a carbon copy of a letter. Look that over, please. A.—I wrote that.

Q.—To whom, Doctor? A.—To Dr. McGovern.

Mr. Leahy:—It is dated July 26, 1937 and reads as follows:

"Dear Dr. McGovern:

"I shall appreciate it very much if you will let me know what the Medical Society of the District of Columbia or your subcommittee has done and what its present plans are with respect to the Group Health Association, Inc. The situation is one in which the entire medical profession of the United States has a deep interest, and I would like therefore to be kept in as close touch with it as is possible."

By Mr. Leahy:

Q.—What did you make the basis of that statement that "the entire medical profession of the United States has a deep interest" in the matter? A.—That is based on the national character of the certificate of incorporation.

Q.—I show you No. 117, dated Nov. 6, 1937. What does that purport to be, Doctor? A.—This is a report of the conference between Dr. McGovern and Dr. Hooe representing the Medical Society of the District of Columbia, and Dr. West, Dr. Leland and me representing the American Medical Association.

Q.—Is that the report of the conference to which reference was made in the two telegrams which you just read? A.—It is.

Q.—From Dr. Hooe to Dr. West, and from Dr. West to Dr. Hooe? A.—Yes.

Q.—Is that the one? A.—It is.

Q.—How was that meeting reported, if you can tell us now, Doctor? A.—There was one stenographer present, I am sure. I believe that there was a second one present, each reporting, I assume, and checking. But I know there was one present.

Q.—Have you read that report over? A.—Not for a long time.

Q.—Let us skip it for the time being. A.—It is marked "Abstract," in any event.

Q.—Was it a verbatim report? A.—Apparently not.

Q.—I am now showing you, Doctor, a carbon copy of a letter identified in evidence as Exhibit 191 for the Government, dated Dec. 3, 1937 and I ask you if you wrote that? A.—I did.

Q.—To whom? A.—To Dr. Thomas E. Neill. I have not addressed it to him as president of the Medical Society of the District of Columbia, but I think he was probably president at that time.

Mr. Leahy:—It is addressed to Dr. Thomas E. Neill, 1824 Massachusetts Avenue Northwest.

What address is that, Doctor?

The Witness:—That is his office address.

Mr. Leahy:

"I understand that counsel for the Medical Society filed with the District Attorney and Corporation Counsel several days ago its brief concerning the status of Group Health Association, Inc., and its relation to the Home Owners Loan Corporation and affiliates. I had rather expected that I would receive a copy of that brief, but none has yet arrived. Is there any reason why a copy should not be sent to me? If a copy of the brief can be sent to me, please have it sent as promptly as possible and let me know at the same time whether or not I am at liberty to print it or to discuss it publicly in THE JOURNAL or elsewhere. If I am not at liberty to do so immediately, please see that I am informed as soon as the brief is released to the public. If it is possible to get for me a copy of the brief filed by the Home Owners Loan Corporation and affiliates on behalf of its illegitimate child I would like to have a copy of that brief also, together with instructions as to publicity and release."

By Mr. Leahy:

Q.—Do you recall, Doctor, whether that letter which you wrote was in reply to a letter which you had received from Dr. Neill? A.—No. I think I originated that correspondence, as I recall it.

Q.—Do you recall whether any copies of the briefs were supplied to you? A.—I have, I believe, a copy of the brief filed on behalf of the Medical Society of the District of Columbia, but no brief filed by the Home Owners Loan Corporation or G. H. A., Inc.

Q.—You say in the letter:

"If it is possible get for me a copy of the brief filed by the Home Owners Loan Corporation and affiliates on behalf of its illegitimate child."

What does that phrase refer to? A.—That refers to Group Health Association, Inc.

Q.—Do you recall where that phrase was used before (handing a paper to the witness)? A.—No; I cannot recall any previous use of that term. Q.—All right, if you cannot recall it. A.—This (indicating) is a letter that was received by me from Dr. Thomas E. Neill.

Mr. Leahy:—It is dated December 6, on the stationery of Dr. Neill, 1824 Massachusetts Avenue, directed to Dr. Woodward at his official address in Chicago, and it reads as follows:

"My dear Dr. Woodward:

"Your letter of December 3 has been received, and I have just talked to the counsel for the Medical Society, who tells me that he thinks he can have copies of the briefs for you, the one drawn by counsel for the Medical Society of the District of Columbia and the one drawn by counsel for the Home Owners Loan Corporation. As soon as he hands them to me I will have them sent you immediately.

"Our Executive Committee, together with general counsel and others appointed by me to work with him, meet tonight with two members in question to decide whether or not we will dismiss them from the Medical Society of the District of Columbia for violation of our constitution and by-laws. I will also bring up at the meeting the subject of whether or not there is any reason that you should not be at liberty to print and discuss the briefs publicly in THE JOURNAL or elsewhere.

"With best wishes."

By Mr. Leahy:

Q.—What part, if any, did you play in the preparation of the briefs referred to as those of the counsel for the Medical Society of the District of Columbia? A.—Very little. As I recall it, I sat in a conference in your office or Mr. Hoover's office, or maybe Mr. Fenning's office, when you were working on the brief one afternoon when I happened to be in Washington.

Q.—Do you remember what the conference was about? A.—That conference had reference to the character of Group Health Association, Inc., as a corporation.

Q.—More particularly with reference to what, without going into any details? A.—To the practice of medicine and the business of insurance.

Q.—Do you recall now whether or not briefs were filed? A.—They were.

Q.—And how many were filed; do you recall? A.—No; I don't recall.

Q.—Do you recall with whom they were filed? A.—A brief was supposed to be filed with the United States Attorney and another one with the Corporation Counsel for the District.

Q.—Did you receive copies of the briefs? A.—I have copies, I think, although I am not sure.

Q.—I now show you Exhibit 196, which purports to be a carbon copy. Will you tell us whether or not you dictated the original of that? A.—Yes; I dictated that.

Mr. Leahy:—That is dated December 15, addressed to Dr. Neill:

"I have just seen a copy of the letter sent by the chairman of the Federal Home Loan Bank Board, John H. Fahey to Senator McCarran under date of December 3, undertaking to justify the expenditure of money collected from the taxpayers of the United States generally for the purpose of subsidizing a local medical and hospital service for the benefit of the children, wives, and other dependents of such employees of the United States Government, including the chairman himself, as may identify themselves as Group Health Association, Inc. I have been wondering if any effective answer has been made to the chairman's letter. Certainly in view of the publicity that has been given to the letter an answer should be made and given equal or greater publicity, so that at least a reasonable number of the Senators and Representatives in Washington will see it. A devastating answer can be prepared without great difficulty.

"This leads me to inquire as to just who is leading the affairs of the Medical Society of the District of Columbia in their fight on the Federally subsidized practice of medicine and insurance by lay groups in the District of Columbia and adjacent states. Incidentally, will you not let me know if a contest has or has not been waged by the medical profession of the state of Maryland and the state of Virginia against such subsidized lay practice within their respective jurisdictions, for the subsidized Group Health Association, Inc., proposes to carry on its activities anywhere in either of the states named within twenty miles of the boundaries of the District of Columbia, an area much larger than the District itself.

"Your very truly
"Director."

By Mr. Leahy:

Q.—Do you recall, Doctor, whether publicity was given to the letter of John H. Fahey to Senator McCarran, dated Dec. 3, 1937? A.—According to my best recollection, I learned of its publication.

Q.—Where did you see it or read of it? A.—I would ordinarily see it among newspaper clippings sent to me in Chicago.

Q.—Did you on the 17th day of December 1937, in reply to that letter, receive Exhibit 197 (handing a document to the witness)? A.—I did.

Q.—And that is from Dr. Neill, is it not? A.—Thomas E. Neill.

Q.—Directed to you at Chicago? A.—Yes, sir.

Mr. Leahy:

"I have your letter of December 15 asking me who is leading the fight of the Medical Society of the District of Columbia against socialized medicine.

"The fight is being led by our Public Relations Counsel, Mr. Fulton Lewis Jr., under a steering committee consisting of Drs. McGovern, Yater, Schreiber and myself, ex officio member of the committee, together with counsel for the Medical Society, and additional counsel, Mr. George Hoover and Mr. William Leahy.

"We have felt all along that in the case of the H. O. L. C. there was a misappropriation of funds, and I enclose herewith the last press news dealing with the subject.

"As yet we have not been advised by the Corporation Counsel whether or not this organization is practicing medicine illegally, although the briefs have been presented to him some time ago. I feel that we will be able to break this organization entirely, but I do not feel that the fight ends there, and the socialistic tendency of the present administration is so strong that attempts may be made to pass a bill making these illegal acts legal.

"Maryland and Virginia both, due to their proximity to the District of Columbia, are getting interested in this matter, but we feel that every state society in the country should be interested if we are to be the ultimate winners.

"Very sincerely yours,
"Thomas E. Neill."

By Mr. Leahy:

Q.—I now show you, Doctor, Exhibit 204, dated Dec. 22, 1937 and ask if that is the carbon of an original letter which you wrote? A.—Yes.

Q.—Is that directed to Dr. Neill? A.—It is.

Mr. Leahy:—It is dated Dec. 22, 1937, addressed to Dr. Neill at 1824 Massachusetts Avenue, and it reads as follows:

"Dear Dr. Neill:

"I thank you for your letter of December 17 relative to Group Health Association, Inc.

"Frankly, I cannot conceive of any public relations counsel for a state medical society unless he is a member of the society and well up in its ranks, heading such a fight as you have on your hands. I cannot conceive of its being the function of any public relations counsel to do so unless he is a member of the organization, high up in its ranks. For a medical organization to employ a layman to lead such a fight strikes me as an anomaly. Of course your counsel must lead the fight in so far as involves its legal factors. Your public relations counsel may lead the fight in so far as it represents publicity and relevant matters, but the whole leadership must devolve on officers and agents of the Medical Society of the District of Columbia who in the end must be responsible to the Society, even for the activities of counsel and public relations counsel.

"You write that your public relations counsel, Mr. Fulton Lewis Jr., is leading the fight under a steering committee consisting of Drs. McGovern, Yater, Schreiber and myself (yourself) as ex officio member of the committee, together with counsel for the Medical Society and additional counsel, Mr. George Hoover and Mr. William Leahy. Certainly, however, it seems to me that some one member of the Medical Society of the District of Columbia ought to be personally responsible for what goes on.

"You write that Maryland and Virginia are getting interested. I called the attention of the proper officers of the state medical organizations of those two jurisdictions to the situation and suggested that there was something for them to do about it. It seems to me, however, that it is for you to get in touch with the medical societies of the counties immediately adjacent to the District of Columbia and get them interested. All members of those organizations have votes. The members of the Medical Society of the District of Columbia have not. Moreover, members of the Medical Societies in the counties immediately adjacent to the District of Columbia have an active personal interest in the matter. Physicians in Maryland and Virginia in more remote parts of the states have not, and therefore your informing medical societies offers a better chance of arousing interest than exists through any other method of approach."

By Mr. Leahy:

Q.—Doctor, you said in this letter:

"I called the attention of the proper officers of the state medical organizations of those two jurisdictions to the situation and suggested that there was something for them to do."

Had you called the attention of the adjacent Maryland and Virginia county medical societies to the situation? A.—No. I approached the state societies of Maryland and Virginia.

Q.—Where are the state societies of Maryland and Virginia located? A.—The headquarters of the Maryland Society are in Baltimore. The headquarters of the Virginia Society are in Richmond. But I communicated, in the case of Virginia, with the president of the society whose address at the present moment I do not know. It was not in Richmond, however. He was the president of the organization, and I communicated the matter to him.

Q.—Do you recall how you presented the matter, whether by mail or conference or how? A.—I wrote letters.

Q.—Have those letters already been introduced in evidence, do you recall, Doctor? A.—I believe that one or both of them have; I am not sure.

THE COURT:—That is my recollection.

Mr. Leahy:—I think they are in evidence.

By Mr. Leahy:

Q.—They must have been written before this letter which you wrote to Dr. Neill (indicating)? A.—Yes.

Q.—Look at Government Exhibit 200. I will ask you whether or not you are familiar with this memorandum? A.—Yes. I dictated that memorandum.

Q.—What was the purpose of your dictating this particular memorandum? A.—Dr. Leland and I had been to Washington to confer with a committee of the Medical Society of the District of Columbia relative to Group Health Association, Inc. The memorandum was a report to Dr. West on the results of our visit.

Q.—Does that memorandum represent the result of the conference of July 14, 1937? A.—It represents the result of that conference, but I believe it has reference earlier to possibly some information that I had obtained before, relative to Group Health Association, Inc. It all leads up to this conference.

Q.—You will recall, Doctor, that when I asked you earlier with reference to the subject matter of discussion at that conference you said that you then had no recollection of it, did you not? A.—I did.

Q.—Does your inspection now of Exhibit 200 refresh your recollection to the point that you can tell us whether or not

that contains matters of discussion about which I was asking you and which you could not give us earlier? A.—This refers more accurately to data that had been accumulated up to that time, I think, probably, rather than as a result of the conference. It is a report to Dr. West by Dr. Leland and me on the whole subject of Group Health Association, Inc. I assume it was the report of the conference, because Dr. Leland and I had attended that conference about that time. But I see no definite reference to the conference.

Q.—At all events, does that tell us everything you knew as of the date when you wrote it? A.—That is a fair statement—everything that we knew, briefly stated.

Q.—Did you say, briefly? A.—Briefly stated.

Mr. Leahy:—This is dated July 16, 1937. It is entitled "Memorandum to Dr. West from Dr. Woodward and Dr. Leland"—

THE COURT:—If you want one of your associates to relieve you in the reading of that paper, I will be glad to permit it.

Mr. Leahy:—Thank you, your Honor. I will try to get through this one.

U. S. EXHIBIT 200

Mr. Leahy:

MEMORANDUM

To: Dr. West.

From: Dr. Woodward and Dr. Leland.

Subject: Group Health Association, Inc., apparently an affiliate of the Home Owners' Loan Corporation.

Date: July 16, 1937.

A prospectus for "A Plan for A Cooperative Medical Service on a Periodic Payment Basis for Federal Employees and Their Families in Washington" was circulated some time ago. The prospectus is not dated and the time of its issue is unknown. It was circulated anonymously. The plan proposed was "to make available to Federal employees in Washington, and to their families, adequate medical care, both preventive and curative; to provide this care at moderate cost; and to place that cost on a regular, budgetable basis within the means of the group to be served."

A certificate of incorporation for the Group Health Association, Inc., was executed Feb. 19, 1937, by W. F. Penniman, R. T. Berry, and Pearl B. Murphy, and subsequently recorded in the office of the Recorder of Deeds of the District of Columbia.

W. F. Penniman is one of the assistant general managers of the Home Owners' Loan Corporation and has charge of District No. 6. The occupations of R. T. Berry and Pearl B. Murphy are unknown, but it is understood that they are officers or employees of the Home Owners' Loan Corporation.

An amendment to the articles of incorporation was executed April 21, 1937 for the sole purpose of increasing the number of the board of trustees, and the amendment was filed in the office of the Recorder of Deeds of the District of Columbia.

The Association is organized as a corporation not for profit. Membership is limited to "employees of any branch of the United States Government service other than officers and enlisted men of the United States Army and Navy." Nothing in the articles of incorporation limits the Association's activities to the District of Columbia.

Among the purposes of the Association are the following:

(1) To provide the service of physicians and other medical attention and any and all kinds of medical, surgical, and hospital treatment for the members of the Association and their dependents.

(2) To furnish all forms of hospital service to members of the Association and their dependents.

(3) To construct a clinic and medical office building.

(4) To construct and operate a hospital for members of the Association and their dependents.

(5) To operate a drug store or pharmacy and to provide drugs and remedies for members of the Association and their dependents.

(6) To provide nurses for members of the Association and their dependents.

(7) To give to members of the Association and their dependents all forms of care, treatment, or attention that may be required by the sick or in the prevention of disease.

The articles of incorporation are silent as to the sources from which the Association is to obtain funds for organization and operation, except in so far as they say that the corporation is to have no capital stock but is to be an association controlled by its members and that all members "whose dues have been paid" if and when the Association is liquidated shall have the right to share in the distribution of its assets.

The prospectus referred to above says that the plan should be launched and publicly announced at a dinner or other similar meeting at which representatives of the press should be in attendance, and that immediately thereafter all federal employees should be informed of the plan through meetings and circulars and should be asked whether they would be willing to participate. If the response was favorable, the campaign was to start to obtain the necessary capital through advance payment of "enrollment fees."

It is understood that a meeting of some kind was held by the organizers of this movement at which, it has been alleged, Secretary of Labor Perkins, Secretary of Agriculture Wallace, and Secretary of the Interior Ickes, and other prominent government officials were present. This, how-

ever, was apparently not the meeting referred to above, and, so far as is known, no public announcement has been made of the organization of the Group Health Association.

It is understood that membership so far has been limited to officers and employees of the Home Owners' Loan Corporation.

The Home Owners' Loan Corporation, according to an announcement sent out over the signature of Mr. W. F. Penniman, President, and R. T. Berry, Secretary-Treasurer, April 15, 1937, has entered into a contract of some kind with the Group Health Association, Inc. The announcement reads in part:

"Under the terms of the contract between your Association and the Home Owners' Loan Corporation, two persons are selected by the Federal Home Loan Bank Board who shall serve on the Board of Trustees."

The existence of such a contract and the control of the Association by the Home Owners' Loan Corporation through the Federal Home Loan Bank Board is shown by an announcement subsequently issued by W. F. Penniman and R. T. Berry, said notice having been issued, it is believed, some time during the first ten days of July, in which it is said:

"The by-laws of the Association have been adopted by the Board of Trustees of the Group Health Association and approved by the Federal Home Loan Bank Board."

It is understood that the Home Owners' Loan Corporation has aided and is aiding to finance the launching of the Group Health Association, Inc., through a loan or loans, and through a contract or contracts whereby the Association, through its officers, will undertake to perform certain services for the Home Owners' Loan Corporation, but the nature of those services is not known. All efforts to procure a copy of the contract agreed upon between the Home Owners' Loan Corporation and the Group Health Association, Inc., have been unsuccessful. It has been stated by Mr. W. F. Penniman, an official of the Home Owners' Loan Corporation and President of the Group Health Association, Inc., that the Home Owners' Loan Corporation has appropriated an initial sum sufficient to carry on the Association for two years because of some hypothetical benefit the Corporation is to obtain from the activities of the Association. Furthermore, when asked whether the Home Owners' Loan Corporation could not for purposes of study of health appropriate money to the Group Health Association, Inc., and whether the Corporation could not appropriate for services rendered, or appropriate in case of emergency without any government supervision, Mr. Penniman admitted that that was the case.

The Group Health Association, Inc., is obnoxious to law for the following reasons:

- (1) It proposes to practice medicine through physicians hired by it, although the Association is not licensed to practice and could not be so licensed.
- (2) It proposes to practice dentistry through dentists hired by it, although it is not licensed to practice dentistry and could not be so licensed.
- (3) It is engaged in the business of insurance, without so far as available records show being qualified to engage in such activities. It is obnoxious to public policy for obvious reasons.

By Mr. Leahy:

Q.—I am now showing you, Doctor, Exhibit 135, which appears to be a photostatic copy of certain minutes. I will ask you if you can identify that photostatic copy and tell us what those minutes refer to? A.—In my judgment, it is an extract from the minutes of the Board of Trustees of the American Medical Association.

Q.—Can you identify them as such or not? Have they been identified and offered?

Mr. Kelleher:—Yes. They are in evidence.

By Mr. Leahy:

Q.—Did they ever come to your attention, or the contents of those minutes, Doctor? A.—Only so much as relates to the instruction—

Q.—Would you just direct me to that portion of the minutes which relate to the matter which came to your attention? A.—Those two paragraphs (indicating).

Q.—The two paragraphs indicated being on the second page of the exhibit numbered 18? A.—Yes, sir.

Mr. Leahy:

"Dr. Bloss moved that the Editor and the Secretary and General Manager be authorized to proceed to inform the profession of the country as to the efforts of the H. O. L. C. to enter into the practice of medicine and as to the present status of the proposal to organize cooperatives by the Government. Dr. Hayden seconded the motion and it was carried. Dr. Hayden moved, and the motion was seconded by Dr. Bloss and carried, that Drs. Woodward and Leland be requested to go to Washington to see what they can learn and to try to advise the Medical Society of the District of Columbia if that society is willing to accept advice."

By Mr. Leahy:

Q.—Doctor, what is the date of those minutes? A.—That I do not know.

Q.—It does not say, does it?

Mr. Kelleher:—June 29, 1937.

By Mr. Leahy:

Q.—Doctor, I will ask you whether or not in writing the article which you said finally appeared in the October 2 issue of THE JOURNAL, your writing of that article had anything to do with the motion of Dr. Bloss? A.—It did.

Q.—What purpose had you in writing the article which appeared on Oct. 2, 1937, in THE JOURNAL? A.—The Editor and the Secretary and General Manager were called on to inform the profession generally of what the situation was, and I wrote a factual article for their guidance in preparing any article that they might publish if they decided to publish anything. I had the facts and they did not. I was giving them the facts in an available form.

Q.—You have told us several times that you and Dr. Leland were here on the 14th day of July 1937. What connection, if any, did your trip to Washington and your meeting with a committee of the District of Columbia Medical Society on July 14, 1937 have with the second motion, to wit, that of Dr. Hayden, seconded by Dr. Bloss. A.—My recollection is that the report to Dr. West that has just been read showed the results of that visit to Washington by Dr. Leland and me.

Q.—Was it in accordance with the motion which I have just read to you, of Dr. Hayden, seconded by Bloss, that you came here to the District of Columbia to meet with that committee? A.—It was.

Mr. Lewin:—Did you read the earlier part of that minute?

Mr. Leahy:—No; I just read what he indicated.

By Mr. Leahy:

Q.—Doctor, is there some other portion of the minute also that came to your attention? A.—This paragraph here (indicating) led up to that.

Q.—You mean, the whole thing leads up? A.—This paragraph here.

Mr. Leahy:

"Home Owners Loan Corporation, Group Health Association, Inc. Group Medical Service Plan.

"The following communication, which Dr. West received from a physician in Washington, D. C., was read:

"The Group Health Service affair of the Home Owners Loan Corporation has already been incorporated, and our Executive Committee had a meeting with some of their representatives last night, and it certainly looks bad. It was brought out that it is possible for them to borrow money from the Home Owners Loan Corporation whenever necessary at any time for any purpose in regard to the health problem. It was also brought out that there are about two hundred branches scattered throughout the United States which maintain emergency rooms with a nurse which are directly under the central office here in Washington. Just what is going to come out of the whole affair is impossible to predict at this time, but there are going to be some conferences in an attempt to go along with this outfit if it is possible to do so and retain our faces."

"Dr. Woodward reported information secured from a Washington physician over the telephone and by letter concerning this matter and it was considerably discussed as to what the action of the American Medical Association should be concerning the activities of the H. O. L. C. and also concerning the proposal of the Medical Society of the District of Columbia to organize its own cooperatives.

"After the discussion the following actions were taken:—

And then follow the two motions which I have already read to the jury.

By Mr. Leahy:

Q.—Doctor, do you recall with what office you had a telephonic communication or conversation? A.—No; I cannot recall. I cannot recall what I reported.

Q.—Can you recall considerable discussion as to what the action of the American Medical Association should be? A.—To the best of my recollection I was not present when that occurred. I may have been, but I cannot recall having been present during the session.

Q.—Do you recall whether you were present when the two motions referred to in those minutes were put and carried? A.—I believe not.

Q.—Do you recall the meeting of the Board at all? A.—No; only by the outcome of it, in so far as it related to the Bureau of which I had direction.

Q.—Do you recall, when the minutes report that Dr. Woodward reported information secured from a Washington physician over the telephone and by letter concerning this matter, whether you reported to the board of trustees in that meeting or whether the minutes just record the fact that you had made some report? A.—I have no clear recollection concerning that. My impression is that it just records the facts that I had reported. But I did not submit a formal report.

Q.—I have just a few more, Doctor.

THE COURT:—I think we have had enough for one day.

Mr. Leahy:—I know I have.

MARCH 13—MORNING

THE COURT:—Gentlemen, the subject I am chiefly interested in is the alleged illegality of Group Health and its business affairs. I don't know whether we want to proceed by you opening and closing, Mr. Lewin; it makes no difference. Of course, if the business is legal that closes the question. If it is a legal enterprise in its corporate form but nevertheless may be employing some illegal means incident to its operation, that raises a question. If the first question is answered in the affirmative, but this latter is answered the other way, that raises the question, as I say, whether the employment by a lawful enterprise of some unlawful means itself would put it beyond the pale of this statute.

Mr. Lewin:—May it be understood that we are now in so-called executive session and that any remarks I make here are not to be repeated to the jury?

THE COURT:—They wouldn't be. Whether they will be repeated in the newspapers is something else.

Mr. Lewin:—Well, it was embarrassing to me what occurred yesterday, and if my remarks are to be taken piecemeal I think the whole argument should go before the jury.

THE COURT:—I think this is a very discerning jury.

Mr. Lewin:—The purpose of this talk on the part of the Government is to point out the inadmissibility of certain so-called defenses, attempts to introduce which have already been indicated. As typical of these, I allude first as to opinions that Group Health Association was illegal as a corporation itself, practicing medicine; or illegal as an insurance company paying indemnity without the necessary license.

Second, and typical, are the opinions of certain lawyers, legislators, committees of Congress and elsewhere, and the defendants, in questioning the legal power of the Home Owners' Loan Corporation to spend the \$40,000 in a necessary expenditure for its corporate enterprise and in aid of Group Health medical service to its employees.

Now, our position is, first, that these contentions and these opinions as to the illegality are themselves legally unsound. Second, as to the first one—that is, the attack on the legality of Group Health as practicing medicine or engaging in the insurance business—a conclusive judicial determination to the contrary binding on the defendants has been made.

Third, that both these contentions, as to Group Health and as to the Home Owners' Loan Corporation grant, even if they were intrinsically sound, those criticisms, and even if they could be expressed by any one in the form of a collateral attack, are in this case collateral to the issue made by the indictment and the pleas of not guilty, and are inadmissible as constituting no defense to the indictment.

In other words, even if Group Health Association was in fact violating the license laws that would provide no justification for a private boycott of private persons against it. The fact that H. O. L. C. may have exceeded its powers in granting the \$40,000, which we do not of course concede—because we think the contrary true—assuming that to be illegal, that would still be less a justification for a private boycott, not against H. O. L. C., but against the recipients of the grant, Group Health Association.

Now, we have supplied the Court with a number of briefs treating these like defenses.

THE COURT:—I have seen those. I have read them all over.

Mr. Lewin:—I may point out that a reading of Justice Bailey's decision of July 1938; of Judge Rutledge in the Jordan case on appeal, and of Judge Groner in the decision on appeal from your Honor's ruling in this case, must convince any one that in fact and in law Group Health Association was not a corporation practicing medicine, or a corporation paying indemnity.

Justice Bailey's and the Court of Appeals holding that G. H. A. was not practicing medicine rest on the finding: (1) that it was not operated for profit; (2) that its physicians were independent contractors, not subject to lay control in the rendition of their purely professional services.

Justice Bailey's and the Court of Appeals holding that Group Health Association was not paying indemnity as an insurance company rest primarily on the finding that providing health service is not paying cash, as intimated, on account of loss due to sickness.

The determination that the Home Owners' Loan Corporation did not unlawfully exceed its powers in granting the \$40,000 to obtain increased efficiency of its employees must necessarily follow, we think, a reading of the statute creating the H. O. L. C. and defining its powers, which was in force in March 1937, when the contract under which that grant was made was

entered into. That statute authorized the H. O. L. C. itself to determine its own necessary expenditures without regard to the provisions of any other law. It did not place it, the H. O. L. C., under the jurisdiction of the General Accounting Office or the Comptroller General, and that statute, followed by the numerous cases which hold that certain powers in a corporation imply the power to make expenditures in aid of medical assistance to their employees, must, we think, conclusively determine as a matter of law that Home Owners' Loan Corporation was not unlawfully exceeding its powers in making the loan.

But one of the briefs we submitted to your Honor goes further and says these questions of the alleged illegality of G. H. A. are conclusively determined by the declaratory judgment. Whether the declaratory judgment was sound or unsound, because in any event Group Health Association must have been a *de facto* corporation if not a *de jure* one and, therefore, would not be subject to collateral attack in any proceeding, but only subject to direct attack.

Second: That the declaratory action was brought to determine the status of Group Health and was, therefore, a judgment *in rem*, determining the status for all the world, conclusively binding on all the world; and, paragraph third, that the defendants themselves, by intervening in these proceedings, made themselves parties or privy to it and, therefore, would be bound by that decision under the doctrine of *res adjudicata*.

I have based my contention on the proposition first that these activities challenged by them were completely sound; and, second, even if they were not sound that has been conclusively determined against them. To illustrate: let us assume for the sake of argument that G. H. A. was illegal; let us assume that the grant of H. O. L. C. was an improper grant. My contention now is that even on those assumptions, under the issue raised by the indictment in this case, such contention in this case would be collateral; would not constitute a defense to the action and, therefore, is completely immaterial.

In elaborating that I want to call your Honor's attention to certain leading authorities. The first is the Eastern State case, and I say that the cases I now cite to your Honor bear out the holding of Judge Learned Hand, who has expressed the rule about as succinctly as it could be stated:

"There are some combinations that nothing will excuse. The accepted rubric for this is that when the means are unlawful per se the purposes of the confederates will not justify them."

That is the principle to which I wish to address myself, and I may state to your Honor we have discovered no case under the Sherman Act in which a boycott has been permitted to be justified by collateral motives and purposes of the defendants. And I claim that the issue which the indictment presents is this: it charges in plain words a boycott, and an extreme boycott. It charges concerted refusal on the part of the defendant to deal with Group Health Association or its doctors; it goes further: it charges a refusal to deal with third parties, not parties to the dispute, doctors on hospitals, if these third parties should deal with G. H. A. It charges that it brought this about by the circulation of a white list, which is the equivalent of a black list; it charges pressure on third parties, doctors, by:

- (a) excluding them;
- (b) disciplining them;
- (c) rewarding them;
- (d) persuading them;
- (e) creating fear of loss of hospital privileges in them, and by branding them as unethical.

It charges pressure on the medical staffs of these independent hospitals and in turn pressure on these independent institutions by all these means, including the white list and black list. It charges pressure on the hospitals themselves in the loss of their approval status, a valuable pecuniary interest; loss of their approval for intern training; loss of a medical staff, by these threatening letters, resolutions, and committee actions and agreements with the hospital, as in the case of Sibley—your Honor will remember—to observe these requirements.

The evidence so far bears those charges out, and it is our contention that the cases which I am to cite to your Honor demonstrate that the only issue properly before this jury is the issue, did you or did you not engage in that boycott, and the only purpose or intent that is relevant here is, did you consciously intend to restrain competition or did you consciously intend to do things the natural and necessary result of which would be to restrain competition. All other purposes, whether called purposes, intents, or motives, are ulterior ones which may or may not have been meritorious, and are completely without the scope of the situation presented by this indictment and the authorities I am about to cite.

Now, we will take the Eastern States case—

THE COURT:—Let me sum up, if I may: Your position is that if the boycott is proven, then the question is whether the particular defendants consciously agreed to that boycott. If they did, of course, do things, the natural and probable consequences of which would be to bring about a boycott, then, of course, you would have the necessary element of approval.

Mr. Lewin:—And I would like to concede to your Honor right now that it is not the contention of the Government that these gentlemen are wholly bad, or the American Medical Association is wholly bad, or that it has not done beneficial things. We say that all of those purposes—the purposes that make them gentlemen in their professional lives—are not challenged here and, therefore, relevant here, and are completely irrelevant as a justification of this particular exceeding of power; and whether or not in their heart of hearts they thought they were doing a good thing for themselves or the profession is totally irrelevant in this case.

The only thing we say that is involved here is for whatever reason you did this you had the Sherman Act as your guide, and for whatever motive, whether reason which compels you to do what you did, if you consciously intended to do things by sending out that white list, for instance, why the reason for so doing—if you intended to do those things—the necessary result of which would be to destroy a form of competition, then the Sherman Act takes hold and that is the end of it.

Now, I think these cases are all that way.

In the Eastern States case—

THE COURT:—You have fifteen minutes; you had better reserve yourself.

Mr. Lewin:—The Eastern States case: the record discloses that the defendants, associations, were composed of large lumber dealers who, as a unit and in a natural desire to control local trade which the retailers contended had been unduly interfered with by wholesalers in selling directly to consumers of lumber in such ways as to conflict with what they regarded as strictly local trade. It appears that the defendant associations have, for their object, the adoption of ways and means to protect such trade and prevent the wholesalers from interfering therewith. The particular thing which this case concerns is that to promote the end in view an attempt was made in the manner shown, by the circulation of reports to its members, to keep such wholesalers from selling direct to the lumber trade. The Court said:

"True it is that there is no agreement among the retailers to refrain from dealing with listed wholesalers, nor is there any penalty annexed for the failure so to do, but he is blind indeed who does not see the purpose in the predetermined and periodical circulation of this report to put the ban upon wholesale dealers whose names appear in the list of unfair dealers trying by methods obnoxious to the retail dealers to supply the trade which they regard as their own. . . .

"In other words, the circulation of such information among the hundreds of retailers as to the alleged delinquency of a wholesaler with one of their number had and was intended to have the natural effect of causing such retailers to withhold their patronage from the concern listed."

Now, there was an assumed justification, and here is what the Court said about that:

"The argument that the course pursued is necessary to the protection of the retail trade and promotive of the public welfare in providing retail facilities is answered by the fact that Congress, with the right to control the field of interstate commerce, has so legislated as to prevent resort to practices which unduly restrain competition or unduly obstruct the free flow of such commerce, and private choice of means must yield to the national authority thus exerted. . . .

"When the retailer goes beyond his personal right, and, conspiring or combining with others of like purpose, seeks to obstruct the free course of interstate trade and commerce and to unduly suppress competition by placing obnoxious wholesale dealers under the coercive influence of a condemnatory report circulated among others, actual or possible customers of the offenders, he exceeds his lawful rights, and such action brings him and those acting with him within the condemnation of the Act of Congress, and the District Court was right in so holding."

That is the leading case on boycotts and shows that an attempted justification on the ground that it was in the public interest falls by the wayside in view of the Sherman Act, once they have started a boycott, innocent though it may be as compared with the boycott engaged in here; and that is the leading case which Judge Groner cited in support of his holding on appeal from the judgment on demurrer in this case.

Now, the next case I want to take up, and I don't think I will have time to present it, is the Paramount case, where there was again relatively a most innocent restraint, resulting in a most innocent case of boycott, if you can characterize any boycott as such, and yet the Court takes up and disposes of the same contentions there made in the same way. The same thing is true of an even more innocent understanding, an arrangement

for requiring certain credit standards as a prerequisite to doing business. That was in the First National Pictures case and the holding is again that it could not be justified. The same thing is true in Anderson versus the Shipowners case, where the Shipowners had their association on the West Coast, and where a seaman would have to comply with certain of their rules and regulations in order to secure employment; and there was an attempted justification that it was necessary in the interest of the business and industry to enforce such restrictions; and again the justification was refused. And finally and completely the whole thing is exposed and determined conclusively by that Fashion Arts Guild case that I read to your Honor. I just want to read one paragraph from it, because there the alleged illegality was justification, and here is what the Court said:

"That kind of boycott,"

and I say that was an innocent boycott compared to this—

"that boycott can no more be justified by the claim that it is reasonable for some collateral reason than could price fixing,"

and citing the Madison Oil case; and I call your attention to the reasons underlying the holdings in the price-fixing cases. They are that it is illegal per se. And when you get a price-fixing case, that is an unreasonable restraint because it tends to eliminate one form of competition, and if this is true in that case, a certiorari it is true here where the boycott was designed to destroy and eliminate one form of competition.

I won't have time—I wish I had—to say anything as to the argument of reasonableness or illegality. As made in the Fashion Guild case. The contention was that those persons were fashion pirates; that what they were doing was illegal under the state law, and the Court said that even so, if it was illegal under the state statute that would be no justification for violating the federal law. Now, I would like to apply that to the language in Judge Groner's opinion, because I believe he leaves no doubt on the subject. He cites these cases that I have referred to and relied on, and I think his language is susceptible of but one conclusion, and that is that it is open to these defendants, and should be open to them, to rebut the allegations of the indictment, to show that they did not enter into this combination to suppress trade, but that they cannot go beyond that because the allegation of the indictment charges what would be unreasonable and if this is proved, if what they have done is proved—

THE COURT (interposing):—On page 10 of the Court of Appeals decision where it says, speaking of these disciplinary measures under the rules of the association,

"If there is any justification for the restraint, so as to make it reasonable as a regulation of professional practice, it must be shown in evidence as a defense, since it does not appear in the indictment"—

Mr. Lewin:—Yes, your Honor, I am aware of that, if you abstract it from the rest of the opinion. But I don't think this matter of defense was really before the Court.

THE COURT:—That is with respect to the claim of the defendants that they were only exercising disciplinary measures of their own members, which would be proper—

Mr. Lewin:—Yes, and the judge who writes that opinion compliments the defendants for a certain amount of virtue in enforcing rules and discipline among their members to rid their profession of quacks, et cetera, and then says,

"But the thing charged here is too far-reaching; it goes too far."

That is his criterion of unreasonableness. For instance, when he takes up the rule of reason—and again the only issue is whether the indictment charges an unreasonable restraint:

"This brings us, then, to consider whether the indictment shows unreasonable restraint."

"The charge, stated in condensed form, is that the medical societies combined and conspired to prevent the successful operation of Group Health's plan, and the steps by which this was to be effectuated were as follows: (1) to impose restraints on physicians affiliated with Group Health by threat of expulsion or actual expulsion from the societies; (2) to deny them the essential professional contacts with other physicians; and (3) to use the coercive power of the society to deprive them of professional hospital facilities for their patients."

I am omitting some here.

"It cannot be admitted that the medical profession may through its great medical societies either by rule or disciplinary proceedings, legally effectuate restraints as far-reaching as those now charged."

That means that if they did those things which he enumerated, and if they cannot effectually deny that before the jury, then they have *ipso facto* brought themselves within the rule of reason, and then comes that question which your Honor called attention to; and I think what he meant by that was the same

thing—that it was open to them to show they didn't do those things, but were simply regulating professional standards, and if they could show that was all they did, negatively contradicting the charges in the indictment, then that would be a defense, because it would bring them out of the category in which the indictment placed them.

I think it is confirmed by this latter statement in the opinion, and I think when you take them all together he wants them to have the opportunity to deny these charges by producing evidence, but he doesn't intimate in any way that if they were as a matter of fact guilty of that far-reaching action to which he refers that then because of some good motive, not cited, which some of them may have had, could then justify that conduct; that that far-reaching conduct would then be permissible.

THE COURT:—Doesn't he mean if the effect of the enforcement of these rules was such as to accomplish an undue restraint on Group Health and these others, then, of course, it would go beyond lawful means, whereas if the rules and regulations, and their enforcement, and the methods pursued, didn't have that effect, then they would be reasonably within the scope of an organization's right to discipline its members. Don't you think that's what he means?

Mr. Levin:—I agree with that; and then he defines that effect and he says if it was to destroy Group Health, to deny the doctors those professional contacts, that would be undue restraint; so the issue is, did they intentionally do things, the necessary effect of which would be to bring the results which he has said may not be produced, which would unduly restrain and be unreasonable.

I thank you very much. I hope I will have five minutes in closing.

THE COURT:—Perhaps I have taken a few minutes away from you.

ARGUMENT ON BEHALF OF DEFENDANTS

Mr. Richardson:—I didn't understand we were arguing here the question whether G. H. A. was an illegal enterprise. That question has been dodged—I shouldn't say "dodged," but left undecided by three courts—and we propose to address ourselves to this Court in this case for the purpose of presenting the issue whether or not, as a matter of law, under the evidence, G. H. A. was not illegally practicing medicine in the District of Columbia. So from that standpoint, the question of whether G. H. A. was, as a matter of law, illegally practicing law in the District of Columbia, is at this time premature; but the issue as to whether evidence is admissible for the purpose of attempting to show the illegality of G. H. A. is now properly before the Court, due to the fact that we are approaching the introduction of certain evidence in that connection.

Now, the issue of illegality depends on two things. First, that that illegality is in the nature of a plea in bar which, if established, would be a complete defense. It is the prosecution's theory that there cannot be shown the illegality of the enterprise in a prosecution under the Sherman Act. The second point, and just as important as the other, is that in this case there is a great field to explore—assuming its legality—as to the status of Group Health with respect to whether or not we would do business with them; whether we would consult with them; whether we would take them into our society; whether we would permit our members to contract with them. In other words, the second proposition is if Group Health was an abortion institute, illegally operating no one would say, that the defendants would be guilty of a crime in not entering into professional relationship with them; that they could not take into consideration anything of that sort in determining what their members should or should not do in the way of working with them. We assert that Group Health Association was illegal; that it was practicing medicine unlawfully; that its first conscious act was to sell \$40,000 of medical service to the Government. The one thing in Justice Bailey's decision, that which bothered him most, was this very matter.

I didn't suppose we were trying this case with a view to what reluctance the decision of the District Court of Appeals was arrived at. We have tried to avoid embarrassing the Court by not urging it to go outside it, but we certainly are entitled to what is left in that decision for us. And there are two things in that opinion that my friend has disapproved of. One is that we are expressly, under the terms of that opinion, given no right to justify what we did upon the ground that it is a reasonable regulation of professional standards; and, second, that we had no right, at all times under that opinion, to reach out by legitimate persuasion and argument.

If your Honor please, to the question of the illegality; on that question we charge G. H. A. is illegal. We offer evidence to

show it is illegal. We propose to show it was practicing medicine unlawfully; we propose to create a status where the jury will conclude that it was illegal. Now, haven't we here got that right? What are we going to use for persuasion and argument if we do not have the right to show that in fact the object of our persuasion is operating illegally. If G. H. A. was practicing illegally haven't we got the right to use that for purposes of persuasion and argument? Haven't we got the right to say to our members, "Here is an organization which is illegally operating," telling them why; and have we not then the right to say that because of the illegality of such enterprise they should not, while they remain our members, contract with it? Haven't we the right to say to the hospitals in which our members practice, "Here is an organization which is beyond the law," and may we not show, if we can, that fact as a basis for our persuasion and argument? We certainly would have such a right if an abortion institute or other illegal assembly sought to involve itself in our membership; and if Group Health was practicing medicine illegally, then have we not the right to use that fact in argument and persuasion, by articles in the newspapers, our magazines, and in all other ways a citizen has a right to employ?

The second thing, if your Honor please, is that nothing could be more pertinent to the question of what were reasonable regulations and what regulations were necessary to guide professional practice than the question whether they were coming into contact with an illegal operation. On that side of what the Court of Appeals has left us in the way of our right to justify our conduct, we have the right to show just what kind of an organization this was which made necessary regulations for the guidance of our membership in dealing with it which in the case of some other institution was unnecessary.

We further insist that the matter of proving the illegality of G. H. A. is not absolute. We do not have to demonstrate that to the Court in order to be entitled to show our right to persuasion and argument, and in the justification of our conduct. We are only met with a situation, and we are entitled to move on those things which ordinary men would move if reasonably advised to that end. We expect to prove, and we have a right to prove, our own beliefs in the illegality of G. H. A., the belief of our counsel hired for the purpose of advising us as to the illegality of G. H. A. We intend to prove the rulings of the District officials that had official contact with G. H. A. and, in that connection we have the right to show as a fact that the Comptroller General said that there was no legal authority for this payment of this money. We have the right to show further that the House Committee said it was without authority of law. Not viewing the fact as to whether G. H. A. was legal or illegal as controlling, but considering what the evidence shows in connection with the organization and operation of G. H. A., are we not to be entitled to show that these defendants acted with knowledge of such activities in their persuasion and argument of, and reasonable regulations, one of which was that members of the District Medical Society should not engage themselves with such institution. Why, your Honor, if it wasn't for the most improbable interpretation of the peculiar statute under which the taking of this money was accomplished, it would be bald-faced embezzlement, nothing more and nothing less, and the only reason such a result did not follow is that certain officials of the Government who considered it thought the fact might be that the statute was broad enough, "Maybe you won't be prosecuted for it." But there is no authority in law for it.

We want to offer that evidence for the purpose of showing what we believed as defendants as to the legality or illegality of Group Health, and as to our having reasonable grounds for so believing. If the jury believes we have the right to so believe, we had then the right to go abroad and any place, and ask and persuade the world, if we could, that our objective, our method of medical practice was better than that practice by a corporation which we asserted was illegal.

One thing further with reference to the Home Owners' Loan Corporation payment in and of itself. There are a great many objections that the defendants might have had to H. O. L. C. In the first place to its receipt of Government money for one purpose and the handing of it over to another private cooperative under a contract to render medical service: something that this evidence already shows was in violation of the code of ethics. In the second place, it constituted a subsidy and its effect therefore was to produce unfair competition in the District of Columbia. Another thing was the very thought of a Government-organized institution taking money under those circumstances and concealing all the circumstances of the taking. All the efforts that had been made to find out what was being done met with a blank wall. People hide things they are ashamed of,

and when you are dealing with an organized group ashamed of what it is doing you have a right to use that argument to your own members, to put it in the newspapers, and certainly to circularize that information through your own magazine among your own people. You have a right to let everybody know about it. And so we want to offer evidence that G. H. A. was illegal as a matter of law in order to lay the predicate here as in the nature of a plea in bar.

We are met here with the Fashion Guild case. The only similarity with this case is that the opinion employed some of the terms and phrases which we are met with here. He said, "boycott": Doesn't that sound familiar? The trouble with citing the Fashion Guild case here is this: in the first place, we are trying this case as best we can. Under the decision of Justice Groner we are allowed to justify our conduct, we are allowed reasonable argument and persuasion. In the second place the Fashion Guild case is dissimilar from a factual standpoint, and if there is one well-known principle to guide us it is that we must look to the facts in the particular case. The same is true as to the Eastern States case and half a dozen other cases which counsel has cited. Unless you follow the rule which the courts have universally adhered to that we will apply the law to the facts of the particular case you get no result. The third reason is clear from the language employed by Justice Black. Again you have to consult the facts in that particular case. There the Court was considering the situation of these manufacturers who operated outside the guild. They were engaged in general business. In connection with that general business it is asserted they did a tortious act. All Mr. Justice Black's opinion declares is that if the corporation engaged in honest business was guilty of a tortious act it doesn't entitle some one else to restrain commerce for that reason. There is a basic distinction between the facts in the Fashion Guild case and those here in evidence in so far as the illegality of the operations was concerned. We offer to prove here that G. H. A. engaged in the practice of medicine was operating illegally. Here there is no question of a corporation generally engaged lawfully in an honest business doing an illegal act. Here is the case where by subterfuge a corporation organized under a statute for one purpose takes Government money and loans it to another agency of the Government. The latter is engaged in the practice of medicine and they sell \$40,000 to this loaning agency of the Government before they open their doors. That is an absolute attack on their entire operation, and that is an entirely different thing from any situation shown to have existed in any of these cases. There can be no such thing under our theory as an unlawful restraint of an operation which is itself entirely unlawful. And the last distinction is that what counsel has called to the Court's attention is as much an obiter decision as it is possible to find. My brothers harangue this case, that in the Dyers and Cleaners case that which was said by Justice Sutherland in his opinion was pure obiter.

So, if your Honor please, summing up what we have to say, we assert that we should be entitled in this case to the very end to endeavor to supply those factual matters which this Court and the Court of Appeals says had not been presented to the Court and because of the absence of which we got no decision in this Court or in the Court of Appeals with reference to the illegality of H. O. L. C.—G. H. A., so that at the end if we address the Court in the nature of a plea in bar we will have presented the foundation.

The second thing is we are entitled to offer this evidence as a basis for the exercise of that right.

Third, it is our belief if the jury is permitted to hear this evidence on the question of the illegality of these operations and the circumstances surrounding the grant of this \$40,000 it will then be in better position to judge the defendants' conduct in the matter of persuasion, argument, and finally whether the regulations for professional practice in question were reasonable.

If your Honor please, that is a fact in issue. I do not think it is germane at this time to attempt to go into the long line of circumstances in this case, but it is clearly our right to offer such evidence as we think is germane to the question of legality, and it should also be admitted for the purpose of showing what we did by way of persuasion, what we did by way of argument and what we did by way of reasonable regulation. If G. H. A. had believed that these defendants had an abortion institute, would they be justified in enforcing Section 9 of the constitution against such an organization?

THE COURT:—Of course, carrying on abortion is not carrying on a trade. It is carrying on a crime and crime is not a business.

Mr. Richardson:—If your Honor please, I used that extreme illustration to show the effect of that kind of illegality with which my brothers would find fault. We say that illegality is

illegality in any man's language and there can be nothing that would be so pertinent to organizations such as this evidence shows these defendant organizations are as the question whether they were asked to get into bed with an organization which they had reasonable grounds to believe was an illegal organization.

THE COURT:—May I ask this question before you begin, Mr. Leahy?

Mr. Leahy:—Certainly, your Honor.

THE COURT:—There is, of course, certain evidence in now, as I understand it, through the records and other lines of evidence upon which you rely in part to support this claim of illegality. Then I understand that you wish to supplement that by more evidence, some of which I am familiar with in a general way. Why would not the practical thing be for you to make your offer of proof of such evidence so that it will be for the court to determine whether or not it is admissible? In other words, should we go on here for several days dealing with this subject if it finally develops that the evidence tending to establish those facts is irrelevant and immaterial, first, whether Group Health is legal and, second, whether there is illegality in its methods? I am wondering whether this is the time for me to ask you to make your full offer of proof in a summary way, by summarizing the testimony, what you expect it will tend to prove; I mean, the ultimate facts, rather than all the little details and items that go to make it up. Then I will have that before me and can determine the matter. If I should rule against you on it, then you would save several days of taking testimony on an irrelevant and immaterial question. Can that be prepared?

Mr. Leahy:—Yes, your Honor.

Mr. Leahy:—How long would you care to take on the argument, Mr. Lewin?

Mr. Lewin:—I am afraid I am too verbose.

Mr. Leahy:—I am too, so we are both that way.

Mr. Lewin:—But where you are dealing with things as intricate and lengthy as these antitrust cases it is almost impossible to state them in a short way.

THE COURT:—Don't make it too intricate, or I cannot understand it.

Mr. Lewin:—They are easy to understand if we have a chance to open the lid and look in and see what is in there, but you cannot just grab them and throw them at somebody and make any impression with them.

THE COURT:—Now, gentlemen, if you will bear in mind this: prepare, first, a statement in a summarized way, an outline of what evidence there is now bearing upon these questions; I mean, what evidence is in already; and then, separately, what you offer in supplementing that, so as to have the whole thing before me. If you can have it at my office tomorrow morning at 9 or 9:15 I will appreciate it, and then I will have time to run over it.

Mr. Lewin:—In the five minutes left me, your Honor, I would like to leave a couple of authorities with you.

THE COURT:—Suppose you just give me the citations.

Mr. Lewin:—In answer to Mr. Richardson's statement that there cannot be an unlawful boycott of an illegal act, we have, of course, the Fashion Guild case, which I have already given you, and which stands directly in the way.

Mr. Lewin:—There is another case directly in point, the Farmers Live Stock Commission case, 54 Federal 2d, 375, the opinion by Judge Lindley, in which he said:

"We discard as untenable the proposition that such conduct of itself justifies violation of the statute by plaintiffs. We cannot agree that one who claims that another is violating the law may therefore be excused from performing his statutory duty."

That is right on the nose, I would say.

Another one that I think your Honor would be interested in is that of the United States Telephone Company, 202 Federal, 66, where the position of counsel was, as the court said—

"The Bell Telephone Company is a wicked monopoly. Some years ago the United States Company concluded to fight it. The only way to fight the devil was with fire."

Then it says, after that:

"But what becomes of the righteous result when the means to accomplish it are the means of unrighteousness? The sum of all this is that it does no good to destroy one monopoly by creating another."

THE COURT:—It sounds more like a sermon.

Mr. Lewin:—Yes, but it is awfully good teaching. Then I hope that I will have an opportunity to dwell on the proposition

that none of counsel, even as distinguished as my brother here, could possibly justify a violation of law. That has been determined over and over again. I can get opinions. There are enough lawyers to give me opinions on every possible question.

THE COURT:—So far, that does not appeal to me.

Mr. Lewin:—One step further, and that is the Acting Comptroller General's opinion. When he wrote that opinion he had no more right to pass on the question than Mr. Leahy had or than I had, and his opinion is worth no more than that, because the H. O. L. C. and its expenditures were not under his jurisdiction.

The same thing is true with regard to opinions of legislators up on Capitol Hill. Some of them express their opinion and some another, and you can get just as many different opinions as you can get different lawyers. I don't care whether they are in the halls of Congress or whether they happen to have the title of Assistant Comptroller General of the United States; they are in the same position as we are and their opinions are worth no more.

MARCH 14—MORNING

THE COURT:—Gentlemen, I have received your papers, for which I thank you. I see they involve a great deal of work, and I think they will be very helpful. I have only had an opportunity to read them over briefly, and there are certain things that I want to be sure of. Take, for instance, your offer of proof. You speak first of the charter of the Group Health Association, Inc. I was under the impression that that was in.

Mr. Leahy:—I think it is in, if your Honor please.

THE COURT:—We do not want to be uncertain about it.

Mr. Kelleher:—No; it is in. It is stipulated.

Mr. Leahy:—Yes. I think the stipulation is in, too.

Mr. Kelleher:—The by-laws are also in, your Honor.

THE COURT:—Of course as to "The facts known to these defendants," involves their own testimony, I assume, to a large extent.

Mr. Lewin:—That is more specifically described in (a) and (e).

THE COURT:—Yes; I see it goes into details. That is predicated, of course, on documentary things as well as other matters. Another thing I wish to ask: Is the contract between the Home Owners Loan Corporation and Group Health Association, Inc. in evidence?

Mr. Leahy:—Not yet, your Honor.

Mr. Kelleher:—It is not, your Honor.

THE COURT:—I see no reason why that may not go in; I mean, for my purposes. Of course, depending on my ruling, it will either have to be treated as of no effect or treated as of effect, whatever my ruling may be.

Mr. Lewin:—How about having it annexed to the proffer?

THE COURT:—I would like to have it in evidence. I cannot control its use, but according to the opinion, as I read it, I can control its use just as I can that of the contract. So I want that in.

(After which came questioning by the Court relative to the exhibits offered by the defense.)

ARGUMENT ON BEHALF OF THE UNITED STATES

GRANT W. KELLEHER

Mr. Kelleher:—Your Honor, I am just going to add a few additional points which Mr. Lewin did not cover yesterday.

Mr. Lewin on yesterday, I think, pointed out that there has never been a Sherman Act boycott in which the court has permitted any justification whatever. He pointed out that even in the Motion Picture cases, where the regulations which were imposed and from which the boycott flowed were highly reasonable as compared with the regulations in this case, the court disregarded that fact.

Now I would like to direct your Honor's attention to the additional point that seems to me to follow necessarily from the fact that the court will not consider any justification, and that is the point of the belief of the parties, or their motives or their good intentions in indulging in a boycott. I should like to refer your Honor to the language from a few of the cases which we have already incorporated in the briefs which we have submitted.

First, the Standard Sanitary case. That was a price-fixing case, and in its opinion in that case the court said:

"The law is its own measure of right and wrong, of what it permits or forbids, and the judgment of the courts cannot be set up against it in a supposed accommodation of its policy with the good intention of the parties, and it may be, of some good result."

THE COURT:—What case was that one?

Mr. Kelleher:—*Standard Sanitary Manufacturing Company v. United States*, 226 U. S., 20.

The next is the case of *United States v. Motion Picture Patents Company*, 225 Fed., 800; and I think the court there rationalizes the reason why it is impossible for courts to consider the motives and beliefs of the parties, saying:

"With respect to the motives and conscious purposes by which men are actuated, it has been well said that these 'cannot be easily estimated,' and we may concede to the defendants no purpose to offend against or to evade the law, and that their intentions were as beneficent and have resulted in as much good to the patronage of the art as is claimed, and that this good bears a fair relation to the profits received by them. This is foreign to the inquiry which we have made, because the duty to refrain from what is prohibited by law 'cannot be evaded by good motives.' Moreover, 'the law is its own measure of right and wrong,' as well as the judge of whether a transaction is of the character which it condemns. If, in the judgment of the law, a contract or cooperating agreement is such as to work an undue and unreasonable restraint of trade, and through such restraint to monopolize trade or any part of it, the judgment is one of condemnation, no matter how innocent or otherwise praiseworthy the motives of those who had part in it."

Let me call your Honor's attention to one more case, and that is the case of *Sugar Institute, Inc. v. United States*, 297 U. S., 553. I am going to skip over the Paramount and First National Picture cases, which are also cited in the brief, and go to the Sugar Institute case, because that case, your Honor, involved a boycott in which the sugar refiners of the country did nothing more than to refuse to deal with brokers and warehousemen who combined the two functions; and the court said this:

"The freedom of concerted action"—

And, incidentally, in that case it was pointed out that the purpose of preventing warehousemen and brokers performing dual functions was to prevent a fraud on the sugar refiner, and the court said this:

"The freedom of concerted action to improve conditions has an obvious limitation. The end does not justify illegal means. The endeavor to put a stop to illicit practices must not itself become illicit. As the statute draws the line at unreasonable restraints, a cooperative endeavor which transgresses that line cannot justify itself by pointing to evils afflicting the industry or to a laudable purpose to remove them."

That, your Honor, is the case of *Sugar Institute, Inc. v. United States*, 297 U. S., 553.

Mr. Lewin:—And you were quoting from the language of the Chief Justice.

Mr. Kelleher:—Yes; Mr. Chief Justice Hughes.

I think, in view of those cases, your Honor, it is clear that regardless of whether these defendants thought they were doing some good, regardless of whether Group Health Association was illegal or that the grant was illegal, makes no difference to the issues in this case, because the Supreme Court of the United States, time and time again, has said that motives and purposes are foreign to anti-trust proceedings.

Now let me come to the next point to which I would like briefly to refer, and that is the legality of the H. O. L. C. grant. We have, as your Honor knows, developed this question very carefully in a brief which we have submitted, and of course in this short time I think it is impossible for me to do more than to summarize briefly what the argument is. It is simply this, your Honor. The Home Owners Loan Corporation was not a governmental department. It was set up to perform purely commercial transactions. The Congress therefore, in making it an instrumentality of the Government, has distinguished it from a government department and has declared in the Act under which it was incorporated in 1933 that it might determine its necessary administrative expenses without regard to the provisions of other laws of the United States. In other words, Congress said to the Federal Home Loan Bank Board, "It is within your discretion to decide what administrative expenses you will incur."

And it is our contention, if it please the court, that by that provision and by reason of that language, the Home Owners Loan Corporation had the same power as any private corporation; and in our brief we point out that in numerous state courts it has been held that one of the implied powers of corporations is to take care of the health of employees of those corporations, and the courts have also said that the question is not whether taking care of the health of the employees is an exercise of an indispensable power, but solely whether it is reasonably necessary in the view of the governing body of the corporation; and it is our position, therefore, that when the Federal Home Loan Bank Board, after investigation, concluded that they had an interest in maintaining the health of their employees, and therefore decided partially to finance Group

Health Association through this \$40,000 grant, that was a reasonable exercise of the powers which the Congress had delegated to that board.

So far as its administrative expenses were concerned, of course I think it is clear, and I think your Honor understands, that this corporation was not under the Comptroller General or under the Accounting Department of the Government. It handled its own receipts and its own expenditures, and nothing went through the Treasury of the United States and nothing was subject to the supervision of the Comptroller General.

Let me come to the next point, and that is Mr. Justice Bailey's decision.

As Mr. Lewin stated yesterday, it is our position that that judgment is binding upon every defendant in this case, for two reasons: first, it is in the nature of an *in rem* judgment which decides the status of this corporation, and it specifically holds that this corporation was not engaged in the practice of medicine or in the business of insurance; secondly, that because that action was brought against them by the only two public officials who had any concern with the enforcement of the laws involved, every person was represented in that action by those public officers, and that judgment binds every individual whom the United States Attorney and the Insurance Commissioner represent.

In other words, the effect of that is to adjudicate finally, once and for all, the issue raised by the case; and it makes no difference that an appeal was not taken, because that was a decision to be made by the officers involved, and when those officers in good faith decided that no appeal should be taken, that left it that Mr. Justice Bailey's decision is the final authoritative decision on the question of the status of this corporation.

But, as I understand it, the defendants now urge here that there may have been some matters which were not before Mr. Justice Bailey, and that, therefore, would permit a reopening of the question.

In their proffer of proof I have failed to see anything that was not before Mr. Justice Bailey. All of the by-laws were before him, not only the original by-laws, but every amendment thereto, up until the time when the case was finally argued before him. The contract between H. O. L. C. and the employees was in the record; the contracts of Doctors Lee and Scandiffo were in the record, and those contracts were executed, as your Honor will recall, as early as October 1937, and those contracts show the independent contractual relationship which existed between the doctors employed by G. H. A. and the corporation. The application for membership was before Mr. Justice Bailey and, of course, the certificate of incorporation.

Now, whether Mr. Justice Bailey took into consideration the fact that there had been changes in the by-laws is, we think, highly immaterial, because I suppose that any judgment could be attacked on the ground that the court had not considered all of the facts in the record. I do not think anybody has in mind at this time any idea of putting Mr. Justice Bailey on the stand here to find out what he considered in determining that this corporation was a perfectly legal corporation.

This argument, however, which counsel make is subject to another inconsistency, and I do not think I can point it out any better than Mr. Richardson did in his brief. He consumes some ten or twelve pages in showing that G. H. A. in amending its by-laws completely changed the character of the organization.

Mr. Richardson:—That it attempted to.

Mr. Kelleher:—Yes; I know—completely changed it, he says, so that when Mr. Justice Bailey was passing on the organization before him in May 1938 that was not the organization which existed in 1937, and that therefore your Honor should go into the question of whether G. H. A. during 1937 was a legal corporation. Then he says this, on page 14:

"Where the language of the foregoing amendments is particularly pertinent to show the belief of G. H. A. and its officers as to its status and the legal necessity for a change in such status, we assert that the amendment effected no basic change. In other words, the illegal status of G. H. A. was not changed by the above amendment."

And we submit that that is perfectly true. All that the amendments did to the by-laws, all that was done, was to conform the language of those by-laws to actual practice. So, when the court was passing upon the by-laws, on the corporation as it existed in 1938, it was passing on the practice of the corporation from March 1937, when it was incorporated, until May 1938, when the case was argued before Mr. Justice Bailey.

The point is this, that every issue now presented to your Honor was presented to Mr. Justice Bailey and was passed upon by him, and therefore, in view of the law which we have already elaborately argued in our brief, that decision is binding upon these defendants and they certainly should not now be

permitted to go behind that issue and show that there are any additional facts which were not in the record of the case and that there were different facts in the record of the case which Justice Bailey should have considered but failed to consider.

REPLY ARGUMENTS ON BEHALF OF DEFENDANTS

WILLIAM E. LEAHY

Mr. Leahy:—If the court please, solely to clarify the points which have just been advanced by counsel, in order that at the outset we may perhaps disabuse the mind of the court of any confusion with reference to what the defense contends in regard to these important questions, may I say, in reply to Mr. Kelleher's argument, this:

The cases just cited to your Honor, the Standard Sanitary case, the Motion Picture case in 225 Federal, the Paramount-First National Pictures case, and the Sugar Institute case, are entirely beside the question which is for your Honor's determination at this time.

No one at this state of the anti-trust law would argue that any agreement to fix prices is legal. No one would assert that a price-fixing combination could be justified, no matter what the good intentions or the good motives of those who combined to fix prices may have been.

So that those cases which have just been cited on the point of good intention and motive are merely declaratory of what has been Hornbook law for so many years that we would not attempt to impose upon your Honor the argument that if an illegal act is done, a good motive justifies the doing of it. In fact, the confusion which has existed throughout the argument for the prosecution has been that the prosecution has failed to distinguish between intent and motive.

We offer this evidence on the question of intent. We are not justifying any act done in the sense, just for the sake of argument, that it may have been illegal because we had a good motive or a good intention for what we did.

So, may I just make that as a preface to my remarks, that I am not going to urge upon your Honor the good motives or good intentions, or that doing anything that was done justifies an illegal act under any decision by any court, so far as I know, since criminal law has been administered in the courts of this country or in England. So I would just take from the argument for the time being the additional point which was urged with reference to good intentions.

What has been stated by way of a quick résumé of what was said on yesterday, that there can never be found any justification of a boycott in any anti-trust case and that the court has no right to consider good intentions in any anti-trust case must be taken with a very large grain of salt, because wherever we have an anti-trust decision we have the words used in the opinion which have been used again and again so frequently in this argument—the word "boycott," the word "unethical." Those adjectives and those nouns appear throughout the opinions. But this must be definitely understood: There is no anti-trust case which requires that a combination, a confederation, a group, or an association of human beings must deal with everybody, and that if they refuse to deal with everybody, that refusal constitutes a boycott, because a boycott, in the true sense of the term, is the illegal and unlawful refusal, with the intent in the mind of those who refuse, to unlawfully restrain interstate commerce.

Now, with that very brief reply to what has been said, and in order to get out of this case any confusion which may arise from the suggestion of good motives or intent or boycott, may I come down to this fundamental proposition, if the court please:

In entering upon a discussion of the admissibility of this particular evidence with reference to illegality or the good faith or the belief of the defendants, may I say that the proper determination of the question for decision will lie with relation to what is brought here into this court room. That is this indictment. We are here to answer a definite charge. The indictment was drawn with great care. It is perhaps one of the most unusual and unique indictments that has ever come before any court for determination. Therefore within the four corners of this indictment we must find the charge and we must find its proof; otherwise the prosecution has failed.

In addition to the indictment we have the declaration of the Court of Appeals in its decision; and in so far as the binding effect of Judge Bailey's decision is concerned, the Court of Appeals has already declared on that point, so that your Honor need not be disturbed upon the question as to whether this is a judgment *quasi in rem* or in the nature of a judgment *in rem* or *res judicata*, or what not. The Court of Appeals definitely stated it.

A United States District Court decided to the contrary some time ago in a suit for declaratory judgment. There was no appeal, and the question, so far as we are concerned, may be said to be open.

We can have no clearer or plainer declaration of the particular status or the binding effect of the declaratory judgment than that declared by the Court of Appeals.

Furthermore, the Court of Appeals has declared there is open for us of the defense the question of justification, so that any argument made now from any decision cited in the brief of counsel or statements made here at the trial table is entirely outside that decision of the Court of Appeals which says that if we can justify our conduct as a reasonable regulation of professional practice we have a right so to do.

Furthermore, under the Court of Appeals' decision there are left to us persuasion and the right to persuade our fellow men or our fellow practitioners, and therefore in connection with the decision of this question before your Honor we have that second chart or compass which we may follow and by which we may be guided, to wit, that if this evidence tends to prove the justification which the Court of Appeals says we have a right to establish, then it becomes admissible; or if it tends to prove a basis for reasonable, honest persuasion or for the exercise of our right of free press, then we have a right to establish that evidence, and it becomes not only relevant, but highly material and essential for the defendants so to do.

Now, the third point which I wish to bring to your Honor's attention before we go further is to disabuse your Honor's mind of any interpretation of this so-called Fashion Originators Guild of America, Inc., which has been represented to your Honor as having declared the illegality of G. H. A. to be entirely immaterial, irrelevant, and beside the point. It does not declare any such law. It does not deprive us of the defense of illegality. It does not hit anywhere near to the argument made therefrom.

May I just state to your Honor the very lines upon which that argument was predicated, in which it is stated that the defense of illegality is rendered entirely immaterial and irrelevant.

The opinion states that the Federal Trade Commission in the case below had refused to entertain certain evidence which was proffered by the appellants:

"Under those circumstances it was not error to refuse to hear evidence, for the reasonableness of the methods pursued by the combination to accomplish its object is no more material than would be the reasonableness of the prices fixed by unlawful combination."

As already stated to your Honor, wherever we find a price-fixing case, where it is to lower or to raise or to stabilize prices, there can be no answer, because the very fact of a combination to fix prices cuts down competition, and free competition is the life of trade, and it was to preserve it that the anti-trust law was enacted by Congress.

What are the reasons assigned by Mr. Justice Black in the opinion? In the first place, whether or not given conduct is tortious is a question of state law, he says, "under our decision in *Erie Railroad Company*," which is familiar to your Honor.

The United States Supreme Court no longer tries to administer, enforce, interpret or declare state law, and matters of tort are state actions. The United States does not declare torts; it has no jurisdiction to make a declaration of tortious conduct. That lies peculiarly within the domain of the states, and ever since the *Erie Railroad* case the United States Supreme Court is no longer interested in the administration, enforcement or interpretation of state law. Further, he says:

"... the situation would not justify petitioners in combining together to regulate and restrain interstate commerce in violation of Federal law."

What is the meaning of that? Interstate commerce, under the Constitution, was left peculiarly within the domain of the Federal Government. The Federal Government has declared that any unreasonable restraint of interstate commerce is a Federal offense. How can one justify the commission of a Federal offense by appealing to the rightness or the wrongness of the conduct under a state law?

For instance, in the District of Columbia, suppose we were indicted for setting up a gaming table: could the defense be that it is lawful over in Maryland? Obviously the defense to a Federal prosecution cannot be an appeal to justification of a state law.

But here in this particular case we are in the same jurisdiction, and whether the acts against which we were defending ourselves constituted a violation of law or not, they were a violation of the very law to which they appeal for protection now, the illegality of their conduct. So therefore there is a

very clear distinction: We are dealing with Federal law exclusively. The same Congress that enacted the anti-trust law also enacted the Healing Practices Act. The same Congress that says you shall not restrain trade says that you shall not practice medicine unless you have a license so to do; and certainly Congress is not going to condemn an act and then throw a wall of protection around its infraction by saying that you cannot do anything with reference to that which might be construed as a restraint of trade.

What happens to the churches? What happens to our civic groups here in the District of Columbia who are opposed to bookmakers setting up a gaming table? Is every group and every church a conspirator against that trade which is being conducted?

Your Honor yesterday stated from the bench that it could not be construed to be a trade if it were illegal. We all know what the oldest trade in the world is, but even one of those who practice that trade cannot suffer the length of imprisonment, for instance, that could be imposed here in the event of conviction under this Act.

If the trade is illegal it has no protection under the law; it can have no protection under the law. If men deal with it as reasonable men in protecting themselves against the illegal conduct they cannot be construed to have in any way violated the law or, in this particular instance, restrained trade.

So that we read out of this decision the law as stated in the Guild decision. It has no operation here as a binding decision that the illegality of Group Health has no place in the case whatsoever.

Now, to return to the fundamental question as to whether or not this evidence which we offer is material and relevant or whether it is so entirely immaterial and irrelevant that it has no place in the case.

Every decision which has been cited to your Honor is out of a civil case. Even the Black decision came up from the Federal Trade Commission; it came up from a decision with reference to competition in several matters. All of these other cases, where the United States had proceeded against the defendants, have been, every single one of them, a civil case.

We are engaged in the defense of a criminal accusation against us; and the very fundamental of all criminal law is that there can be no criminal unless he has a criminal intent. That is so fundamental that we need not even repeat it. In order that this prosecution may succeed they must establish that we of the defense had a criminal intent with reference to what we did. Did they know that when they drew the indictment?

I call your Honor's attention to the indictment, where it is repeated again and again, pushed home by the allegations of the indictment to the point that they knew that the very essence of this whole charge was intent. What did they say in the description of the crime, on page 23, where they start out in the charging part of the indictment? (Reading):

"have combined and conspired together"—

Why?

"for the purpose of restraining trade in the District of Columbia."

Then they give five subdivisions or categories or classifications within which that restraint occurred; and what did they do? In the introduction of every single one of them they say:

"for the purpose of restraining Group Health Association, Inc.

"for the purpose of restraining the members of Group Health Association, Inc.

"for the purpose of restraining the doctors serving on the medical staff of said Group Health Association, Inc.

"for the purpose of restraining doctors (not on the medical staff of Group Health Association, Inc.)

"for the purpose of restraining the Washington hospitals in the business of operating such hospitals."

And then, again—

"In so doing defendants have then and there engaged in an unlawful combination and conspiracy in restraint of trade."

Intent tacked to every word.

Coming now to page 26 of the indictment:

"The combination and conspiracy hereinabove described and the intended restraints which have resulted therefrom have been effectuated"—

How? Again they press the question of intent and purpose:

"(a) Defendants have combined and conspired with the plan and purpose to hinder and obstruct Group Health Association, Inc."—

Now, at the bottom of the page:

"with the intent and purpose of threatening with disciplinary action any doctors, members of defendant The Medical Society of the District of Columbia."

Page 28:

"the disciplinary proceedings above described were instituted against these doctors because of their association with Group Health Association, Inc., and for the purpose of depriving the said Group Health Association, Inc. doctors of the privileges of consulting with other doctors."

and so forth.

Again in the middle of that page:

"intending thereby to penalize the said specialist for failing to boycott Group Health Association, Inc. doctors."

Again, on page 29:

"Defendants have combined and conspired with the plan and purpose to hinder and obstruct Group Health Association, Inc."

And in the middle of that page:

"with the intent and purpose of threatening with punitive action any such hospital which should admit to its courtesy staff a doctor on the medical staff of Group Health Association, Inc."

And it is repeated again on page 30:

"and intending that they be not permitted to become or remain members of such societies."

Again on page 31:

"in the formation and in the furtherance of the combination and conspiracy. Each defendant has, however, knowingly participated in the formation and furtherance of the combination and conspiracy."

And then, so that nobody would forget it, so that we would be sure to know that we were charged with doing these things with the specific intent and purpose therein set forth, in the very concluding page of the indictment they still push it as follows:

"Principally by these means, defendants, in thus combining and conspiring, have substantially accomplished all the illegal purposes set forth in paragraph 34 of this indictment, and have succeeded in imposing all said intended restraints of trade."

And then, as the last benediction and conclusion—

"The combination and conspiracy herein set forth has been formed to a large extent and, as intended by the defendants, has operated"—

And so forth.

If ever there was an indictment shot through with an allegation which they must prove as an essential allegation of the indictment, if ever words of art were employed by the pleader in stating his case, he employed those words of art in this case, and the prosecution pushed intent and emphasized it so that it stood out like a flaring torch.

And they would cut from us our right to prove intent. They say it is an immaterial defense.

We are not urging this matter as defense. We are not saying we have only defenses A, B and C plus illegality, honest understanding that it was thus and so. That is not this case. The evidence is offered to show that we did not do what they charge us with doing, to wit, that when we did what we did, we did not do it with the intent which they charged in the indictment. We did it with another intent. Heaven knows if a defendant cannot show that he did an act with one intent when he is charged with having done it with another intent, then every right of defense has been cut from him, and all he can do is simply to say, "I did this act."

No human being does an act objectively. You cannot take an act which a man does and handle it as you can a glass of water or that chair on the witness stand. Every human act has back of it the intent and purpose with which it was done. Not necessarily the motive. The motive is immaterial. But it has the purpose and intent of the act back of it. That goes into the act to color the act and give to what would otherwise be a dry, naked, white, worthless skeleton of an act life and energy, so that the act fits in along with some other concept of life which that very individual is then engaged in performing.

There is confusion in this case—not confusion in fact, but confusion from the reading of these authorities which are not in point whatsoever. They are impressing upon the court that these matters and things are urged as a defense, a separate, distinct defense, as if we were offering one, two, three, four, for instance. They grow out of every important charge in this entire case. Let us take an example of it and see the reason for it.

Here is Dr. Woodward, who wrote an article. Under the theory of the prosecution, all Dr. Woodward can say is, "Yes; I wrote it." We don't care about that. We know he wrote it. Can we not show, when they say in this indictment that Dr. Woodward did that with the purpose of hindering and restraining Group Health Association—cannot Dr. Woodward in his

defense say, "Gentlemen, I did not have that purpose in my mind. This is the reason I had in my mind and heart and soul. When I wrote that article in this particular case, I wrote it for this reason or that reason."

Take the District Medical Society. Do you mean to say that those gentlemen are foreclosed from denying that what they did was to restrain and hinder G. H. G.? Can they not prove that it was for another and distinct reason? Can they not show to your Honor the real, true purpose of why they did it?

The Court of Appeals has said that we have a right to justify our conduct. How can we justify our conduct if we cannot explain to this jury why we did what we are accused of having done? Why can we not show what the real purpose and intent in our mind was against the charged intent in the indictment, which will be argued to the jury with every inference which they can draw from that which is already in the case?

Let us go back for just a moment. Let us clear up certain points that have been argued in this case. These words "conspiracy, confederation, association, or union of individuals," which are brought into every charge of a violation of the old conspiracy section or of the Sherman Anti-Trust Act, give perhaps to the casual listener the notion that this group, association, or combination was formed for the particular purpose charged against it.

In this case, your Honor will remember, that Group Health Association was a combination, a confederation, an association, a union of individuals. The American Medical Association and the District Medical Society had been associations for over a hundred years; and in this case it was not a question of an individual dealing with another individual. It was a group dealing with a group. It was G. H. A. dealing with the District Medical Society. G. H. A. comes to the District Medical Society and says, "We want your approval."

Does your Honor say that we have no right to show why we did not approve? They say we did not approve because we wanted to restrain G. H. A.—

THE COURT:—Pardon me. Of course there is no duty, legal or ethical, on the part of the Medical Association to approve G. H. A. or any other organization.

Mr. Leahy:—That is right, your Honor.

THE COURT:—I have not meant to intimate that in anything that I have said.

Mr. Leahy:—Let us proceed, then. Suppose, then, after due deliberation and examination, the District Medical Society thought that G. H. A. should be disapproved: they had a right to do so. And if, as result of that disapproval for good reasons, which we have a right to show you, certain things were done by the District Medical Society, whether they were justified or not justified, as we have a right to show under the Court of Appeals decision—

THE COURT:—It is a question of whether the acts were legal or illegal.

Mr. Leahy:—The acts done by whom?

THE COURT:—By the Medical Association.

Mr. Leahy:—All right. And how can we show whether they are legal or illegal until we show all of the surrounding circumstances in which the acts were done? We have to show that. Nobody could pass on the legality of the acts or upon their relation to restraining the G. H. A. until all of the surrounding circumstances are known under which those acts were done.

And that is what is declared in the Chicago Board of Trade case. That is the reason the Supreme Court stated in reversing the case, that they should have shown all of the acts.

Let me read, your Honor, the language of the Supreme Court.

THE COURT:—What case is that?

Mr. Leahy:—*The Chicago Board of Trade v. The United States*. I am reading from U. S. 246, page 238. Note how this fits into this case:

"Every agreement concerning trade, every regulation of trade, restrains. To bind, to restrain, is of their very essence. The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition, or whether it is such as may suppress or even destroy competition. To determine that question the court must ordinarily consider the facts peculiar to the business to which the restraint is applied."

We have got to consider this peculiar field of medicine which the Court of Appeals has stated is one in which those alone who are the practitioners in the field can determine what regulations are proper and what acts ought to be done in good faith.

"To determine that question the court must ordinarily consider the facts peculiar to the business to which the restraint is applied, its condition before and after the restraint, the evil believed to exist, the reason for adopting the particular remedy, the purpose or end sought to be attained by all relevant facts."

Your Honor, there is your rubric. There is the guide to the relevancy of this testimony, stated there is that case. And also, if your Honor please, may I impress upon you the strength of this language, in reply to the argument which has just been made by Mr. Kelleher. The court says:

"This is not because a good intention will save an otherwise objectionable regulation, or the reverse, but because knowledge of intent may help the court to interpret facts.

And they reversed the lower court because the lower court would not let in this type of evidence explaining the reason why the regulation was passed. It is not because they had a good or a bad intent, but because knowledge of the intent which they had assists and helps the court in determining what was the ultimate purpose of the act done.

For instance, take the illegality of G. H. A. "Oh," they say, "advice of counsel does not make any difference at all. It is entirely immaterial, because whether it is illegal or legal makes no difference." Is that true? This was not mere advice of counsel. That is not offered as a defense, that advice of counsel is a defense in an anti-trust act case. That is not the purpose of offering the testimony. The question whether the United States Attorney or the Corporation Counsel held G. H. A. was violating the law is not offered as a separate and distinct defense. They have been asked for approval. G. H. A. was trying to take doctors from them who were on their staff. They asked for the advice. They have certain regulations governing their conduct, and here is a red flag put up. The highest officers of law enforcement of the District of Columbia have said that this organization is illegal. Can it be urged that if the District Medical Society in that state of the case said that they must be cautious, because "if we authorize an illegal combination we become parties to the illegal combination, and then we will be violating the law"—your Honor cannot find a single case in the books in which doctors or an association have been prosecuted for violating the law as a corporation doing business, where they have not joined the doctors and convicted them both. Therefore the alternative which was presented to the District Medical Society was this: "Go ahead and take your chance, if you want to. Deal with these people. If they are held to be illegal you will be aiding and abetting an illegal combination. Or else wait until the legality of the question is determined."

We are charged with boycotting because we refused to do all this. It goes to the honesty of purpose, and we have a right to show the intent of the purpose, why they refused; and one of the elements that entered into that was the question as to whether or not they knew, as reasonable men, that they dealt with an organization whose legality had never been determined until July, 1938, the latter part of July, 1938.

Can it be argued in a court, if your Honor please, with any semblance of either sincerity or conviction, that if I am told by the highest authority of the District of Columbia, who is going to prosecute me if I don't follow his advice, or if I do a certain thing he is going to prosecute me, and then I refuse to do that thing, that I cannot show what my intent was? It goes to the very core of my purpose and intent. I am trying to conform myself to the law, and at least I have a human right to be cautious; at least I have a right to refuse to do business with an organization which at that time had been declared so illegal that the United States Attorney served notice on it that he was going to shut it up, and the Corporation Counsel likewise served notice.

Therefore the question of illegality or legality becomes essential.

I am going to pass for the time being the ultimate legality of G. H. A. It is a joke. On May 2d they amended the by-laws and by the said amendment became an entirely different institution from what it was before. We propose, if your Honor will permit us to do so, to show why they knew they were illegal; and those minutes, if we are permitted to show them, will show that in order to avoid serious embarrassment with the District of Columbia and the Government of the United States they offered to amend in this fashion.

Again, I pointed out a letter which was written by the Chief Counsel within three weeks after Dr. Woodward wrote his article saying they were practicing insurance. I offered that letter in which the writer said, "We are practicing insurance. Let us amend our by-laws to avoid that imputation." Its legality was questioned by the highest ranking officials charged with the enforcement of law in the District of Columbia.

Can not that fact be shown to this jury, when these men are charged with having done acts with the specific purpose of restraining G. H. A.? Otherwise a man would have no chance

to prove his innocence. That is why we have a right to show just what character and type of institution G. H. A. was, because we have a right to justify our conduct under the Court of Appeals decision, and we have a right to show, in all the facts and circumstances with which we were confronted at that time, that what we did was proper as reasonable men and in the reasonable regulation of professional practice.

THE COURT:—The question is whether it is a reasonable restraint.

Mr. Leahy:—That is right, your Honor.

THE COURT:—Not whether your belief as to its illegality was reasonable or not, but whether the things which you did, if they were intended to restrain, were of a kind which are a direct and unreasonable restraint. If, so, they are illegal.

Mr. Leahy:—The belief we had is no defense if we intended to restrain.

THE COURT:—In other words, take this situation. Of course the question as to whether the profession came within the law had never been announced by anybody. You gentlemen believed you did not come under that law. I agreed with you. Nevertheless, according to our processes, the American methods of determining those things, we were all wrong.

Mr. Leahy:—That is correct, your Honor.

THE COURT:—Our opinions were in good faith; but the fact that—that was the first judicial determinative declaration that you did come within the law, would not give you a right to come in here and say, "We thought we did not come under the law."

Mr. Leahy:—No; we are not going to say that, your Honor. Maybe I have not been able to express what is so clear in my own mind on the question of belief. Belief is not a defense if there is an intent to restrain; but our belief may be the predicate upon which we do certain acts with an entirely different intent.

THE COURT:—The court said in the Appalachian case and in two or three other cases that it depends upon the interpretation of the act, whether the restraint was an unreasonable or a reasonable restraint. In using the term "reasonable" the court did not use it in its conventional sense. I do not assume that even counsel for the Government would say that your opinion that a profession did not fall within the Act, or my opinion that it did not, was unreasonable.

Mr. Lewin:—No; we have never contended that.

THE COURT:—That is not the sort of judgment which applies to this case now that you are within the law. We are putting it to the test, which is a legal one laid down by the courts, as to whether it is a direct and substantial restraint upon trade. That is the sense in which the term is used.

Mr. Leahy:—But, if your Honor please, we have a right to show that we did not intend to restrain G. H. A.

THE COURT:—Yes, that is true.

Mr. Leahy:—Because, in the Sugar Institute case which your Honor's attention has been drawn to—

THE COURT:—If your acts and the natural and probable consequences of them have that direct and substantial effect, then what?

Mr. Leahy:—If they have the direct effect, they must be direct; and in that connection may I bring your Honor's attention to the Anderson case, which is just along the line of thought which your Honor states. I am referring to the case of *Anderson v. United States*, 171 U. S., and your Honor will find it reported at page 605.

Mr. Lewin:—That case has never been followed.

Mr. Leahy:—It has never been followed because it has been cited and cited and it has never been overruled. It has been followed again and again in the courts, and if you will run down the cases you will find that it is followed.

Mr. Lewin:—We have run them down.

Mr. Kelleher:—It has never been cited.

Mr. Leahy:—Oh, don't say that.

Mr. Kelleher:—It is not regarded as good law.

Mr. Leahy:—It is regarded as good law by everybody but you, and you don't like to use it because we think it is right.

THE COURT:—We will have to stop in a few moments, gentlemen.

Mr. Leahy:—Talking about a boycott, your Honor, this case involved the fact that the exchange would not recognize any trader unless he was a member of the Traders Live Stock Exchange, and the rules provided that if two or more parties trade together, then each and all of them must be members of the exchange. They refused to deal with anybody who was not a member of the exchange. The court said:

"This association does not meddle with prices. It does no business."

Neither do we.

"In refusing to recognize any trader who is not a member of the exchange we see no purpose of thereby affecting or restraining interstate commerce, which, if affected at all, can only be in a very indirect and remote manner."

Your Honor, there is no evidence in this case that we stopped G. H. A. from operating. There is no evidence in this case that we tried to stop any one from joining it. There is no evidence in this case that we stopped a clinic or did certain things which they say interfered, or did certain things which, if we had a right to do them, resulted in interference which was indirect and remote and which does not come within the Sherman Anti-Trust Act.

THE COURT:—Of course you have a right to show that.

Mr. Leahy:—But we cannot show it unless we show the reasons, the surrounding circumstances, the reasons why we did the act.

In the Appalachian Coals case that your Honor just referred to, which is in 288 U. S., let me read from page 361 of the opinion:

"It is therefore necessary in this instance to consider the economic conditions peculiar to the coal industry, the practices which have obtained, the nature of defendants' plan of making sales, the reasons which led to its adoption and the probable consequences of the carrying out of that plan in relation to market prices and other matters affecting the public interest in interstate commerce."

THE COURT:—You have to determine whether or not in that particular case the alleged restraining acts had any substantial unreasonable effect on the trade.

Mr. Leahy:—Yes; but how can we determine that until we have shown what the acts were?

THE COURT:—That is the test. I am not going to say whether or not this evidence should come in or not. I am simply checking you on your broad view of what the term "reasonable" means with respect to this act.

Mr. Leahy:—Oh, I don't think we have any disagreement on that, your Honor, at all. This is on the question of their trying to bar out our right to show what the acts were and why we did them, and it is to show the question of intent, going to the very heart and soul of the defense. Otherwise, as I understand it, they want to say that I cannot ask Dr. Woodward, "What intent did you have when you wrote this article?"

Mr. Kelleher:—That is right.

Mr. Leahy:—He says, "That is right." Where are we going to be? I want to ask these defendants why they did a certain act and what was their thought about it.

If your Honor please, you will find in the testimony, if it is allowed to go in, that Dr. McGovern debated again and again in open forums in the city of Washington this question of Group Health. He firmly believed that it was uneconomic, that it was unsound. Therefore he did not want to deal with it, because, as a reputable physician, he did not want to be connected with something which he knew in his heart was uneconomic, unsound.

Can we not show that with reference to what he did and why? If it was the conviction of the Medical Society that that was a fact, and they predicated certain action on that conviction, may we not show that that was their conviction? It goes to the intent and the purpose—

Mr. Kelleher:—It goes to motive.

Mr. Leahy:—No; it is not motive.

THE COURT:—The final question for the court and the jury is to take the facts that will bear on the question of the reasonableness of the restraint and determine whether or not, as I say, it does primarily tend to prove an unreasonable restraint.

Mr. Leahy:—That is right, your Honor.

THE COURT:—On trade.

Mr. Leahy:—That is true. The facts must first be taken.

THE COURT:—The court cannot concede the right of the individual defendants to determine that.

Mr. Leahy:—No; I would not argue that.

THE COURT:—The jury will be here in a few moments, and I want to dispose of this argument.

Mr. Leahy:—I do not want to argue that.

But here is the statement of the Annenberg case prepared by the Department of Justice:

"This grand jury has received the advice of Government counsel as to the scope and intent of the anti-trust laws. This grand jury believes that the purpose of the anti-trust law is to regulate the conduct of legitimate trade and commerce and to protect such trade and commerce from improper practices. They were not intended by Congress to apply to activities which by their very nature are illegal or which aid, abet, and encourage others in the commission of crime. Any other interpretation would lead to the absurd conclusion that it was the intention of Congress—"

THE COURT (interrupting):—What is that that you are reading from?

Mr. Leahy:—This is the report made in the famous Moses L. Annenberg case in Chicago.

Mr. Kelleher:—It is the information.

THE COURT:—If the G. H. A., through its objectives and through its purposes as defined in its by-laws and its general method of doing business were in its very essence illegal, then that is one thing. If, however, there may be some act or some incident in connection with the transaction which was illegal, that does not pollute the whole business and make the whole thing illegal.

Mr. Leahy:—No; we would not contend that, your Honor.

THE COURT:—For instance, Woodward & Lothrop, or any corporation or individual carrying on what is a perfectly legal business, may do some illegal act in connection with it.

Mr. Leahy:—That is true.

THE COURT:—But that does not outlaw the whole business.

Mr. Leahy:—Oh, no; we do not contend that.

THE COURT:—So there is a distinction that has got to be drawn.

Mr. Richardson:—May I give you just this citation for your record, Mr. Justice? The Continental Wall Paper case, 212 U. S., page 260.

THE COURT:—Very well. I will look at that.

ARGUMENT ON BEHALF OF THE UNITED STATES

JOHN H. LEWIN

Mr. Lewin:—Your Honor, I just want a very few minutes, I would like to answer the impression which I think my brother perhaps unconsciously left with your Honor, namely, that the cases on which we have relied are primarily price-fixing cases. I think we have only mentioned one or two in the whole list of cases that I gave you.

And then you remember his argument that of course in a price-fixing case there can be no justification whatever. We all know that.

We cited to you the Eastern States case, which was not a price-fixing case; the Paramount and the First National Pictures cases were pure boycott cases. The Anderson case, the Fashion Guild case, and three or four that Mr. Kelleher relied on this morning, are all boycott cases.

But if we had been relying on price-fixing cases we would have been within our rights under the law, because in that same Fashion Guild case where the boycott was as described by Mr. Justice Black he put that case on the same basis as a price-fixing case. He put it on exactly the same level in regard to justification, and he said:

"This kind of conduct can no more be justified than in a price-fixing case."

And then he cited the Thompson case, the Oil case, the Trenton Pottery case, the last two criminal cases that have gone to the Supreme Court under the Sherman law. So that under the last holding of the Supreme Court the price-fixing cases which forbid any collateral attempt to justify are directly in line with the boycott cases which in turn forbid any collateral attempt to justify by good motives and the like, or proper objectives. They stand on exactly the same footing. The reasons behind them are exactly the same; and the rationale of the price-fixing rule forbidding this collateral justification by way of defense and good intent, and so forth, as explained by Mr. Justice Stone in the Trenton Pottery case, is as follows:

"The reason is that with this kind of power the potentiality of injury to competition is too great. It eliminates one form of competition."

The fact that it eliminates one form of competition, which is against the policy of the Sherman law, is a reason for saying that kind of conduct is unreasonable per se and cannot be justified. Then, *a fortiori*, when you have a direct boycott, such as the one before your Honor, where the whole purpose and the whole intent—

Mr. Richardson (interposing):—Can we not deny it?

Mr. Lewin:—What they want to do is to say, "Oh, yes; we intended to keep our doctors away from Group Health. That was our intent. We intended that other doctors outside of our little group should keep away from Group Health. We intended to extract from Group Health all the doctors that it had. We intended to bar consultation with Group Health, and we intended to pressure the hospitals so that Group Health would be kept out of them. That intent was entertained by us because we are the righteous ones, because we did not like the way Group

Health acted, because we thought we had built up the hospitals and should be permitted to control them, and because we regarded Group Health Association as illegal."

All those secondary "because" can be called motive or can be called intent; but the mere calling them "intent" does not make them an issue in this case, because the issue in this case is the intent to do those first things to arrive at the objectives in this way.

The intent to limit Group Health in the way they did—that is the intent that is in issue—the intent to do such acts the necessary consequences of which would have been to destroy Group Health for whatever reason.

Mr. Leahy:—Can we not show intent not to do that?

Mr. Lewin:—Yes; but under the guise of showing that you cannot bring in stuff that you could argue to the jury to make your intention a reasonable one.

Mr. Leahy:—What do you do with justification under the Court of Appeals decision?

Mr. Lewin:—I have explained my view of that. I think the opinion in the Fashion Arts Guild case straightened it out. I do not think it meant that. I think it meant that you may rebut the allegations of the indictment, and if you rebut the allegations of the indictment you may reduce it from a boycott to regulation of medical practice. That is what I think it meant.

THE COURT:—It meant at least that the Medical Association, as any other association, had the right to make and enforce reasonable regulations and disciplinary measures in support of the maintenance of that association within the realm of its legitimate objects.

Mr. Lewin:—Yes; I think so.

THE COURT:—Then the question may be as to particular actions of the Association that come within the purview of this case, whether or not those were reasonable acts within the legitimate objects of the Association, or whether they went beyond it and were expressly intended or by their necessary effect resulted in unreasonable restraint of trade.

Mr. Lewin:—Yes, if you add this further suggestion to it, that if they did what the indictment describes, then, as matter of law, they did go beyond any regulation of medical practice that is proper.

Mr. Leahy:—Oh, no.

Mr. Lewin:—There is no question about that, because he says over and over again that this indictment as drawn charges a restraint which is unreasonable. If we make out that charge and if they fail to rebut that charge, then they have got an unreasonable restraint. That we know to be the fact from reading that opinion. There cannot be any question about that. He has described in detail what an unreasonable restraint is.

They cannot bring in collateral matters and say, "We did what the indictment charges, but we did it with good motives and for good results." They cannot do that.

THE COURT:—I understand that.

Mr. Lewin:—If it is proved that they did what the indictment charges, then that is the end of it.

I would like to say this, too, that the Chicago Board of Trade case and the Appalachian Coals case and cases of that character fall entirely out of this boycott rule that we have been arguing to your Honor; and that is clearly shown again by the Fashion Arts Guild case, where the court said that the principle of the Appalachian Coals case is not applicable to that kind of a boycott.

And then I want to mention this question which has been argued here almost as though this were some civil contest where we are judging between two private parties, the A. M. A. on the one hand and Group Health Association on the other. The argument is made that the law cannot want to protect an illegal trade, and if Group Health Association is an illegal trade, then the Sherman Act certainly cannot protect it.

I submit that that is the wrong point of view. The issue in this case is between the American Medical Association and the other defendants and their government, the Government of the United States. The United States, under this indictment, is the one that has been injured. It is not a suit by Group Health Association, or a suit in equity where the doctrine of clean hands might come in. The Government has the right to say that we, the Government, will attend to illegality. We have got the machinery for attending to illegality of private parties. You are not going to usurp governmental functions. We are not going to permit that any more than we are going to permit you to usurp a police officer's functions or a judge's functions or a United States Attorney's functions. You cannot go out and take the law into your own hands and preserve the public peace or fight crime, or what not.

You have got certain limited individual rights: you can arrest a felon; you can prevent the escape of a felon, and you have certain rights of self defense, and that is the end of your right to police other people's conduct.

So, this is not a case of the Government's protecting anybody except itself. The Government says that this kind of an outrageous squabble between private parties, whatever the merits of the fight may be, if one party gets rough and adopts illegal means and engages in a boycott, it has offended not Group Health, necessarily—of course it did—but it has offended the sovereign power.

If I go out on the street today and do not like some fellow who is driving his automobile without a license, and I undertake to take him by the ear to make him understand the law, I will very soon be charged with assault, and the charge will be criminal assault and I will be answerable to the Government.

Mr. Leahy:—Suppose he were committing a crime: would you have a right to stop him?

Mr. Lewin:—No. I have the right to prevent the commission of a felony.

THE COURT:—We are getting into another broad field of legal discussion.

Mr. Leahy:—May I pass up to your Honor a copy of the Fashion Guild decision?

THE COURT:—I have one. I have it all marked up.

Mr. Leahy:—Mine is marked in red.

MARCH 17—MORNING

THE COURT:—Gentlemen, with reference to the pending question I have reached a conclusion that the offer of proof by the defendants is not admissible on any of the grounds urged. Therefore, I shall sustain the objection of the Government thereto and reject that offer.

TESTIMONY OF WILLIAM CREIGHTON WOODWARD

FURTHER DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, I believe when we finished your examination we still had a few of these exhibits to examine. I now show you what was identified as Government's Exhibit 177. Q.—I will ask you if you wrote that memorandum. A.—I did.

Q.—In what connection did you write that, Doctor? A.—I had called on Dr. J. Russell Verbruycke Jr. for a conference with respect to the situation in Washington in relation to G. H. A.

Q.—Do you recall about when you talked with Dr. Verbruycke? A.—As shown by the memorandum, about 4 p. m., June 28. That was 1937.

Q.—And how did you happen to make the memorandum, Doctor? A.—The memorandum involved a radical change in the policies of the Medical Society of the District of Columbia, and of the American Medical Association of such importance that I thought it desirable to have a record of the conference.

Mr. Leahy:—The memorandum reads:

U. S. EXHIBIT 177

"MEMORANDUM.

"Subject: H. O. L. C. Cooperative.

"About 4 p. m., June 28, I talked with Dr. J. Russell Verbruycke Jr., Washington, D. C., relative to certain statements in a letter just received by Dr. West from Dr. William P. Herbst, Washington, concerning the Group Health Association, Inc., organized in Washington under the auspices of the H. O. L. C. I referred particularly to Dr. Herbst's statement that the representatives of the Medical Society of the District of Columbia who met with representatives of the Association planned 'to go along with the Association' if they could do so and save their faces. I suggested to Dr. Verbruycke that I could not see how they could go along with the Association named without violating the principles of medical ethics of the American Medical Association. His answer was in effect that they would try to work out some plan whereby they could do so. Cooperatives, he said, were already with us, and the representatives of the Medical Society of the District of Columbia thought it would be better for the Society to help organized cooperatives on an ethical basis rather than oppose the wishes of the Association named. I asked him what cooperatives he knew of, and he named the Group Health Association, Inc. I called his attention to the fact that that organization was an illegal corporation, if there could be such a thing, in that it was incorporated to engage in the practice of medicine and dentistry. Dr. Verbruycke said that representatives of the Association had said that it was not planning to engage in such practice. I told him that its charter definitely planned that it should do so. He said that representatives of the Association had refused to furnish him with a copy of its articles of incorporation and he was much surprised when I told him that those articles were matters of public record and that I had a copy of them.

"I asked him what Dr. Herbst meant when he said that there were already two hundred emergency rooms with nurses in attendance, under

the direction of the central office in Washington. Whether he meant that these two hundred emergency rooms were under the Washington headquarters of the office of the Association organized under the auspices of the H. O. L. C. He said that reference had not been made to the present existence of two hundred such emergency rooms under the Association, but ultimately the Association expected to have that number of rooms throughout the country.

"Dr. Verbruycke said that he had prepared a lengthy report on the situation, which report had been approved by a subcommittee and then by the full executive committee of the Medical Society. He promised to send a copy of that report and to try to get it off by air mail, special delivery tonight. He said, too, that minutes had been kept of the recent conference with representatives of the Association and that he would send me a copy of those minutes.

"Dr. Verbruycke said that a Mr. Penniman had stated that 'they' had the same right to look after the health of their employees that any private corporation had to look after the health of its employees. I suggested that in my judgment the representative of the Corporation had done some tall bluffing in the conference, but he felt confident that that would not be the case because Mr. Penniman is a high official in the H. O. L. C. and a smart man. I suggested that that very type would do the bluffing. Dr. Verbruycke expressed a wish for cooperation by the American Medical Association, but I had to tell him that we certainly could not cooperate with his group if it did not let us know what was going on. If we had been given notice of the proposed conference with representatives of the H. O. L. C., I might, I told him, have come to Washington to attend."

By Mr. Leahy:

Q.—Doctor, did you at any time attend any conferences or any meetings of the District Medical Society here in the District of Columbia? A.—I attended one committee meeting and one meeting of the Society.

(The witness again went over the facts of the meeting mentioned. He was asked why he came to Washington at that time.)

A.—To the best of my knowledge and belief I came here to attend that meeting, but I made it my practice whenever I was in Washington to attend to such other matters of the Association as might be pending and to inquire concerning the general situation, legislative situation either in Congress or in the several departments.

Q.—Were your duties such that you were required to come to Washington quite frequently, Doctor? A.—Very frequently.

Q.—And what was the advice you gave them? A.—That they procure legal counsel and be guided by counsel's advice.

Q.—Do you recall now whether upon any other occasion you had met with any members of the District Medical Society with respect to G. H. A.? A.—I had met with other members as I came and went to Washington, not by any prearranged design but in the course of my work, as I have described before, of finding out whenever I came to Washington what was going on of interest to the medical profession of the country.

Q.—What other advice at any time have you ever given the District Medical Society than that which you just stated? A.—That I think is the only advice I ever gave them, unless you can add the advice that I gave them at that November meeting, to go slow and trust to their counsel.

(He was then taken over the meeting in Chicago on November 6.)

Q.—Who was present at that meeting in Chicago? A.—Dr. West, Dr. Leland, Dr. McGovern, Dr. Hooe, and I.

Q.—Do you recall now how it was that Dr. Hooe and Dr. McGovern happened to be present? A.—They came by a prearrangement, having telephoned or telegraphed to Dr. West of their respective arrivals as representatives of the Medical Society of the District.

Q.—And was any advice given by you as to what the District Medical Society should do? A.—I gave them the advice, according to my present recollection, with respect to two matters. One was that in so far as any contemplated procedure, any procedure might be contemplated with respect to disciplinary measures against any member or members of the Society, care be taken to have all of the proceedings in regular form. The other was that they rely on their counsel for guidance in what they did as an association.

Q.—Was there any definite or specific advice of any kind that was given to the District Medical Society representatives other than what you have told us at that meeting? A.—That, I think, is all I gave them. What Dr. West may have given them I would not venture to say from memory. There was an abstract of the whole matter kept and I think it is in evidence.

(The witness identified a letter written by Dr. West on July 12.)

A.—Dr. West had been in Washington, and when he returned, why, he wrote to—he discussed with Dr. Leland and me the matter of Group Health Association, Inc., and the District of Columbia Medical Society, and then he wrote that letter.

Mr. Leahy:—That is on the stationery of the American Medical Association, 535 North Dearborn Street, Chicago, dated July 12, 1937:

U. S. EXHIBIT 152

"Dr. J. Russell Verbruycke,
900 Seventeenth Street,
Washington, D. C.

"Dear Dr. Verbruycke:

"Our telephone conversation this morning was not altogether satisfactory for the reason that I could not hear you very well.

"Since the meeting held at the Metropolitan Club in Washington the other evening, I have given a little more thought to the matters that were discussed and have come to the conclusion that I offered one suggestion for the consideration of the Medical Society of the District of Columbia that it was not altogether wise to offer. I stated, in effect, that if I were a member of the committee of the District Society, I should want to consider the advisability of organizing a sort of cooperative movement under the auspices of the society to offset the effect of the cooperative movement that is now being promoted by certain agencies in Washington. Having thought the matter over more carefully, I have come to the conclusion that that was a poor suggestion to offer, for the following reasons:

"First, I do not believe that the District society could organize any sort of cooperative scheme without establishing a relatively low income limit for those who might be included among the beneficiaries of the scheme. It is my understanding that the so-called H. O. L. C. cooperative does not intend to establish any particular income limit, but that the higher paid officers among the employees of that corporation are to be included in the cooperative scheme. Certainly the District society could not afford to undertake any sort of plan under which persons enjoying relatively large incomes would be included. Secondly, if the Medical Society of the District of Columbia should attempt to organize and operate a cooperative movement, it would at once give endorsement to the principle of 'collective bargaining,' which, in my opinion, cannot be properly applied to medical service.

"Since I returned to the office this morning I have talked with Dr. Woodward and with Dr. Leland, both of whom expect to arrive in Washington on Wednesday morning in the hope that they may be able to be helpful in some way to the committee of the District medical society. Dr. Woodward seems to be inclined to believe that the cooperative movement now being promoted in Washington might be successfully opposed on the ground that when it goes into operation it will be a corporation engaging in the practice of medicine. As you know, court decisions in several states have specifically declared the practice of medicine by a corporation to be illegal.

"I was delighted to see you while I was in Washington and to have the privilege of meeting with the members of the group at dinner at the club. I am sorry indeed that I could not offer some suggestions that might be more helpful to your committee, but I hope that Drs. Woodward and Leland will be able to be of some assistance.

"With most cordial good wishes, I am

"Very truly yours,"

then Dr. West's signature.

(Next Dr. Woodward identified the memorandum sent by Dr. Verbruycke to Dr. McGovern and it was read to the jury.)

By Mr. Leahy:

Q.—Doctor, at the time of this letter on July 12, 1937 what information had you personally with reference to Group Health Association here in the District of Columbia? A.—It would be difficult for me to divide the information that I had with respect to Group Health Association according to any fixed date. I know only that I had accumulated various information, both from Verbruycke's first letter, from my conversation with Verbruycke, my efforts, partly personal and partly through Mr. Hayes, to get data concerning the Group Health Association, Inc. Whether I had before that time a copy of their articles of incorporation and a copy of what purported to be their by-laws at that time I cannot say. I cannot fix the date to say that on a certain date I had this information and on a later date I had something else.

Q.—Had you at the date of this letter been able to obtain a copy of the contract between H. O. L. C. and G. H. A.? A.—I had not.

Q.—What efforts, if any, had you made at about this time to obtain any information about G. H. A. other than what you told us on Wednesday morning when you went to Mr. Zimmerman's office? A.—From Atlantic City, the Atlantic City meeting of the American Medical Association, I sent a telegram under the authorization of Dr. Fenton of Portland, Ore., to Senator McNary, telling him of the interest of the medical profession of the entire country in the matter and soliciting his aid toward getting information concerning what was proposed. I helped prepare a similar telegram for Dr. E. H. Cary, to be sent to Representative Rayburn.

Q.—With what success? A.—Absolutely none.

Q.—Doctor, there was a question which I wished to ask you in connection with the conference which you had with Mr. Zimmerman and about which we talked on Wednesday last. Did you at any time in the conference with Mr. Zimmerman say anything about the Group Health Association "was going to be given a going over at the American Medical Association meeting?" A.—I used no language that is susceptible of that construction.

Q.—Did you in that meeting say to Mr. Zimmerman "He," meaning you, "predicted that it," meaning the Group Health Association—or that that would be the end of Group Health Association? A.—I did not.

Q.—Did you upon any occasion leave any word at Mr. Zimmerman's office? A.—I did.

Q.—When?

A.—It was on the occasion of my visit there on my way back to Chicago from the Atlantic City meeting. As Dr. Brown had not communicated with me in Atlantic City, and as I had not seen a copy of the contract there in Mr. Brown's possession, Dr. Brown's possession, as Mr. Zimmerman had promised me I should do, I called at Mr. Zimmerman's office to see again if I could see the contract. I was unable to see Mr. Zimmerman; he was reported to be in conference. I did see his secretary, and I left a message for him.

Q.—What was the message? A.—The message was that his entire setup was unlawful.

(Dr. Woodward identified a telegram sent to Dr. Verbrycke saying that he with Leland would come to Washington.)

By Mr. Leahy:

Q.—Doctor, I will now show you a carbon, apparently, of a letter which has been identified as Exhibit 194 for the prosecution, dated Nov. 5, 1937. A.—I wrote the original of that.

Q.—Do you know Dr. Wall? A.—Very well.

Q.—Joseph S. Wall. How long have you known him? A.—Forty years.

Mr. Leahy:—This is dated Nov. 5, 1937. It is directed to Dr. Joseph S. Wall, 1864 Wyoming Avenue:

U. S. EXHIBIT 194

"Dear Dr. Wall:

"I thank you for your letter of November 1, relative to Group Health Association of the District of Columbia. I understand that a committee from the Medical Society of the District of Columbia is to be in Chicago on Saturday, November 6, to confer with respect to the situation, and I am glad of it.

"I am referring—" oh, that section, that particular portion, was not admitted.

By Mr. Leahy:

By Mr. Leahy:

Q.—I will now show you, Doctor, Government's Exhibit 136. I will ask if you have ever seen those before, photostatic copy of which I show you now? A.—I have seen that photostatic copy.

Q.—And this purports to be a photostatic copy of the minutes of what particular meeting? A.—That apparently is a meeting of the Executive Committee of the A. M. A.—of the Board of Trustees of the A. M. A. or of the Board itself.

Q.—Those minutes were prepared by you, were they? A.—No, No; I have no personal knowledge of the preparation of the minutes.

Q.—And do they refer to the meeting at which the representatives of the District Medical Society were in attendance? A.—Yes.

Mr. Leahy:—Those minutes read:

U. S. EXHIBIT 136

"Group Health Association, Inc.: As has been previously explained, the federal Home Owners' Loan Corporation has granted \$20,000 a year for two years to the Group Health Association, Inc., to aid it in getting started and to help provide the expensive modern equipment which will be used in the clinic. Thus, the federal government has provided funds to finance a corporation that is to engage in the practice of medicine, in spite of the fact that corporation practice has been declared to be illegal in numerous court decisions, including decisions handed down by federal courts.

"Doctor West reported that a committee of the Medical Society of the District of Columbia had visited the headquarters office early in the month for the purpose of conferring with him, Dr. Woodward and Dr. Leland with respect to the Group Health Association, Inc.; that the committee brought what apparently amounted to a demand to the Association to devise further means and ways of opposing the continued operation of the Group Health Association, Inc., and that it was intimated that the American Medical Association had not concerned itself with anything but scientific matters, in spite of the fact that he and Dr. Woodward had conferred with the District Society in Washington on instruction from the Board; that a write-up had appeared in THE JOURNAL concerning the matter; that diligent efforts had been made to develop information concerning the Group Health Association, Inc., and to procure a copy of its contract, and in spite of the fact that the headquarters office, on instruction of the Board of Trustees, had done everything it could to combat the movement on the basis of the fact that it is contrary to the policies of the House of Delegates.

"In this connection, Dr. West presented a newspaper account of a meeting held at the Mayflower Hotel on October 30, 'to usher in the Group Health Association, Inc.,' which, it was stated, would open its clinic on the following day for members of the Federal Home Loan Bank Board and Affiliated Agencies. The newspaper contained a statement given out

by Dr. Richard C. Cabot, lauding group medical practice and criticizing the medical profession. This matter, he stated, was referred to the Judicial Council, which had requested him to contact Dr. Cabot to ascertain whether or not he was incorrectly quoted in the newspaper item. A letter has been written to Dr. Cabot but thus far no reply has been received.

"Dr. Cullen moved that Dr. West be requested to explain the whole matter of the activities of the Group Health Association, Inc., before the Conference of secretaries of constituent state medical associations and editors of state medical journals on Friday. Dr. Hayden seconded the motion and it was carried."

By Mr. Leahy:

Q.—Were you, Doctor, present at that meeting? Do you know? A.—To the best of my recollection I was not.

Q.—You were not present? A.—I believe I was not.

Q.—Do you recall how the copy of these minutes came to your attention? A.—I believe in the course of preparing the evidence to be submitted to the grand jury.

Q.—Then, you personally had no part whatsoever in that meeting, the minutes of which I have just brought to your attention? A.—To the best of my knowledge I did not.

Mr. Lewin:—Could I have the date of that meeting?

Mr. Leahy:—In pencil on the top it is marked.

Mr. Lewin:—November 18 to 19?

Mr. Leahy:—18 and 19.

Mr. Lewin:—That is right.

By Mr. Leahy:

Q.—I am going to show you now Government's Exhibit 195 and ask you if you have ever seen the original of which that purports to be a copy. A.—I wrote the original of that, Dec. 8, 1937.

Q.—Doctor, who is Dr. G. F. Simpson, president? A.—Dr. Simpson was the president of the Medical Society of the state of Virginia.

Q.—And what was the occasion of your writing to Dr. Simpson? A.—The Group Health Association, Inc. was not limited in its activities to the District of Columbia, but was a national organization prepared to do business anywhere in the United States. The State of Virginia was particularly interested because of the overrunning of the Association's—that is, the Group Health Association's physicians into the neighboring counties in Virginia. For that reason I called Dr. Simpson's attention to the matter and advised that he take action to do whatever might be proper to look after the welfare of the medical profession in his own state.

Mr. Leahy:—This letter is a carbon of an original dated Dec. 8, 1937, directed to Dr. G. F. Simpson, president, Medical Society of Virginia, Purcellville, Virginia:

U. S. EXHIBIT 195

"Dear Dr. Simpson:

"I do not know whether the Medical Society of the District of Columbia has or has not requested the cooperation of the Medical Society of Virginia in the contest with Group Health Association, Inc., in which the Medical Society of the District of Columbia is now engaged. If your attention has already been called to the situation, no harm will be done by this letter. If it has not, possibly you will see your way clear to take an active part in the contest. Certainly there is every reason why you should do so, not only from the standpoint of national interest, but from the standpoint of local interest, for Group Health Association, Inc., a private lay corporation subsidized by the Home Owners Loan Corporation or its affiliates, plans to furnish medical, hospital, and nursing service to all employees of the Home Owners Loan Corporation and its affiliates, and possibly to other employees of the Federal Government, and all 'dependents' of all such employees, who identify themselves with the Association, not only in the District of Columbia, but within ten miles of the District, and possibly even within twenty miles. Such an area will cover a very substantial space in the state of Virginia. The By-Laws of Group Health Association, Inc., provide:

"To be able to avail themselves of medical and surgical service, the members or dependents must be located in, or within 10 miles of the District of Columbia line, or must come to the city of Washington, D. C., except that the Medical Director may provide for house calls not exceeding 20 miles."

"I am sending you a few reprints of our article on Group Health Association, Inc., that you may find interesting, if you overlooked the article when it was published in THE JOURNAL, and which may be useful in any cooperative work you may undertake.

"I enclose also a clipping from the Evening Star (Washington, D. C.), Nov. 30, 1937, indicating the interest of Senator McCarran of Nevada in the matter. It has occurred to me that possibly you might enlist the interest of your two Virginia senators, Glass and Byrd, for certainly they are among the most able of all members of the Senate. Senator Byrd is interested too in government reorganization, and the maladministration indicated in connection with the activities of the Home Owners Loan Corporation in the present instance ought to arouse his interest. Senator Glass, as chairman of the Senate Committee on Appropriations, will probably be interested in the fact that the Home Owners Loan Corporation or some of its affiliates has 'granted' \$40,000 of public money to this private lay corporation, organized with the approval of the corporation and its affiliates, to enable Group Health Association to furnish medical, hospital, and nursing services, not only to employees of the Home Owners Loan Corporation and its affiliates, but to their dependents, and to employees of other branches of the Federal Government, at supposedly bargain prices.

The movement represents, it seems to me, a rank kind of unauthorized medical practice, and the fact that it is to extend into the state of Virginia should be of interest to you.

"No one in the House of Representatives has as yet manifested any active interest in this matter, and possibly your Representative Woodrum, a member of the House of Representatives Committee on Appropriations might be interested. There is, of course, no reason why other members of the Virginia delegation should not be appealed to, but Representative Woodrum is in a better strategic position to inquire into the situation, without the formality of a congressional investigation, when the Committee on Appropriations of which he is a member, is called on to consider the grant by the Home Owners Loan Corporation or its affiliates.

"According to the Washington Post, December 4, an H. O. L. C. official undertook to justify the grant of \$40,000 of the taxpayers' money to this private corporation as follows:

"Our board of directors decided that it was legal to make a two year \$40,000 investment in the health of our employees. We have no intention of continuing the subsidy, as the G. H. A. is expected to become self-supporting. We look on this investment as similar to departmental installation of air conditioning—and there's no objection to that!"

"Of course, any such attempt at justification is ridiculous.

"In the first place, there is no evidence that the investment made by the H. O. L. C. in air conditioning was not illegal. If the investment was made with funds that were not appropriated for that purpose, it clearly was illegal. More particularly, however, if the investment was made in air conditioning the homes of employees of the H. O. L. C. and its affiliates, the operation was clearly illegal, and the present activities of the H. O. L. C. and its affiliates extend into the homes of employees within the District of Columbia and within an area of from 10 to 20 miles from the boundaries of the District, for the proposal is to furnish medical, hospital and nursing service not only to employees of the government, but also to their 'dependents.'

"The attempt at justification is moreover silly, in that the present grant was made without competitive bidding and although intended, allegedly, to provide medical, hospital, and nursing services, it was made to a lay body having no special knowledge of any of such services and possessing at the time of the grant no such services to sell. So far as I am informed, it has given no bond for the faithful performance of its duties under its contract or agreement, and of course, since the \$40,000 is to be a grant, and not a loan, it has given no security for the return of the money.

"All of these matters should actively interest your senators and representatives, and you might even interest them in the competition with independent medical practices in the state of Virginia that will be set up by this federal subsidy of a lay organization to buy and sell medical services for patients in the state.

"Incidentally, I should have mentioned, above the fact that Senator King of Utah had announced his interest in the granting of the taxpayers' money to this private lay corporation for furnishing professional services at bargain prices to government employees and their dependents.

"Yours truly,"

Q.—Now, Doctor, in this letter of December 8 to Dr. C. F. Simpson, president of the Virginia State Society, you mentioned an article which appeared in THE JOURNAL of Oct. 2, 1937. Does that refer to the article which you wrote, Doctor?

A.—The article to which it refers was based on my report to the board of trustees of the American Medical Association. It was, however, substantially edited before publication. In other words, the article that was published on October 2 is not my report in toto.

Q.—Is it substantially your report but representing what you have just described as the substantial editing thereof? A.—It is.

Q.—I now ask you to look at the exhibit which is before you. I think it is numbered 189 for the Government; and I will ask you to tell us what that exhibit is. A.—It constitutes the text of my letter of transmittal or my memorandum of transmittal to the board of trustees, to which is appended a memorandum for Dr. West and Dr. Fishbein relative to the possible publication of the report, and a carbon copy of what appears to be the report itself. I could not say whether it was or was not the report as submitted without comparing it with the original or without a carbon copy that has been in my own care all the time. It does not bear the imprint of the editing that I would have expected in the original copy.

Q.—Doctor, over what period of time had you been working upon this report to the board of trustees? A.—It was submitted, as I recall, under date of Sept. 1, 1937, and I had been working on it substantially ever since I had received Dr. Verbyck's letter of May 29, 1937, but more particularly since the resolution of the Board of Trustees instructing Dr. West and Dr. Fishbein to acquaint the medical profession of the country with the facts concerning the situation.

Q.—Do you recall for us now the date when Dr. West and Dr. Fishbein were authorized to acquaint the profession of the country with the facts concerning the G. H. A.? A.—I do not recall the date.

Q.—Do you recall the month? A.—I believe it was at the June meeting of the Board of Trustees.

Q.—Can you tell us what care you put into the preparation of the report? A.—I should say I put into it the utmost care possible. I did not know just to what extent Dr. West and Dr. Fishbein might use it. They might use it as I had written it, or they might desire to base their own article on it. But in

writing the report I made certain, beyond all possibility of doubt, that everything stated therein was not only correct, but that everything that was susceptible of being verified by reference to documentary evidence of any kind had a proper notation so that anyone interested might resort to the primary source of information. Those notations appear in the draft of the report.

(There was then read to the Jury again the complete article as published in THE JOURNAL, Oct. 2, 1937, also in these proceedings on March 8, 1941, page 984 as U. S. Exhibits 189 and 294.)

Q.—What is that exhibit which you have before you, Doctor?

A.—That seems to be the original, with various marks on it.

Q.—Is that the original of the report as you wrote it? A.—It is.

Q.—Does that contain, Doctor, the notations or references to the supporting proof or the bases upon which your report was made? A.—It does. It contains notations in the margin and changes in pencil and otherwise that were not made in the Bureau of Legal Medicine and Legislation.

Q.—I am now going to show you, Doctor, what has been offered in evidence also in THE JOURNAL for Oct. 2, 1937, Government Exhibit 293. It is the article which you state was substantially edited and appeared therein? A.—Yes. This (indicating) is the article.

Q.—Have you ever compared Exhibit 294 with Exhibit 293? A.—I have.

Q.—Does 294 indicate those parts of the report as you wrote it, which were, as you say, substantially edited? A.—No. There is nothing there that indicates all of the editorial changes that were made. Some of the marks would suggest to me that some of the changes were noted on the manuscript. The place I note where there is a substantial change does not appear on the manuscript and wherein the article as published differed from the original manuscript.

By a series of questions and answers Dr. Woodward then indicated the original documents which supported statements made in the article. On the incorporation material he said:

It was based primarily on the articles of incorporation, but the reference to the contract was to the contract between H. O. L. C. and G. H. A., Inc., which we had tried in vain to get a copy of or to see.

Q.—What had you personally done to try to get that contract or a copy of it? A.—I had paid two visits to the headquarters of H. O. L. C. I had sent a telegram on behalf of Dr. Fenton to Senator McNary; I had helped Dr. Cary to prepare a telegram for Representative Rayburn; I had learned through Mr. Hendricks, secretary of the Indiana State Medical Association, that efforts had been made by him through a Representative in Congress or Representatives in Congress to obtain a copy of it, and, generally, I had turned to any source that I thought might yield up information on the subject, but I had failed to get the slightest information concerning it.

Referring to the nineteen page prospectus, he said:

"That was a memorandum that I believe has been offered in evidence, that I obtained, as nearly as I can recall, from Dr. Verbyck at the time he made his visit, or about that time."

On the Code of the District of Columbia he quoted directly from the Code of the District of Columbia, 1929, Title 5, Chapter 7, Section 179.

When the report mentioned the relationships between various organizations, Mr. Leahy asked:

Doctor, let me ask you in connection with so much of the article as I have read, to whom were you referring in that article where it says:

"One prominent officer of the Federal Home Loan Bank Board, of the Home Owners' Loan Corporation and of the Federal Savings and Loan Insurance Corporation, who is a member of Group Health Association and has given it his particular blessing, is listed also as one of the trustees of the Twentieth Century Fund, Inc., of which Edward A. Filene of Boston is listed as president and trustee?"

A.—John H. Fahey.

Q.—What positions did he hold? A.—He was president of the Twentieth Century Fund, or its board of trustees, and was the chairman of the board of governors of the Home Owners' Loan Corporation.

Q.—And where you stated that:

"... according to newspaper reports the Federal Home Loan Bank Board has guaranteed an advance up to \$100,000 to get the association under way."

to what newspaper reports did you refer in your report to the board of trustees? A.—There were several newspapers pub-

lished that; I think the original article probably carries a citation, I am not sure.

Q.—Now, Doctor, did you find any reference in your original article there to any newspaper you had as authority for the statement in the article? A.—I did, on page 17 of the manuscript. It reads:

"And according to newspaper reports the Federal Home Loan Bank Board has guaranteed an advance up to \$100,000 to get the association under way."

And Washington *Herald*, Aug. 25, 1937.

Q.—Now, in this report where you mention "Dues and Assessments," the amount sufficient, and where you have discussed the check-off on Government payroll, what was the source or basis of your information when you made your report? A.—What purported to be the by-laws of the association.

Q.—Will you kindly state now what the basis for these statements which appear in your report was? A.—The first statement, "the assignment of any claim against the United States that has not yet been earned is forbidden by statute, and even after a claim has matured it can be legally assigned, if it can be assigned at all, only by conforming with the conditions laid down by statute," is based on United States Code 1934 Ed., Title 31, Section 203, and "the provisions of this statute have been held to apply to government salaries" is based on three decisions of the Comptroller of the Treasury, 22d Ops. Attorney General, 637; also *Billings v. O'Brien*, 45 Howard Practice (N. Y.) 392; *Bliss v. Lawrence*, 58 N. Y. 442.

The reference to assignments of salaries by employees of the Department of Agriculture and of the Department of Commerce is based on U. S. Code 1934 Ed., Title 5, Chapter 9, Section 529; and of the Department of Commerce is U. S. Code 1934 Ed., Title 5, Chapter 10, Section 595.

By Mr. Leahy:

Q.—Doctor, would you kindly indicate for us on what basis you made the report as to the number, either actual or potential, of the members of Group Health Association, as reported by you in that portion of your report which I have just read? A.—In the original report I wrote:

"The potential membership of the association, however, even as thus geographically restricted, will be considerably more than 115,912."

The authority for that statement was the *Congressional Record* of July 27, 1937, page 9,939. I say elsewhere:

"The original certificate filed by Group Health Association in the office of the Recorder of Deeds of the District of Columbia makes eligible for membership all 'employees of any branch of the United States Government Service other than officers and enlisted men of the United States Army and Navy.' It makes no discrimination on account of race or color. Such employee number 840,159 and are scattered throughout the entire civilized world."

As authority for that I quote the *Congressional Record* of July 27, 1937, page 9,939.

By Mr. Leahy:

Q.—Doctor, with reference to those eleven categories or classes of treatment which Group Health Association will not provide for its members, on what did you base that report? A.—Based on the by-laws of the Association, article 10, section 2; article 10, section 3; article 10, section 5.

Q.—Now, Doctor, to what did you refer when you stated:

"The effect of the withdrawal from private practice of even one-half that number,"

which refers back to the figures 347,736 persons.

"all of whom are able to pay for medical services, will materially disturb medical practice in the District of Columbia and react against public interest."

A.—Under the setup of Group Health Association, Incorporated, the cost of medical services to the members of the organization was to be paid in large part by the United States Government. If G. H. A. expanded its activities to a point where it took over a substantial part of the people of the District of Columbia—rich and poor alike—the United States Government subsidizing its services—it is quite obvious that the various doctors in the District of Columbia, with their plants, with their experience, and everything else, would not be able to compete on a fair, honest basis; and that is when medical practice would be broken down by the subsidized practice, tending to destroy the medical profession.

Q.—What did you mean when you said that it would react against the public interest? A.—Anything that destroys the medical profession anywhere reacts against the public interest.

Q.—Now, Doctor, what was your authority for stating the population of the District at that time, as entered in your report or in your notation there? A.—I wrote "the population of the District was 486,869 in 1930," citing as my authority the Chicago Daily News Almanac, 1937, page 130.

Q.—I think you told us the source of your authority for the number of civilian employees of the United States Government here? A.—I believe I quoted the *Congressional Record* on that.

Q.—Yes, that was the *Congressional Record*. Now, Doctor, to what did you refer when you stated in your conclusion:

"Physicians who sell their services to an organization like Group Health Association for resale to patients are certain to lose professional status."

A.—A physician's primary duty is always to his patient, except in times of active military service when a man might owe a greater duty to the service of his country; and when a physician makes a contract with a corporation in which he agrees to serve it, take his orders and instructions from it, or being always subject to the possibility of having to take orders and instructions from it regardless of the welfare of the patient, he has lost professional caste and he is not serving his patients to the patients' best interests; that is, he may not be.

Q.—Now, Doctor, again, on what did you base your statement in the conclusion that:

"Fees that are charged for medical services to the richer and more liberally paid employees are to be identical with those charged employees of the lowest grade, doing part-time work."

A.—There is no provision in what were purported to be the by-laws of the Association, and which were the by-laws of the Association at that time, making any distinction in grading the dues to be paid by the members in any way in relation to their salaries. Even in the prospectus introduced in evidence, it is pointed out that it might be done so that the poorer, the more poorly paid employees would be paying a sum in proportion to their ability to pay—they actually would be paying more—but there was nothing of that kind subsequently done. As I say, the lowest paid employee of H. O. L. C. was to pay exactly as much for the services received and the right to receive those services as was to be paid by the highest paid officer in the whole H. O. L. C.

Q.—Doctor, in the preparation of this report, with whom did you collaborate, if any one? A.—Well, I conferred with many; referred to many sources for information. I have in mind when you speak of collaboration one set of figures that might call for some statement, and that is as to the area to be covered in the activities of G. H. A. While the determination of that area was in rough limits stated and was more or less a matter of mathematical computation, I did confer with one of my assistants who had some engineering experience.

Q.—With reference to your analysis of the by-laws, with whom did you consult? A.—No serious consultation that I can recall. I examined them from time to time and studied them myself; they are clear.

Q.—Did you have any correspondence: did you have any authorization for it before you made this report, other than the one which you mentioned to us? A.—Only the general authorization that I had as director of the Bureau of Legal Medicine and Legislation to obtain and collate information at various times, and I made the report under those conditions to the Board of Trustees because they had ordered the General Manager, the Secretary and General Manager, to give the public information concerning the subject. I thought it might be well to make a report giving them the information I had been able to get.

Q.—Did you in any way consult with or discuss, or correspond with any of the other defendants in this case other than Dr. West or Dr. Fishbein with respect to the authorization you just mentioned? A.—Not in respect to the authorization, no.

Q.—Did you at any time consult with anybody in the District Medical Society while preparing this report? A.—Yes, I was back and forth between Chicago and Washington and talked with various members connected with the Association.

Q.—And what connection did those talks have with reference to your preparation of that report? A.—The only connection was in according the information to me I might use in the preparation of this report. I don't know of any one in the District of Columbia who had any direct knowledge that I was preparing such a report, but I was assembling information. I got some information from them and I used it in the report as I might have used it in other ways.

MARCH 17—AFTER RECESS

TESTIMONY OF DR. WILLIAM CREIGHTON WOODWARD

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, I think you told us this morning, or possibly it was on Wednesday, that you attended a meeting of the District Medical Society some time in November 1937. A.—Yes, sir.

Q.—There has been offered in evidence here the minutes of a meeting of the District Medical Society dated Nov. 11, 1937. Did you ever see these minutes before, Doctor? A.—I have glanced at them. I have never read them over or never examined them. I understood there were such minutes, but that's all.

Q.—Did you at the time that you spoke at the meeting of the District Medical Society speak from any prepared speech, or was it extemporaneous? A.—It was an extemporaneous speech.

Q.—Now, when you got to the Medical Society do you recall how it was that you made any statement which you did make? A.—Well, I was asked to speak, and I spoke.

Q.—Now, do you recall, first, how it was that you came to speak? A.—Well, motion was made by Dr. F. R. Hagner, duly seconded and adopted, that Dr. W. C. Woodward be heard at this time.

Q.—Now, in the minutes reported as having been stated by you it says, "Dr. Woodward, in addressing the Society, said he felt very much at home in this Society, although he noted a lot of new faces. He said that Drs. Hooe and McGovern had stated the situation very clearly in so far as it relates to the American Medical Association. He stated the problem is not a local problem." To what did you refer there, Doctor? A.—I referred to the fact that Group Health Association, Inc., had national backing and had taken out a charter not limiting it in its operations to the District of Columbia but enabling it to operate anywhere in the United States so far as the laws of the several states permitted foreign corporations to do business within their respective confines.

Q.—Do you recall that there was offered in evidence an exhibit by the Government which purported to be a report of the conference of November 6 in Chicago between you and the representatives of the District Medical Society? A.—Yes, to the best of my recollection, that such an exhibit was offered.

Q.—But at this particular time, Doctor, do you recall or have you had an opportunity now to read over to tell whether or not those minutes record verbatim what you said? A.—Obviously not, no. They refer to me in the third person: "He stated, for instance, that we all recognize." "He felt."

Q.—Will you see, more particularly with reference to the last two paragraphs, whether that reports in substance about what you said? A.—That's the summary of what I said, my conclusions after making the general statement.

Mr. Leahy.—The conclusions were:

"Dr. Woodward continuing stated that the Society has before it what is clearly a legal problem. A group of men such as the Society not familiar with methods of law is hardly in a position to handle the problem itself. He was of the opinion that it would wear them out. He felt that the Society must have competent counsel that will guide the matter for it, counsel in which the Society has confidence, in order that the members may go about their practice confident that their interests are being taken care of. He said Mr. Fenning could advise the Society with respect to counsel. He felt it was important that the best legal counsel be obtained. He added that the American Medical Association would cooperate in every way.

"In conclusion Dr. Woodward said that the plan outlined of laying the evidence before the corporation counsel and district attorney, showing them it is their duty to act, to counsel them to act, and if they will not act, appeal to Congress is the only course. My own judgment is that with the law as clear as it is you will have no difficulty in having proceedings instituted for the unlawful practice of medicine by a corporation and engaged in the business of insurance without having properly qualified."

By Mr. Leahy:

Q.—Doctor, do you recall whether at any other time in the course of that meeting you again gave advice to the Society along that same line? A.—I think that was about the last thing I said, but I made some comments before the meeting adjourned.

Q.—Am I now pointing to that particular portion which apparently records what was stated at that time? A.—That is what I said near the close of the meeting.

Mr. Leahy:

"Dr. W. C. Woodward was called on. He pointed out that the Society voted to employ counsel to look after the interests of the Society. He advised strongly that no further steps be taken until the Society has the advice of counsel. He felt sure Mr. Fenning would agree with him when he expressed the opinion that it is not desirable to try a case in the newspapers. He said the Society should be guided by the wishes of counsel, even if the resolutions are delayed."

By Mr. Leahy:

Q.—Who was Mr. Fenning, Doctor? A.—Mr. Fenning was the counsel for the Medical Society of the District of Columbia and had been acting in that capacity for a number of years on what was, you might say, a purely nominal retainer. It was obvious that added counsel would be needed if they were going to handle a matter of this kind.

Q.—Doctor, with respect to the various exhibits which have been offered in evidence from the District Medical Society, more particularly the minutes of the meetings which were held, what connections, if any did you have with any other meeting of the District Medical Society than the ones whose minutes I have just called to your attention? A.—None that I can now recall.

Q.—And with reference to the matters and things contained in those minutes which were read, having been offered in evidence, what knowledge had you, up to the time of their being read to this jury, about the contents of those minutes? A.—None.

Q.—With reference to letters which were read as having either been written by or received by Dr. Cutter and Dr. West and Dr. Leland, what knowledge had you of those letters, other than the ones which have been brought to your attention, up to the time that they were read to the jury in this case? A.—None that I now recall. I had practically no knowledge of any correspondence in which Dr. Cutter was engaged except the Ireland letter that has been offered in as an exhibit.

Q.—For instance, what connection had your Bureau with the Bureau of which Dr. Cutter was the head? A.—Very little. We were on one floor of the building; he was on the other. We were engaged in one field of activity; he in another; and it was the first time we were called on to suggest or advise with respect to any course of action to be taken by the Council.

Q.—What consultation with or conferences have you had with Dr. Cutter about G. H. A.? A.—None.

Q.—Other than the meeting which you mentioned this morning, when you stated that the Board of Trustees authorized the Editor and the General Business Manager of the A. M. A. to acquaint the profession with the facts with regard to G. H. A., what consultations or conferences had you either with Dr. West or Dr. Fishbein? A.—I was frequently in conference with Dr. West. He was the responsible officer of the Association generally. At times in those conferences the matter of G. H. A. would come up, undoubtedly; although at the present moment I could not state any particular conference in which the matter was discussed. With respect to Dr. Fishbein, who was operating *THE JOURNAL*, conferences were very much less frequent, and I recall no particular conference with him except in relation to the publication of the article that has been referred to.

Q.—What connection has your Bureau or did your Bureau have during this period of time we have been discussing with the Bureau of which Dr. Leland is the head? A.—Dr. Leland's Bureau was located on the same floor as my own, and we naturally drifted more or less frequently in, each into the other's offices. We did not ordinarily have formal conferences, and except on the occasion of my visits to Washington with Dr. Leland, I know of no specific action that was taken as the result of a joint agreement between us. He might come in and ask a question, show me a letter, go back; I might do the same thing, with respect not only to Group Health Association but with respect to many other matters, matters relating to the practice of medicine, and things of that sort.

Q.—Do you recall ever having heard any letters—heard before about any letters which were written by or received by Dr. Leland or members of his Bureau, which were read to this jury, prior to their reading? A.—No.

Q.—Do you recall having heard about any of the letters which were written by any of the defendants in this case, other than the American Medical Association officers, before they were read to the jury in this case? A.—And those that came from the Medical Society of the District and its officers?

Q.—Yes. A.—I saw those, of course. But the other letters were new to me at the time of their being offered in evidence.

Q.—Doctor, at any time, in connection with anything which you did with relation to the writing of the article, your report to the Trustees, did you conspire with any one for the purpose of restraining trade in the District of Columbia? A.—To the best of my knowledge I did not.

Q.—Or did you conspire with anybody for the purpose of restraining Group Health Association, Inc., in its business of arranging for the provision of medical care and hospitalization to its members and their dependents on a risk-sharing prepayment basis? A.—So far as any act that I participated in relates

to that, I will say that my efforts were confined rather to restricting Group Health Association, Inc., to the confines of the law, through the District Attorney and Corporation Counsel.

Q.—Did you personally visit the District Attorney? A.—No.

Q.—Did you personally visit the Corporation Counsel? A.—No.

Q.—Did you ever at any time conspire together for the purpose of restraining the members of Group Health Association, Inc., in obtaining by cooperative efforts adequate medical care for themselves and their dependents from doctors engaged in group medical practice on a risk-sharing prepayment basis? A.—The answer is the same as before, that I did not conspire in any way to prevent them from obtaining such service by any lawful methods.

Q.—Did you at any time ever talk to anybody connected with G. H. A.? A.—Only at the time of my visit there about June 5.

Q.—And that was with whom? A.—Well, it ended up with Mr. Zimmerman. Before I had seen Mr. Penniman I had seen three or four other persons, having been passed around from one to the other before I reached Mr. Zimmerman.

Q.—What attempts had you ever made with respect to any of the doctors on the staff of Group Health Association, either to prevent them from becoming members or from remaining members of the staff? A.—None whatever.

Q.—Did you at any time, in anything you did, Doctor, attempt to prevent any member from joining Group Health Association or from remaining a member of Group Health Association? A.—I did not.

Q.—Did you ever conspire together with any one for the purpose of restraining the doctors serving on the medical staff of Group Health Association, Inc., in the pursuit of their callings? A.—Never.

Q.—Did you ever conspire with anybody for the purpose of restraining doctors (not on the medical staff of Group Health Association, Inc.) practicing in the District of Columbia, including the doctors so practicing who are made defendants herein, in the pursuit of their callings? A.—No.

Q.—Did you ever conspire with anybody for the purpose of restraining Washington hospitals in the business of operating such hospitals? A.—I never did.

Q.—What knowledge if any did you have with reference to any activity which has been testified to in this case with relation to hospitals, by anybody? A.—I may have heard the matter discussed at the Nov. 11 meeting, 1937, if it was discussed there, and possibly at the conference, but the subject of action looking toward restraining the hospital; never came to my individual attention.

Q.—When is the first time you ever heard anything in connection with restraining Washington hospitals in this case? A.—It may have come up at that November meeting. I am not sure about that.

(In response to detailed inquiries Dr. Woodward disclaimed any relationship to discussions or actions of the District Medical Society at its meeting of Nov. 3, 1937.)

By Mr. Leahy:

Q.—Doctor, just one question I omitted to ask you this morning with reference to the report which you made to your Board of Trustees, and that was in connection with that statement made therein wherein you stated that there was someone who was a high official in the H. O. L. C. or Home Owners Loan Corporation who was interested in the Twentieth Century Fund of Edward A. Filene. Do you remember that, which you mentioned in your report? A.—Yes.

Q.—On what information was that statement made in the report in connection with the Twentieth Century Fund and Edward A. Filene? A.—The first reference to the Twentieth Century Fund that came to my notice was, I believe, in Dr. Verbyck's letter, where it was rumored that the Twentieth Century Fund was behind the whole movement.

Q.—Now, did you, in that connection, before you made your report to the Board, make an investigation of that subject? A.—I examined the annual reports or some of the annual reports of the Twentieth Century Fund.

Q.—And what did they disclose to you? A.—They disclosed that for a year or a year and a half, possibly longer, before Group Health Association had incorporated the Twentieth Century Fund had been actively at work on the Home Owners Loan Corporation to induce the Home Owners Loan Corporation to take up some group health scheme.

Q.—And was there any financial obligation or contribution reflected?

Mr. Leavin:—Wait a minute.

The Witness:—I don't recall anything of the kind in those reports that I had in my possession at that time.

By Mr. Leahy:

Q.—Well, is that the basis on which you made that statement in your report? A.—It is.

Q.—Doctor, there is one other matter which I understand has been offered in evidence and which I apparently overlooked. Minutes of a meeting dated April 6, 1938 (indicating) of the District Medical Society.

Minutes of the business meeting of the Medical Society of the District of Columbia held April 6, 1938 at 8 p. m. I shall now turn on to page 10 and page 11, more particularly page 11, and I shall ask if you will just glance your eye down hurriedly over that page, Doctor, and see if that refreshes your recollection. A.—Yes. This apparently represents my presence at a meeting that I had entirely overlooked, on the date you named.

Q.—Now, having read that over, Doctor, do you recall the occasion on which you were present at that date? A.—From references there in the minutes, my presence was probably occasioned by efforts that were being made to have a congressional investigation of the American Medical Association. I had been in Washington once and probably oftener in connection with the matter and had conferred with the author of that resolution, the resolution proposing an investigation, and certain other members of Congress with respect to the matter.

Q.—And having glanced over what was reported or recorded as having been said by you there, does that in substance state what you told the—? A.—It does.

Mr. Leahy:

"Dr. Woodward said that there was very little that he could add to what Dr. McGovern had said. He briefly outlined the activities of Group Health Association, stating that it was organized to serve persons of unlimited means—from the highest paid officials to the charwoman, willing to keep up payments. It has been stated that Group Health Association was formed to relieve undue amount of expense on account of sickness on the part of employees of the Home Owners Loan Corporation. This had not been proven to be necessary. It was brought out that the Group Health Association was incorporated, not to serve those employed in the District of Columbia, but to provide medical service to every officer and employee of the United States Government except officers of the Army and Navy. He cited his experience with his investigation of Group Health Association, his visit to the offices of the Home Loan Bank Board, and his attempts to see a copy of the original contract.

"Dr. Woodward added that Group Health Association is an illegal setup tonight. He was inclined to believe that it would not welcome a public investigation by Congress. The matter of \$40,000 would be inquired into. Already there are signs of weakening on the part of Group Health Association. Since the statement by Congressman Shafter that Group Health Association would be investigated, there has been very little in the press concerning the matter. He had information to the effect that Group Health Association had addressed letters to several Congressmen, asking for interviews. It seems that the Association is intent on gaining the good will of members of Congress in order that it will escape a public investigation. Dr. Woodward was of the opinion that if there was an investigation it would cover Group Health Association as well as the Medical Society of the District of Columbia and possibly the American Medical Association. He did not feel that the local Society had anything to fear. He was sure the American Medical Association had nothing to fear. He doubted that any investigation would ever be held. The expense alone is apt to discourage the committee on rules."

Q.—Was any investigation ever held, Doctor? A.—No.

Q.—Either of Group Health or the American Medical Association? A.—None.

CROSS EXAMINATION

By Mr. Kelleher:

Q.—Dr. Woodward, in connection with your activities with reference to G. H. A. you were engaged first in making proposals seeking to forestall the growth of G. H. A.? A.—No.

Q.—Let me show you Exhibit 293, a photostatic copy, and ask you if that isn't your letter. A.—It seems to be.

Q.—And in that letter don't you say that you have no further proposals at present looking toward forestalling the growth of Group Health Association? A.—I do.

Q.—Dr. Woodward, as I understand your testimony on direct examination, it is that you first became interested in Group Health Association after you received the letter from Dr. Verbyck on May 29, 1937; is that correct? A.—The letter was dated May 29.

Q.—Received a few days afterward? A.—Yes, that is correct, with that modification.

Q.—And then you conferred with Dr. West? A.—Yes.

Q.—And came to Washington? A.—Yes.

Q.—And in the course of your visits here in Washington you finally arrived at Mr. Zimmerman's office, did you not? A.—Finally, yes.

Q.—You had no difficulty seeing Mr. Zimmerman the first time? A.—Oh, yes; great difficulty.

Q.—You did see him? A.—In the end, yes.

Q.—And you talked with him? A.—Yes.

Q.—And do you recall that—?

Mr. Lewin (sotto voce): Did he have an appointment with him?

By Mr. Kelleher:

*Q.—*You recall, do you not, that at that conference you asked him whether the Public Health Service was not supposed to supply medical service to government employees? *A.—*I may have asked that question of Mr. Zimmerman. I did ask it of the messenger boy who took me to Mr. Zimmerman's office, who gave me the first information that I had concerning the existence of a contract between H. O. L. C. and G. H. A. for the supervision of the emergency rooms of H. O. L. C. and for the examination of applicants for treatment. I may have repeated the question when I got to Mr. Zimmerman's office, but I don't know.

*Q.—*Well, didn't you tell Mr. Zimmerman that it was your understanding that the Public Health Service was to take care of government employees? *A.—*I told the young man that.

*Q.—*You think he told Mr. Zimmerman? *A.—*I don't recall having done so. I may have done so.

*Q.—*Do you think you told Mr. Zimmerman that if the Government could make loans to H. O. L. C. or to G. H. A. there was no reason why loans couldn't be made to other groups throughout the country? *A.—*I am quite sure that I did.

*Q.—*Now, you didn't have any appointment to see Mr. Zimmerman when you saw him the first time, did you? *A.—*I had never heard of him before.

*Q.—*Never heard of him before. Now, after you talked with Mr. Zimmerman you went to Atlantic City, did you not? *A.—*I did.

*Q.—*And you left this matter to the Board of Trustees at Atlantic City? *A.—*I did.

*Q.—*And did you report the substance of your conversation with Mr. Zimmerman to the board? *A.—*I did.

*Q.—*Now, did you attempt to locate Dr. Brown at Atlantic City? *A.—*No. I didn't know Dr. Brown except as Dr. Brown.

*Q.—*Yes? You didn't see him at that time? *A.—*There were a great many Doctors Brown there.

*Q.—*And you didn't see him at Atlantic City? *A.—*No.

*Q.—*Did you look for him on the register? *A.—*No.

*Q.—*Now, when you came back to Washington did you have an appointment to see Mr. Zimmerman the second time? *A.—*No.

*Q.—*As a matter of fact, you left a message, did you not, telling him that his entire set-up was unlawful? *A.—*I did.

*Q.—*You never heard from him again then? *A.—*Never.

*Q.—*Now, when you went back to Chicago was the next matter concerning G. H. A. that came to your attention the letter from Dr. Herbst to Dr. West? *A.—*Possibly. The dates of the letter will show that.

*Q.—*Yes. *A.—*I have no recollection of the chronology of the whole affair.

*Q.—*And Exhibit 106 shows that that letter was dated June 25, 1937. *A.—*I probably saw it.

*Q.—*You testified that you saw that letter, did you not? *A.—*Yes. I could say better if I saw the exhibit.

*Q.—*You testified that you contacted Dr. Herbst about this letter, did you not? *A.—*Yes.

*Q.—*Did you not contact Dr. Verbyrcke about it? *A.—*I saw him later; yes.

*Q.—*Did you not telephone him? *A.—*I don't recall having done so.

*Q.—*Do you not recall—. *A.—*If I was in Washington I probably telephoned for an appointment.

*Q.—*Were you in Washington between June 25 and June 28? *A.—*That I do not know. I have no record of my numerous visits here. I would come and go without keeping records of the visits.

*Q.—*Were you in Washington between the time you came back from Atlantic City to Washington and the time you came to Washington on July 14? *A.—*I am quite sure I was, at least once.

*Q.—*Do you not recall that you called Dr. Verbyrcke on June 28 concerning the statement in Dr. Herbst's letter that the District Medical Society was going to go along with G. H. A. if it could do so and save its face? *A.—*No; I have no recollection of any such message.

*Q.—*I have a photostatic copy of Exhibit 177 which purports to be a memorandum which has been identified as a memorandum of a conversation which you had over the telephone with Dr. Verbyrcke on June 28. (handing a document to the witness). *A.—*If that conversation was over the telephone I do not recall it.

*Q.—*Will you look at this a moment and tell us now whether it does not reflect the true facts? *A.—*Oh, yes; it reflects the true facts.

*Q.—*Does it not say that about 4 o'clock on June 28 "I talked with Dr. J. Russell Verbyrcke in Washington"? *A.—*Yes.

*Q.—*Does not that indicate it was a telephone conversation? *A.—*Not at all.

*Q.—*It does not? Would you say it was not a telephone conversation? *A.—*I would say I have no recollection of its having been a telephone conversation. It may have been, but I do not believe it was.

*Q.—*Let me show you a photostatic copy of another memorandum written by you. Will you examine it and identify it as your memorandum?

*Mr. Leahy:—*What is the number of it?

*Mr. Kelleher:—*It is not in evidence yet, Mr. Leahy.

*A.—*That seems to be a memorandum that we made.

*Mr. Kelleher:—*I offer this in evidence (handing the same to Mr. Leahy).

*Mr. Leahy:—*No special objection, if your Honor please.

*THE COURT:—*It will be admitted.

Mr. Kelleher:

U. S. EXHIBIT 657

"No official communication was received from any officer of the Medical Society of the District of Columbia concerning the developments there represented by this report. The fact that representatives of the Society had been in conference with representatives of the Group Health Association, Inc. and a summary of results came to the notice of the American Medical Association first through its mention incidentally in a letter from Dr. W. P. Herbst to Dr. West, concerning the entire matter. On the basis of that letter Dr. Woodward telephoned to Dr. Verbyrcke concerning the situation and as a result received the accompanying report and the promise of a copy of the minutes of the conference."

By Mr. Kelleher:

*Q.—*Does that now refresh your recollection as to whether or not you telephoned Dr. Verbyrcke concerning the letter? *A.—*I assume I did or I would not have written the memorandum.

*Q.—*When you talked with Dr. Verbyrcke do you recall that you referred to the statement in the Herbst letter that the District Medical Society intended to go along with G. H. A. if it could do so and save its face? *A.—*I may have done so. I cannot claim any accurate recollection of the telephone conversation on June 29, or thereabouts, in 1937.

*Q.—*Referring to Exhibit 177, see if this correctly states the facts:

"About 4 o'clock p. m., June 28 I talked to Dr. J. Russell Verbyrcke Jr., Washington, D. C., relative to certain statements in the letter just received by Dr. West from Dr. William P. Herbst relative to Group Health organized under the auspices of H. O. L. C."

*A.—*That memorandum is correct. I will stand by that.

Q. (Continuing reading):—

"I referred particularly to Dr. Herbst's statement that the representatives of the Medical Society of the District of Columbia who met with representatives of the Association plan to go along with the Association if they could do so and save their faces."

Is that statement correct? *A.—*If it is in there, it is correct; and I assume you read it from that memorandum.

*Q.—*Did you not then suggest to Dr. Verbyrcke that you did not see how the Society could go along with G. H. A. without violating the principles of medical ethics of the American Medical Association? *A.—*I believe I did.

*Q.—*And did not Dr. Verbyrcke tell you that Mr. Penniman had stated that they had the same right to look after their employees as any private corporation had? *A.—*I believe he did.

*Q.—*And did you not tell Dr. Verbyrcke that in your opinion you thought the representatives of H. O. L. C. had done some tall bluffing? *A.—*I did.

*Q.—*Do you recall that Dr. Verbyrcke stated that he did not believe that to be the case, because Mr. Penniman was not the type who would do that? *A.—*I don't believe those are Dr. Verbyrcke's words.

*Q.—*Is that the substance of it? *A.—*Not exactly.

*Q.—*What, exactly, did he say? *A.—*Dr. Verbyrcke wrote that he felt confident that that would not be the case—the matter of bluffing—because Mr. Penniman was a high official in the H. O. L. C. and a smart man.

*Q.—*Do you recall Dr. Verbyrcke saying that? *A.—*Yes.

*Q.—*Do you also recall that you said that would be the type that would do the bluffing? *A.—*Yes.

*THE COURT:—*Has not that just been read to the jury?

*Mr. Lewin:—*It was read to the jury by us on direct, and then by counsel for the defense.

*THE COURT:—*That does not justify reading it twice.

*Mr. Kelleher:—*I did not intend to, but I just wanted to get this gentleman's recollection of the matter.

*THE COURT:—*His recollection when he wrote that memorandum was much better than it would be now, don't you think?

Mr. Kelleher:—I would like to see what he recalls now, if I can, your Honor.

By Mr. Kelleher:

Q.—Do you not recall that Dr. Verbruycke sent you a report which he had written as of June 21, 1937? *A.*—I do not recall anything of the nature of a report or of the date of the report. I received, as I recall it, from Dr. Verbruycke a carbon copy of a letter that he had sent to Dr. McGovern about that time. If that is what you refer to, I received that.

Q.—I am not referring to that. That letter is dated July 12, 1937, is it not? *A.*—I don't know.

Q.—Let me show you a photostatic copy of it and ask you whether it is not dated July 12, 1937 (handing a document to the witness)? *A.*—This is; yes.

Q.—And the telephone conversation, of course, was June 28, was it not? *A.*—Yes.

Q.—Did not Dr. Verbruycke at that time state that he would send you by air mail special delivery a copy of the report which his subcommittee had made to the Executive Committee of the Medical Society? *A.*—I believe he did.

Q.—Do you recall that you received that report? *A.*—No, sir; I do not.

Q.—Will you look at Exhibit 36, which is the minutes of the Medical Society, and examine the report which I show you and tell me whether you ever saw that report before? *A.*—I believe I did.

Q.—So that in addition to the letter of July 12, 1937, you also received the report of Dr. Verbruycke to the Executive Committee? *A.*—I believe I did.

Q.—Do you recall that in that report it was stated that G. H. A. "as now constituted" was unethical and that members of the Society cannot become members of the staff of that organization and still remain members of the District of Columbia Medical Society or the A. M. A.?

A.—I don't recall a detail of that sort. It may have been in there.

Mr. Leahy:—What is the date of those minutes?

Mr. Kelleher:—June 21, 1937.

By Mr. Kelleher:

Q.—You read this report, did you not? *A.*—At that time, yes. I do not recall ever having seen it since.

Q.—You also received, did you not, a copy of the transcript of the meeting between the representatives of H. O. L. C. and the Executive Committee on June 24, 1937? *A.*—I received a transcript of the minutes of one such conference. What the exact date of that conference was I do not know.

Q.—Did you read that transcript at the time? *A.*—I did.

Q.—Do you recall that Mr. Penniman and Mr. Zimmerman and Dr. Brown explained the G. H. A. plan to the Executive Committee? *A.*—They told something about it.

Q.—Did they explain what it was? *A.*—Within limits; yes.

Q.—A prepayment plan? *A.*—Yes.

Q.—Group practice? *A.*—Yes.

Q.—Salaried personnel? *A.*—Yes.

Q.—And also to be financed in some way for the first two years by the H. O. L. C.? *A.*—I do not recall that last statement. That may have been said too.

Q.—Dr. Woodward, when you undertook, as a result of the meeting of June 29, 1937 of the Board of Trustees of the American Medical Association to investigate G. H. A. you also had another duty, did you not, as result of the delegation to the Board of Trustees at the June 29 meeting? *A.*—You mean, the duty of proceeding to Washington?

Q.—Yes. *A.*—Yes.

Q.—Why were you authorized to proceed to Washington? *A.*—To confer with representatives of the Medical Society of the District of Columbia.

Q.—Was it to confer or to advise the Medical Society of the District of Columbia? *A.*—My recollection is, now that you speak of it, that the memorandum ended up with the statement that we were to advise the Medical Society of the District of Columbia if it would take advice.

Q.—So that you had two duties: first, to obtain what information you could and, second, to advise the Society if it would take advice? *A.*—One duty, if you will; it is all one duty.

Q.—But you did not mean to leave the impression with the jury during your direct examination that all you were doing was to obtain information? *A.*—I do not think I left any such impression as that.

Q.—You may not have, but I wanted to clear it up if you did. *A.*—It has been repeatedly shown in the evidence that I advised them to take legal counsel. That was my advice.

Q.—You were advising them throughout the period?—*A.*—I advised them to take legal counsel, every chance I got to give any advice.

Q.—Before you came to Washington on July 14, 1937 you had received the second Verbruycke report, that is, a letter from Verbruycke to Dr. McGovern dated July 12, 1937, had you not? *A.*—The letter will show. I cannot recall whether I had it in my possession before I left Chicago or not. The time stamp will show, however.

Q.—As result of your receiving that report you knew, did you not, that the Society in the District of Columbia was considering as one alternative policy the disapproval of G. H. A. and "active combat with all measures at our command"? *A.*—There was some such suggestion in Dr. Verbruycke's letter. I do not recall that the District of Columbia Medical Society had ever adopted his letter as a guide for its official action.

Q.—But at least you knew as of the time you received that letter that the Society was considering that? *A.*—I knew that Dr. Verbruycke had written a letter to that effect. But that is all I knew.

Q.—And he had been on the first subcommittee appointed by the Society to consider G. H. A.? *A.*—I do not know that he was.

Q.—At least he was the one that contacted you and asked you to come in? *A.*—Yes; and he said he was about to retire, and I think that in his second letter he said he had no official status.

Q.—But until he retired he was on a subcommittee, was he not? *A.*—That I do not know.

Q.—When you came here in June you talked with Dr. Verbruycke, did you not? *A.*—I did.

Q.—And did you not learn as of that time that he was on a committee of the Society to study G. H. A.? *A.*—I knew that he had some official position, some connection with the District of Columbia Medical Society, but that it had any specific relation to G. H. A. I did not know; and my recollection is that of the same date that Dr. Verbruycke wrote me, he wrote to Group Health Association, Inc. saying that the existence of the organization had been called to his attention and begging them to send him a copy of their constitution and by-laws and anything else that might enable the Medical Society to give consideration to that organization.

Q.—Did you not also know as a result of the Verbruycke letter that the proposal of Dr. Verbruycke concerning opposition was that failure to place a cooperative on the approved list of the Society would automatically prevent consultations? *A.*—I think he may have made some such statement, although I do not recall that he did.

Q.—Did he not also state that another means of opposition would be by preventing doctors connected with G. H. A. from being placed on the courtesy staffs of local hospitals? *A.*—That may have been Dr. Verbruycke's opinion and he may have stated it. It was not the official action of the American Medical Association or the District of Columbia Society.

Q.—Do you know it was not the official action of the District of Columbia Society? Do you not know that it was reported as the report of the Executive Committee—this letter? *A.*—It may have been of the Executive Committee of the Society.

Q.—Then it became the official action of the Executive Committee? *A.*—Yes; the Executive Committee only.

Q.—It is true is it not, that Dr. Verbruycke stated this possible policy in his letter to Dr. McGovern? *A.*—I believe he did.

Mr. Levin:—What is it that you have reference to? Read that portion of it.

Mr. Kelleher:—In the first place, as one of the four recommendations. Suppose I read them all:

"First. Approval of cooperatives as at present outlined.

"Second. A laissez faire attitude of seeing what will happen.

"Third. Disapproval and active combat"

THE COURT:—Mr. Kelleher, that has just been read.

Mr. Kelleher:—Your Honor, what I want to bring out is the knowledge of Dr. Woodward as to the plan of the Society.

THE COURT:—He admitted that he received that letter and saw it, and it has just been read to the jury. There is no point in going all over it again. He admitted he received the letter, and it has been read.

Mr. Kelleher:—I understand that, your Honor; and the only reason I do it is to make my examination intelligible. Otherwise it might be difficult for the jury to understand what I was getting at a little later.

THE COURT:—I appreciate the need of reference to letters when there are so many documents, but I do not want you to go too far in that.

Mr. Kelleher:—I will try to avoid that.

THE WITNESS:—I believe the statement, however, that I had knowledge of that as the action of the Medical Society of the

District of Columbia is not correct, because I had no such knowledge, and I just stated that I understood it was the action of the Executive Committee.

By Mr. Kelleher:

Q.—I am satisfied with that, Dr. Woodward. The matter we are now referring to is the following alternatives of policy:

1. Approval of cooperatives as at present outlined.
 2. A laissez faire attitude of seeing what will happen.
 3. Disapproval and active combat with all measures at our command.
 4. Disapproval of all other plans and the offer of prepay medicine through the Medical Society (a) either as a Society subsidiary or (b) through a change in the medical-dental service bureau.
- "The first of these proposals is manifestly an impossibility. The second alternative involves inertia more than any other factor. Active opposition is impossible at present. Whether it is advisable is another matter. Unless some substitute plan can be suggested, failure to place a cooperative on the approved list of the Medical Society would automatically forbid any consultation by members of our Society. Any full-time employee of the Corporation could probably easily fail to be put on the courtesy list of the hospital for one reason or another without the fact of his connection with the cooperative being even mentioned. In fact, any combative method would necessarily have to be camouflaged to the nth degree."

It is your testimony now, is it not, that you read this copy of Dr. Verbyck's letter to Dr. McGovern? A.—Yes; I read that letter representing Dr. Verbyck's opinion without employing any adoption by the Medical Society of the District of Columbia or any approval by the American Medical Association or by me. It is a matter of opinion. It is an argumentative suggestion of all the possibilities of what might be done and, by implication, what might not be done, and it goes no further.

Q.—And you also know at the same time that this was the report adopted by the Executive Committee of the Society?

Mr. Burke:—If you have a record that shows that is not true, why do you ask the question? Look at the record.

Mr. Lewin:—It was adopted by the McGovern committee; it was referred to the Executive Committee, and it was laid on the table for further consideration.

Mr. Burke:—Yes. Why lead him to say the Executive Committee adopted it?

Mr. Lewin:—He is not.

By Mr. Kelleher:

Q.—Did you know those facts? A.—When you said it was adopted by the Executive Committee I accepted your statement.

Q.—Did you know it was a report adopted by the subcommittee? A.—No; I did not know any of the details—or if I did, they have passed from my mind.

Q.—You knew it was under consideration, at any rate?

THE COURT:—Let us take a short recess.

By Mr. Kelleher:

Q.—Dr. Woodward, as a matter of fact you did learn, did you not, that the Society had issued an approved list of organizations from which Group Health Association was omitted? A.—I learned that they had issued an approved list. Later I heard incidentally that Group Health Association had been omitted. There was nothing on the list that I personally received from the Association that indicated even the existence of Group Health Association.

Q.—Dr. Woodward, you testified the other day—I guess it was last Wednesday—that you received the approved list at your home, did you not? A.—Yes.

Q.—And you testified that you took it to the office, did you not? A.—Yes, sir.

Q.—And you also testified that you took it to the office because you felt that it might be useful if any inquiries came up concerning Group Health Association? A.—Yes.

Q.—And, as a matter of fact, Group Health Association's name does not appear on this list, does it? A.—So I understand.

Q.—Did you not understand that Exhibit 45, which is the letter from Dr. Conklin addressed "Dear Doctor," with which the White List was enclosed—did you not understand from that letter that the approved list related to Group Health Association? A.—No. I gave no particular thought to that. I was at that time an associate member of the Medical Society of the District of Columbia and was therefore on its mailing list, and, living at a Chicago address, it came to me at Chicago. I paid no particular attention to it either one way or the other.

Q.—But when you read the following:

"It may have come to your attention that there is an organization or organizations that are interested in getting medical personnel"—

Did you not understand that that referred to Group Health Association? A.—I inferred that that indicated or had reference to Group Health.

Q.—So, then, when you received Exhibit 45 it was your understanding then that the first recommendation or first pro-

posal of Dr. Verbyck's that Group Health Association be omitted from the approved list of organizations and thereby consultations automatically prevented, had been adopted by the Society? A.—No. I gave no thought to the matter at the time.

Q.—As a matter of fact, when this letter and the enclosed list of approved organizations were received you did understand that the letter had reference to Group Health Association? A.—It advised conferring with the proper officers, as I recall it, of the Medical Society of the District of Columbia, with respect to any contracts one might want to enter into.

Q.—And called attention to the constitution, and that the contracts must be approved by the committee? A.—Yes. There was nothing in there to show that he had identified himself with Group Health Association.

Q.—Group Health Association's name was omitted? A.—Group Health Association's name was omitted. It was not named there.

Q.—With reference to Exhibit 187, which is a letter from you to Dr. Conklin, I believe you testified that you obtained no information from Dr. McGovern concerning the meeting of July 29, of the Society? A.—I wrote this on Aug. 12, 1937, and I refer to a special meeting of the Society. Whether or not it was the August 29 meeting or some other date shortly before that, I could not say.

Q.—You recall, do you not, that you received a report from Mr. Hayes concerning the meeting on July 29? A.—I did receive a report from Mr. Hayes concerning some meeting.

(After detailed questioning the discussion arrived at the minutes of the District of Columbia Medical Society meeting of July 29, 1937.)

Q.—You knew, did you not, that a meeting had been held on June 29 at which Group Health Association had been discussed? A.—Yes.

Q.—And you also knew, did you not, that at that meeting there had been discussions ranging from drastic boycotts to various conciliatory measures? A.—Dr. Conklin's letter so states.

Q.—And you also knew that finally, as result of the discussions, a new subcommittee had been appointed? A.—So as to canvass the entire situation; yes.

Q.—And that the subcommittee consisted of Doctors Hooe, Conklin, Groover and Macatee? A.—No; I think not. The letter says:

"Finally an Executive Committee recommendation was accepted to the effect that the chairman of the Committee appoint a subcommittee of three members which in turn would select two members from the Society at large."

The personnel of that committee I do not recall. There are only four named there, in any event.

Q.—But he does name a committee of four in his letter? A.—Yes. A committee of four is named there; yes.

Q.—As of August 14 you knew, did you not, from the Verbyck letter, that the Society was considering opposition to G. H. A.? A.—Opposition to G. H. A. as then constituted.

Q.—That is right. And by that you mean, under the plan then proposed, Group practice on a pre-payment basis? A.—I mean a corporation practicing medicine and engaged in the business of insurance illegally. That was my understanding.

Q.—Group Health Association, Inc., involving group practice on a pre-payment basis? A.—Yes.

(Again a detailed discussion went on over the letter with the approved list received by Dr. Woodward at home.)

Q.—Did you not, then, in September make inquiry of Dr. Conklin concerning what the Society was doing? A.—I probably did.

(Mr. Kelleher handed witness a document.)

The Witness (after referring to document):—I did.

Q.—And you received a reply from Dr. Conklin dated Sept. 13, 1937, did you not? A.—Yes. That was duly received.

Q.—And in the reply you learned that the subcommittee had reported to the Executive Committee that G. H. A. was unethical and that no physician a member of the Society would be permitted to associate with G. H. A. and the organization could not be approved? A.—I cannot find that in the letter.

THE COURT:—Can you not point it out to him? I suggest that you do that to save time.

By Mr. Kelleher:

Q.—I now ask you whether the subcommittee did not report to the Executive Committee that in view of the violation of the Code of Ethics of the American Medical Association no approval could be given to G. H. A. (indicating in document)? A.—That is the report of the subcommittee.

Q.—That is right. And did not the subcommittee also report that participation in Group Health Association by any member of the Medical Society of the District of Columbia would render him or her subject to disciplinary action by the Society? A.—The subcommittee so reported.

Q.—And as result of Exhibit 84 you knew that the subcommittee had so reported? A.—I knew that the subcommittee had so reported.

Q.—I also understand that you received or saw Exhibit 111, which is the letter of October 9 from Dr. Conklin to Dr. West? A.—I saw that.

Q.—And as a result of that letter, then, you knew, did you not, that the Society on October 6 adopted a resolution stating that the Medical Society of the District of Columbia "is in full accord with the content of the report of the Bureau of Legal Medicine and Legislation of Oct. 2, 1937? A.—The letter was to that effect.

Q.—And that the Society also took action recommending that a copy of the report be sent to all members of the Society? A.—The letter so states.

Q.—As indicative of the future policies of the Society with respect to combating the activities of Group Health Association; is that correct? A.—That is correct.

Q.—And also with respect to the ethical responsibility of the Medical Society of the District of Columbia? A.—I do not recall that personally, but if you read it—

Q.—The letter does say that, does it not (handing paper to the witness)? A.—Yes.

Q.—Now the resolution referred, did it not, to your article on Oct. 2, 1937? A.—In so far as it referred to the approval of the report that I made, to the distribution of copies of that report among members of the Medical Society of the District of Columbia, it refers to that report, but no further.

Q.—I am somewhat confused, Dr. Woodward, and nobody else may be, but as I understand it, you did not intend to testify, did you, that the decision to publish the report which you made to the Board of Trustees was made some time between September 1, when you submitted it, and October 2, when the article appeared in THE JOURNAL? A.—It was made on the date stated in my memorandum transmitting it to the Board.

Q.—You mean, the decision to publish it was made on that date? A.—No. That was the date that I completed the statement, all except the last part, and submitted it to the Board of Trustees.

Q.—As a matter of fact, you were preparing your report for publication, were you not? A.—No, not necessarily. I prepared my report, as I think I have stated, for the information of the Board and for the information of those who were charged with the duty of distributing information to the medical profession of the country.

Q.—Did you not also prepare it for the purpose of having it published in THE JOURNAL? A.—No. I prepared it for the purpose of assisting those who were charged with the duty of publishing, to make a correct statement of facts.

Q.—Let me show you Exhibit 181, which is a letter from you to Mr. Hayes dated Aug. 21, 1937, and I call your attention to the last two paragraphs. A.—This is in reference to that publication.

Q.—So that your memory may be refreshed on the matter, I invite your attention to this letter addressed by you to Mr. John F. Hayes here in Washington:

"Confidentially, I am preparing an article on the situation and would like to have the latest details.

"Say nothing to Conklin or any one else about my plans for publication."

Now, is it true, Doctor, that as of Aug. 21, 1937, you were writing an article and did not intend to have it published? A.—I didn't plan to have it published; I planned to furnish something which could be used.

Q.—Did you plan to have it published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION? A.—I planned to submit it in such a form that it might be usable if the Editor and the Secretary and General Manager deemed it proper. It was a complete article in itself and might have been published or might not, and it would have been true in either way.

Q.—And as a matter of fact, when you were writing it you intended that it should be published? A.—I planned that it should be available for any use to which it was desirable to put it.

Q.—And you expected it to be published? A.—No, I didn't expect an article of that length to be published.

Q.—You expected it to be edited and published? A.—Edited and published, or not published at all.

Q.—You did refer to the article in your letter, Exhibit 184, to Mr. Hayes. Let me refer you to the next to the last paragraph. A.—That is to the same effect.

Q.—And which reads "I enclose a draft of an article which I prepared with a view to publication." Now, is it true that you did prepare this article, this report, with a view to its publication, subject to the conditions which I have just stated, subject to its being edited? A.—Subject to editing and revising.

Q.—These two letters state the facts in that connection? A.—Yes, subject to the understanding that I have just stated in connection with them.

Q.—As a matter of fact, Dr. Woodward, you prepared this article in the form of a report in order to avoid conflict on your part with the principles of professional ethics of the American Bar Association, did you not? A.—Not at all, because I had no positive knowledge that it was going to be published.

Q.—You had no positive knowledge? A.—No, if I was preparing it for publication I should have prepared it in different form.

Q.—But it is a fact that you prepared it in the form in which you did to avoid conflict with the A. B. A. Canons of Ethics? A.—As a report for the Board of Trustees, no. That is one reason why I did not know it would be published.

Q.—I wonder if you would just look at THE JOURNAL article, Exhibit 294, which as I understand it is your draft of the article, and refer please to pages 27 and 28 of the draft. On page 27 of the draft of the article you wrote as follows, did you not:

"So far as can be learned from the certificate filed by Group Health Association and from its by-laws, no member of the association and no dependent of a member is to have any freedom of choice of his physician. Obviously, this must be so, for with a limited, salaried, full-time medical staff, operating over an area of 750 square miles or more, it would be impossible for each staff member to cover the entire area daily, to satisfy the desires of members scattered over the entire area. It is understood that the association will not object to a member or a dependent of a member being treated at his own expense, by a physician not in the service of the association. Inasmuch as the members of the salaried staff of the association are likely to be looked on by the profession generally in the community as on the outer verge of ethical practice, if not altogether beyond the pale, it is not clear how they are to obtain qualified consultants or procure hospital service for their patients."

That is in your draft of the article, is it not? A.—Yes, it is.

Q.—And the identical paragraph appeared in THE JOURNAL article? A.—It did.

Q.—Now, will you turn to page 46-B of THE JOURNAL article, and let me read to you first your draft of the article and then compare it with the language in the article which was published.

"Especially would quality be likely to fail in times of epidemic and of any unusual prevalence of disease, when the limited medical staff of the association would be overworked and could find no relief. In any event, medical service under the association would be likely to be handicapped by difficulty likely to be experienced in obtaining the best consultant service and hospital accommodations. Physicians who sell their services to an organization like Group Health Association for resale to patients are certain to lose professional caste and therefore may be looked on askance when they seek consultation or the right to treat patients in reputable hospitals."

Now, is the language which I have read from your draft identical with the language in THE JOURNAL article? A.—It is not.

Q.—What is the difference between what I have read and what is written in THE JOURNAL article? A.—In the article as published it appears, "physicians who sell their services to an organization like Group Health for resale to patients are certain to lose professional status."

Q.—So that THE JOURNAL article changes the word from "caste" to "status"? A.—More than that.

Q.—And omits the latter part of the sentence, "and therefore may be looked on askance when they seek consultation or the right to treat patients in reputable hospitals"? A.—That is admitted. I frankly say I omitted that myself either in the first proof or galley proof, so that it never came to the attention of the public generally. It was concealed in the files of the American Medical Association.

Q.—But it was in the report you made to the Board of Trustees? A.—Yes, it was in that report.

Q.—Now will you turn to the last page? Will you read that paragraph relating to population, and the percentage of Government employees compared with the total population in Washington?

"Out of a total population of 486,869 in the District of Columbia, 115,912 are civil employees of the United States Government, and of these, 2,517 are employees of the Federal Home Loan Bank Board, and its affiliated agencies. If to these persons all of whom are eligible in Group Health Association, we add their dependents, allowing an average of two dependents for each employee, we have a total of 347,736 persons, out of a total population of 486,869 that the promoters of Group Health Association, according to their certificate of incorporation, seek to withdraw from the ordinary practice of medicine and to cover into a Group Health insurance contract practice system and treat through physicians hired for that purpose. The effect of the withdrawal from private practice of even one half that number of persons, all of them able to pay for medical services, will materially disturb medical practice in the District of Columbia and react against public interest."

Now, with reference to the last two sentences which I have just read, didn't your original report read as follows:

"The effect of the withdrawal from private practice of even one half that number of persons, all of whom are able to pay for medical services, would materially diminish the income of physicians in private practice in the District of Columbia and render it necessary for them to increase their charges or to sacrifice the practices they have built up and go elsewhere. Either event might easily react against public interest."

A.—Yes, I wrote that. That was in the report of the Board of Trustees, but was not published to the medical profession throughout the country, even in the District of Columbia.

Q.—But it was in the original draft which you presented to the Board of Trustees? A.—Yes.

Q.—And now, Dr. Woodward, you learned, did you not, on October 29, from Mr. Hayes, the names of the staff of Group Health, the names of the medical staff? A.—Yes.

Q.—Exhibit 200 is a telegram from Mr. Hayes to you telling you the names of the staff? A.—Yes.

Q.—And I think you testified that you discussed that matter with Dr. West? A.—The matter of the medical staff?

Q.—Yes. A.—I don't think I did that; I presumably put it before him.

Q.—And as a result of that, Dr. West, on the same day, wrote Dr. Conklin telling him of the names of the staff, and mentioning that two of the members, Drs. Lee and Scandiffio, were members of the A. M. A.? A.—I don't recall whether Dr. West did that or not.

Q.—Will you look at this letter, Oct. 29, 1937, and see whether that was done? It is in the first paragraph. A.—Yes, Dr. West seems to have received such a letter and it did come to my attention.

Q.—And in this letter Dr. West notified you of what he had learned concerning the staff of G. H. A.? A.—Yes.

Q.—Now, four days afterward didn't the Medical Society of the District of Columbia take action summoning Drs. Scandiffio and Lee to appear before the C. C. and I. N. Committee of the Society? A.—I have no knowledge of it.

Q.—Didn't you learn shortly after Oct. 29, 1937, that the doctors associated with Group Health Association would become outcasts in the District of Columbia? A.—I don't know of any one using the term "outcasts." When it comes to a matter of their losing their status in the professional community, that would follow as a matter of course from the violation by them of the principles of ethics which have been in force for a century.

Q.—When you say lose their "status in the professional community," you mean in the District Medical Society? A.—Status in the Medical Society.

Q.—By that you mean they would lose their membership in the District Medical Society? A.—Unless they could justify their course of conduct.

Q.—And if that Society and the American Medical Association determined that Group Health Association was unethical, then they couldn't justify their conduct before it, could they? A.—I can conceive of no way in which the Medical Society of the District of Columbia or the American Medical Association could pass on the ethics of Group Health Association; it would have to pass on the ethical conduct of the individual member.

Q.—Well, the ethics of the members of the staff of G. H. A.? A.—Yes, and only to this extent: that persons on whose ethics they were passing were members of the association who had voluntarily submitted themselves to the American Medical Association and District of Columbia Medical Society by accepting membership therein. They could not pass on, inquire into the ethics of, a doctor who had not voluntarily assumed the obligation to comply with those ethics.

Q.—But if a member of the Medical Staff of G. H. A. were a member of the Medical Society of the District of Columbia, then the District Medical Society and American Medical Association might pass upon his status? A.—It would be a very difficult and hard thing for the American Medical Association to undertake anything of the kind.

Q.—Well, let us say the District Medical Society. A.—The District Medical Society might.

Q.—And I think your testimony was that that would automatically follow if the District Medical Society believed that association with the staff of Group Health was unethical? A.—Some one would have to take the initiative. That having been done, the case would take the normal course and the procedure usual in the cases of unethical conduct would follow.

Q.—You had already taken the initiative and notified Dr. Conklin through Dr. West who were members of the District Medical Society and who were also members of the American Medical Association? A.—I had not notified him of anything of the sort.

Q.—But Dr. West had notified the Society? A.—He may have.

Q.—And Dr. West obtained his information from you? A.—As to who were on the staff; I didn't inform him who were members of the District Medical Society and who were not.

Q.—All he had to do was to check the District Medical Society directory there, wasn't that all? A.—Yes, his own records.

Q.—Dr. Woodward, didn't you understand that the members of the staff of G. H. A. were going to be medical outcasts in the District of Columbia? A.—Not medical outcasts, no.

Q.—Weren't you told that? A.—Not that I know of. I don't remember anybody having referred to them as medical outcasts. The reference may have been made, but that is not the usual term.

Q.—I show you Exhibit 193 for identification and ask you if this is a letter which you received. A.—Yes, I received that.

Q.—And Exhibit 194, which is in evidence, is your reply to that letter, is it not? A.—Yes.

Mr. Kelleher:—I offer Exhibit 193 in evidence.

Mr. Leahy:—Objection to it, especially, if your Honor please. It has been passed upon before.

Mr. Lewin:—May we approach the bench?

(Counsel for all parties approached the bench and conferred with the Court, in a low tone of voice.)

By Mr. Kelleher:

Q.—Dr. Woodward, you learned, did you not, within eight days after Dr. West had notified Dr. Conklin of who the members of the G. H. A. medical staff were that the Society had instituted disciplinary proceedings against the members of G. H. A., who were also members of the D. M. S.? A.—I learned that such action had been taken, whether within eight days or some longer period I can't remember.

Q.—You know that you did learn that such proceedings were instituted against Drs. Lee and Scandiffio? A.—Yes.

Q.—Didn't you learn that at the conference on Nov. 6, 1937, attended by yourself, Dr. West, Dr. Leland, and Dr. McGovern, and Dr. Hooe? A.—It is quite possible.

Q.—Let me refresh your recollection. Take the last paragraph on the first page and the first paragraph on the second page. I will ask you whether this correctly represents what Dr. Hooe has told you, Dr. West, and Dr. Leland?

Now, do you recall that? A.—I do not recall that as having occurred at that conference, but if it is stated there as having occurred, I know it did, and I would be inclined to say it did.

Q.—Now, let me refresh your recollection on this point:

"Dr. Woodward raised the question as to whether notice to these members had been given and stressed the necessity for following strictly the procedure under the constitution of the Medical Society of the District of Columbia."

Do you think you said that? A.—I am quite sure that I said that, if it is there. If it was a question of disciplinary action I am certain that I advised strict, full compliance with all the requirements of the constitution of the Society.

Q.—You advised that any disciplinary proceedings taken should be handled in a proper way? A.—Yes.

Q.—And did you at that conference advise further discussion and that nothing further be done until the matter had been gone into in detail? A.—Yes.

Q.—And was it gone into in detail? A.—Do you mean did I instruct them as to that detail?

Q.—Yes. A.—I don't recall discussing it with them further.

Q.—But you do recall that you advised that these disciplinary proceedings be carried on only in strict compliance with the requirements of the Medical Society constitution? A.—Yes, and according to the proper requirements of law also. I have advised too many boards and committees not to have told them that.

Q.—And you knew those proceedings were to be against Drs. Lee and Scandiffio? A.—If those are the men in those statements annexed, if they were named there, then they are the parties.

Q.—Those names were not indicated in this document, but you knew they were Drs. Lee and Scandiffio? A.—Yes.

Q.—I think you have already testified that as early as some time in June 1937 you knew from Dr. Verbruycke's letter to Dr. McGovern, a copy of which you received, that one of the plans which Dr. Verbruycke had suggested was that these doctors be excluded from the medical staffs of hospitals? A.—There was something to that effect in a letter written by Dr. Verbruycke to some one, Dr. McGovern, I believe.

Q.—And copy of which you received? A.—Yes.

Q.—And isn't it true that the hospital matter was also referred to at the November 6 meeting? A.—Probably; I think something has been read from the minutes concerning the matter.

Q.—I am talking about the conference in Chicago. A.—I don't recall whether at that conference the matter of hospitals did come up.

Q.—Let me refer you to page 7 of the memorandum, which is Exhibit 117, reading as follows:

"Dr. Hooe: In the matter of H. O. L. C., what is your future program?

"Dr. West: It is just exactly the same as it has been all the time. We shall continue fighting it in every way we can. We are going to get all the help we can."

and that they are going to continue the fight until otherwise instructed.

"Dr. Hooe: The Executive Committee recommended that a letter be addressed to the Medical Boards of the various hospital boards in Washington calling attention to the H. O. L. C. and insisting that the hospitals take cognizance of the situation."

Do you recall Dr. Hooe stating that? A.—I don't recall, but if it is there I will say it occurred.

Q.—And in reply to the question expressing some doubt as to the cooperation by the hospitals did not Dr. Hooe say: "Is it not, in your opinion, most reasonable that the hospitals should acquiesce," et cetera, but expressing some doubt as to whether they would? Whereupon there was some discussion as to whether or not legislation might not be resorted to, and concluding with the information that all the civilian hospitals in Washington except one, probably one had fallen into line, "which was very gratifying." Now, is it your testimony, concerning the last few remarks, whether those matters were discussed? A.—The last part I don't recall; I do recall in a general way the discussion with reference to hospitals and also with regard to the legislation or the fact that they might arouse an attempt to get some legislation.

Q.—Is it also true that you recall that Dr. Hooe stated they had met on Sunday night, that was the night before going to Chicago, and that all the civilian hospitals had fallen in line? Did he say that? A.—I do not know.

Q.—Do you think he said that? A.—I have no thought on the subject.

Q.—But if it appears here that he did so state, you would believe it? A.—That or something to that effect.

Q.—Now, you told us that you attended the meeting on November 11 of the Medical Society of the District of Columbia at which Dr. Warfield reported for the Hospital Committee? A.—I attended a meeting on November 11. I don't recall whether I said who had reported and who did not.

Q.—You refreshed your memory from the minutes. A.—Yes, with respect to the minutes, I did. Dr. Warfield may have reported for the hospital committee. I would not know.

Q.—Let me see if I can refresh your recollection. A.—I was at a meeting and discussed the matter. What members of the staff reported and who did not, I can't recall.

Q.—Do you recall whether Dr. Yater was at the meeting? A.—Yes.

Q.—As a matter of fact, he made some remarks on prepayment and postpayment plans which you endorsed? A.—I know he talked on the subject; I don't think I did.

Q.—You at least discussed the subject matter of Dr. Yater's reference to postpayment and prepayment plans? A.—I believe not.

Q.—You recall he was there? A.—Yes.

Q.—I now ask you whether you do not recall whether Dr. Warfield reported for the Hospital Committee? A.—There were various reports made, and it was read from this morning from those minutes, the report by Dr. Warfield.

Q.—And was that report to the effect that the hospitals should accept members of Group Health Association but they should be treated only by members of the staff of the hospitals? A.—What was read would indicate that was embodied in his report. I have no other independent recollection of it.

Q.—Do you recall this: "Dr. Yater was of the opinion that the hospitals should be contacted and assurances should be given that no member would be allowed to practice there if he is a member of the staff of Group Health Association"? A.—I am sure I don't remember anything of that kind; I don't mean to say by that that it wasn't said.

Q.—Do you recall that Dr. Yater made a motion to recommit the recommendation of the Hospital Committee to that committee? A.—I think that was read this morning.

Q.—"Because there seems to be no assurance that members of the staff of Group Health Association are not already and might not become members of the staffs of the local hospitals"? Was that the ground? A.—Something to that effect was read this morning.

Q.—Now, you also testified this afternoon, Dr. Woodward, that the meeting of November 11 was the only meeting of the Medical Society which you attended at which hospitals were discussed in connection with the Group Health Association. A.—That is the best recollection I have on the matter. My visits to Washington and conferences here have been a routine matter and I have no record of them; I did not keep a diary and have not recorded my coming and going from here to Chicago and from Chicago to Washington.

Q.—Were you also present at a meeting of April 6, 1938? A.—I have no recollection of it; I may have been.

Q.—You were refreshed this morning on that by Mr. Leahy and shown the minutes of the meeting of April 6, showing you were present and addressed that meeting. A.—I was shown the minutes; otherwise I had no recollection.

Q.—I show you the minutes of the meeting of April 6 and ask you whether it is not true that you were present at that meeting and that you addressed it.

THE COURT:—He admitted that this morning.

By Mr. Kelleher:

Q.—Do you recall that the following occurred at this meeting: "Dr. J. Ogle Warfield Jr., Chairman of the Hospital Committee, read the following report:

(Here was read again the Warfield report.)

Do you recall that report? A.—I do not. To go that far back to a meeting of that sort and ask me to recall a report of that character, it is hardly reasonable. I don't recall any such report.

Q.—You wouldn't say that such report wasn't made at such meeting? A.—I simply do not recall it; I don't mean to deny it. If I was impressed at that time, then subsequent events have worked it out of my mind.

Q.—Did you at any time advise the Medical Society of the District of Columbia not to institute disciplinary proceedings against Lee and Scandifio? A.—Not that I recall.

Q.—As a matter of fact you told Dr. Verbruycke that in your opinion Group Health Association was unethical? A.—Unlawful.

Q.—Didn't you say unethical? A.—I may have added "unethical," but if it was unlawful it would be unethical.

Q.—Didn't you say unethical? A.—I wouldn't say. If it was unlawful it would be per se unethical.

Q.—Didn't you at any time counsel the Society against inducing the Washington hospitals not to permit Group Health Association doctors to be on the staffs of the Washington hospitals? A.—I did not.

Q.—Dr. Woodward, just one other question: Didn't you on Dec. 15, 1937, write Dr. Neill a letter and ask him who was leading the forces of the Medical Society of the District of Columbia in their fight on federal-subsidized practice of medicine and insurance by lay groups in the District of Columbia and adjacent groups? A.—I did.

Q.—Didn't you write to him on December 22, after you had received a reply, describing the activities of the Society, and say:

"I cannot conceive of its being the function of any public relations counsel to do so unless he is a member of the organization and high up in its ranks."

A.—I did.

Q.—And didn't you write "Of course, your counsel must lead the fight in so far as is involved its legal factors, your public relations counsel may lead the fight in so far as refers to publicity and relative matters. But the whole leadership must devolve on officers and agents of the Medical Society of the District of Columbia, who in the end must be responsible to the Society even for the activities of counsel and public relations counsel." A.—I did. That is in my letter.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Did you receive any instructions from either Dr. West or any member of the Board of Trustees as to what advice you should give to the District Medical Society? A.—Absolutely none.

Q.—Do you recall whether or not you did give any advice or just sought information? A.—I think I probably advised them to employ legal counsel. I gave that advice so often I probably did it then.

Q.—Your attention was directed to a report of the conference of Nov. 6, 1937 and to certain questions and answers made thereat. I call your attention to the advice which you gave to the members of the Medical Society, and ask that you quickly pass your eye down there and tell us if that represents the advice you gave them on November 6. A.—I believe it does. It is in line with my present advice.

Mr. Leahy:—"I suggest that you have competent legal counsel advise you. The primary move is clearly to see whether your District Attorney or your Corporation Counsel or the Commission or the Board of Licensure or the Insurance Commissioners will act. Whether or not they will act cannot be determined until the facts are formally laid before them."

By Mr. Leahy:

Q.—Is that all the advice you gave throughout that meeting? A.—That is a fair summarization of what I told them.

Q.—When is the first time you ever heard of any member of the District Medical Society being subjected to disciplinary proceedings? A.—I can't fix the date. There is a note to that effect in the memorandum of the conference; I think that was about the first time.

Q.—Were you called on by any one to advise with reference to any disciplinary proceedings in the District Medical Society? A.—Never; that was a District matter altogether.

Q.—Was the American Medical Association involved in any disciplinary proceedings of the local District Medical Society? A.—Not before they came before the Judicial Council on appeal.

Q.—In other words, what jurisdiction did the American Medical Association or you as head of the Bureau of Medical—what you want to call it—have with reference to any disciplinary proceedings against Drs. Lee and Scandiffio in the District Medical Society? A.—I had absolutely none; the jurisdiction of the American Medical Society was vested in its Judicial Council and in its House of Delegates. The Judicial Council might act only on appeal and only on matters of law. By the exercise of the authority stated in the constitution and by-laws the House of Delegates might act. Although that authority dates back to 1894 I have never known them to act.

Q.—So when you were asked if you advised the American Medical Association with reference to the District Medical Society trial, had you been asked for such advice and had the American Medical Association any jurisdiction in the matter? A.—I had not been asked, and the American Medical Association had no jurisdiction.

Q.—The same question was asked you with reference to the Washington hospitals: When you were asked if you counseled the American Medical Association with reference to that matter, did you have any jurisdiction to counsel them? A.—I had no jurisdiction and the only counsel I could give them was this contained in the memorandum of the conference in Chicago, which I overlooked, and that was that the Medical Society should proceed carefully; they might arouse public opinion and a demand for legislation.

Q.—Were you ever asked to counsel the District Medical Society with reference to the Washington hospitals? A.—Never.

Q.—Did the American Medical Association have any jurisdiction over the Washington hospitals? A.—Only with respect to the hospitals to be approved or not approved for internship and residency. To that extent they had jurisdiction and that was jurisdiction the Washington hospitals voluntarily vested in them.

Q.—You were asked further with reference to a letter written by Dr. West which followed a telegram which you received, I think from Mr. Hayes. Do you remember where the membership of the staff, the membership staff of G. H. A., was mentioned? A.—I recall that.

Q.—Do you know whether or not the District Medical Society had already had the information which Mr. Hayes had when he telegraphed you? A.—I don't know.

Q.—Do you know, then, when Dr. West wrote the letter to which attention was called, whether that was the first information that the District Medical Society had or not? A.—I don't know; I believe it was not. My recollection was it appeared in the newspaper. That is where he got his information.

Q.—Now, with reference again to so much of that meeting of November 6 your attention was directed to, where it was stated that Dr. West said he would oppose the movement and continue to do so: Have you any information as to anything that was done by Dr. West other than to authorize the editing of the article which appeared in THE JOURNAL? A.—I have not.

Q.—Do you know of anything the American Medical Association did in this case other than publish the article in question? A.—When it came to proposals to investigate the American Medical Association, we, of course, then took notice of it.

Q.—I mean in connection with the local situation. A.—Not directly.

Q.—Just one more question: You were asked about two letters you wrote to Dr. Neill, one on Dec. 15 and another on Dec. 22, 1937, in which you inquired as to who was directing the fight of the District Medical Society and also about the public relations counsel. Do you recall that? A.—Yes.

Q.—Have you an independent recollection now about the views you expressed in those letters? A.—I have.

Q.—What was the information you were seeking and why? A.—I had understood, I believe from a letter I received from some officer or member of the District Medical Society, to the effect that their fight was being left to their public relations counsel. The letter either stated or I knew that he was a layman. The reference was to him leading the fight with the advice of an advisory counsel. On that occasion my letter to Dr. Neill was to the effect that activities of that would be primarily under the direction and control of members of the Society itself rather than under hired agents.

Q.—Why was it that you didn't think a layman could act as public relations counsel in a matter of that kind? A.—Two reasons: One was that I doubted his ability to understand all the implications of the situation, ethical and professional. The other was that without any derogation of the public relations counsel I think sometimes they go beyond the limits of the propriety and get their principals into embarrassing situations, and I didn't want that to happen.

RE-CROSS EXAMINATION

By Mr. Kelleher:

Q.—Isn't it true, Doctor, that Dr. West reported to the Board of Trustees of the American Medical Association in February 1937 that the American Medical Association had done everything to combat the movement on the basis of the evidence that it was contrary to the policy of the House of Delegates? A.—Activities of Group Health?

Q.—Yes. A.—I think that is true.

Q.—And didn't you tell the Society at the meeting of April 6 that you attended that if there was anything the American Medical Association could do to help the local Society you hoped it would feel free to call on the Association for such help, "We know it is a national fight but we are with you"? A.—I may have told them that, because it was the truth; it was a national fight.

Mr. Leahy:—What was it that the American Medical Association could do other than publish the facts as it did?

Mr. Lewin:—Objected to as argumentative.

THE COURT:—Sustained.

By Mr. Leahy:

Q.—What else could the American Medical Association actually do than publish the article?

Mr. Lewin:—Objected to.

The Witness:—We brought the matter to the attention as widely as we could of the members of the American Medical Association scattered throughout the United States, because the opposition, if there was opposition to the national development of Group Health, Inc., must come from the local organization; the proposal would be a proposal about a Group Health, Inc., to set up an agency in some state under this charter. We wouldn't go into a state and oppose it there; the local people would have to do that.

Q.—Did you, as a matter of fact, do anything further than the publication of the article? A.—No, other than writing to some members of the Senate and other officials for information.

(To be continued)

LEGISLATION OF INTEREST TO PHYSICIANS CONSIDERED BY
STATE LEGISLATURES IN 1940

PREPARED BY T. V. McDAVITT OF THE BUREAU OF LEGAL MEDICINE AND LEGISLATION

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During 1940 the legislatures of Kentucky, Louisiana, Mississippi, New Jersey, New York, Rhode Island, South Carolina and Virginia met in regular session. Alabama also met in regular session because its legislature, which met in regular session in 1939, recessed to convene for a few days in 1940. Special legislative sessions were held in Arizona, California, Illinois, Louisiana, Maine, Missouri, Nebraska, New Mexico, New York, Ohio, Pennsylvania and Vermont. On the whole comparatively little legislation of medical interest was considered in the sessions referred to, the sessions being, from a medical standpoint, the lightest observed during the period of twelve years in which the Bureau of Legal Medicine and Legislation has undertaken to survey legislative endeavors and accomplishments. A brief reference to the more important proposals of medical interest considered in the various legislative sessions during 1940 follows.

I. STATE MEDICINE: COMPULSORY AND VOLUNTARY MEDICAL, DENTAL AND HOSPITAL SERVICE PLANS

COMPULSORY HEALTH INSURANCE.—Bills similar to, if not identical with, "The Social Security Bill for Health Insurance," prepared by the American Association for Social Security, failed of enactment in New York¹ and Rhode Island.² These bills proposed a system of compulsory and voluntary sickness insurance,

Reference will be made to several bills which failed of enactment in Alabama. Since the regular session of the Alabama Legislature met in 1939 but recessed and convened again in 1940 the bills referred to, strictly speaking, were before the legislature both in 1939 and in 1940. No reference was made to these bills in the Survey covering 1939 because the status of the bills was uncertain when that survey was made.

1. N. Y. S. 1445, A. 1812, A. 1842.

2. R. I. H. 658.

the benefits of which were to consist of cash and all forms of medical, dental and hospital service. In most of them, persons employed at "other than manual labor" and receiving wages in excess of \$60 a week, farm laborers and persons employed by an employer having less than three employees in personal or domestic services were to be excluded from the compulsory insurance of the bill but were to be entitled to participate in the voluntary insurance. All other employees were embraced in the compulsory features of these bills.

The life of the committee authorized by New York laws, 1938, c. 682, to investigate the health requirements of the people and to recommend such health insurance proposals with respect to state medicine as it deemed advisable was extended to April 15, 1941 by a New York law,³ while another new law⁴ provides that the committee shall consist of four senators, six assemblymen and five persons appointed by the governor, two of whom must be licensed physicians, one a representative of labor, one a representative of industry and one a representative of the public health.

VOLUNTARY MEDICAL AND HOSPITAL SERVICE PLANS.—A law was enacted in New Jersey⁵ authorizing the formation of medical service corporations to operate on a prepayment basis nonprofit medical service plans whereby stated medical services and care may be rendered at the expense of the corporations to subscribers to such plans and to their dependents. Generally speaking, the plans authorized by the New Jersey law contemplate that the subscriber shall have available the services of the physician of his own choice and that the corporation itself will pay the bills incurred to the physician chosen by the subscriber. A roughly similar law was enacted in Virginia⁶ except that under the Virginia law the plans to be offered subscribers may comprehend medical services alone, hospital services alone or

3. N. Y. Laws, 1940, c. 798.

4. N. Y. Laws, 1940, c. 1.

5. N. J. Laws, 1940, c. 74.

6. Va. Laws, 1940, c. 230.

both medical and hospital services. Such plans may be offered (1) through the medium of a nonprofit corporation, (2) by a group of physicians representative of the medical profession in the community or territory in which the service contracts are offered or (3) by a particular hospital or combination of hospitals. In any case supervisory and regulatory power over such plans is vested in the state corporation commission.

The Kentucky law authorizing the formation of nonprofit corporations to operate hospital service plans was so amended this year⁷ as (1) to condition the formation of such a corporation on the approval of both the commissioner of insurance and the state board of health accordingly as both agencies may deem in the public interest and (2) to define the hospital care or service which a hospital service plan may embrace "as including bed, board, use of operating room, ordinary medications, surgical dressings, general nursing care, and other routine procedures approved by the State Board of Health, and nothing in this Act shall be construed so as to permit any hospital, public or private, or other corporation to engage in the practice of medicine or any other form of the healing art."

RURAL HEALTH PLANS.—A resolution was adopted in Virginia⁸ which creates a commission to study rural health conditions in the state and to recommend ways and means of providing more adequate health, medical and hospital care for rural people in Virginia. In carrying out its functions, the commission is to be authorized to enlist the aid of the Medical Society of Virginia, the Virginia State Dental Association and the state department of health. The commission is to be required to submit a report and recommendations to the governor and to the general assembly on or before July 1, 1941.

FREE CARE OF THE INDIGENT SICK OR THE GENERAL PUBLIC.—The electorate of Washington adopted in the November general election an initiative measure,⁹ cited as "Senior Citizens Grants Act," which authorizes grants of \$40 monthly to persons of 65 or over without adequate resources, as defined in the measure. The measure also provides: "In addition to Senior Citizen Grants, the Department [of Social Security] shall provide for those eligible medical, dental, surgical, optical, hospital and nursing care by a doctor of recipient's own choosing."

A new Mississippi law¹⁰ for the coming biennium appropriates \$650,000 to be disbursed to the several counties, in which state-supported hospitals are not operated, for the support of hospitals caring for and treating the indigent sick of those counties. The law also appropriates \$67,500 each to three of the state-supported charity hospitals¹¹ and \$62,500 each to the other two.¹² The following appropriations were also made for the state hospitals noted: East Mississippi, \$292,500;¹³ State Hospital at Whitefield, \$950,000;¹⁴ State Sanatorium, \$400,000.¹⁵

Another Mississippi law¹⁶ appropriates \$50,000 "for expenditure under the supervision of the state board of vocational rehabilitation of disabled persons, and in the treatment of crippled individuals whose restoration may be brought about by said expenditures." The law also appropriates an additional \$50,000 "for vocational rehabilitation for crippled children's work."

Another Mississippi law¹⁷ authorizes the board of supervisors of the various counties to levy and collect an ad valorem tax not to exceed 2 mills for the treatment of the indigent sick, for the promotion of public health, and for the support and maintenance of a full time county health department.

The New York legislature rejected a concurrent resolution,¹⁸ proposing an amendment to the state constitution to permit the state to conduct lotteries, the net proceeds of which were to be used in carrying out a long-range health program.

The New York law requiring a public welfare district to provide necessary medical care for persons under its care and

for such persons otherwise able to maintain themselves who are unable to secure necessary medical care was amended this year¹⁹ so as to provide that the determination as to the medical care necessary for an eligible person must be made with the advice of a physician.

Two proposals were rejected in New York²⁰ to provide at public expense for the correction by surgical or medical treatment and care, or by hospitalization, of remedial physical defects or remedial physical disability of physically handicapped adult unemployed persons in such manner as reasonably may be expected to fit them for remunerative occupations or employment. Another New York bill,²¹ which was killed, proposed that the board of education of a city or school district maintaining vocational schools must provide health services for the pupils attending such schools.

A new New York law²² revives and continues the temporary state commission created by Laws, 1937, c. 743, to examine, report on and recommend measures to improve facilities for the care of hard of hearing and deaf children and children liable to become deaf.

A new New Jersey law²³ appropriates \$15,000 to the state department of health for the purchase and free distribution of antipneumococcus serum for the treatment of persons affected with pneumonia and financially unable to purchase the serum.

A proposal to authorize the Mississippi State Board of Health to procure and distribute free of charge the proper serum or vaccine for vaccination for hydrophobia was killed in Mississippi.²⁴ A similar proposal to appropriate \$1,000 for the purchase and distribution without charge of insulin to licensed physicians treating indigent patients suffering from diabetes mellitus was rejected in Virginia.²⁵

An unsuccessful effort was made in New York²⁶ to provide for the supplying at public expense of necessary medical, surgical and hospital care to needy persons over 21 suffering from the after-effects of poliomyelitis.

Legislation relating to cancer and venereal disease control and the extent of aid to be rendered at public expense to afflicted persons will be subsequently discussed in this survey (p. 1579).

II. LEGISLATION AIMED AT THE CONTROL OF VENEREAL DISEASES, TUBERCULOSIS, CANCER AND OTHER DISEASES

PREMARITAL EXAMINATIONS.—The Kentucky law prohibiting the issuance of a license to marry unless each party to the proposed marriage presents a physician's certificate as to freedom from all venereal diseases was so amended this year²⁷ as to require the required physician's certificate to state only that the party is free from any stage of syphilitic infection which is or is likely to become communicable.

An unsuccessful attempt was made in Kentucky²⁸ to repeal the law requiring an antenatal examination to determine the presence of venereal disease.

A new Virginia law²⁹ conditions the issuance of a license to marry on the presentation by each party of a certificate signed by a licensed physician that as to such person such tests and examination have been made and such medical history obtained as to enable the physician to determine whether or not there is evidence of syphilis. This certificate, however, is not to disclose any medical findings. An examining physician is required to inform a person whom he has examined for the purpose of executing this certificate and in whom he has found indication as to the presence of syphilis, and the other party to the proposed marriage, the result of the test he has performed, the nature of the disease and the possibilities of transmitting it to the marital partner and to their children. Before an examining physician is to sign the statement referred to he must transmit to the state department of health a duplicate copy of the report of

7. Ky., Laws, 1940, c. 98.

8. Va., H. Res. 28, adopted March 5, 1940.

9. Wash. Initiative Measure No. 141, adopted by the electorate Nov. 4, 1940.

10. Miss., Laws, 1940, c. 39.

11. South Mississippi, Matty Hersee and Jackson.

12. Vicksburg and Natchez.

13. Miss., Laws, 1940, c. 40.

14. Miss., Laws, 1940, c. 41.

15. Miss., Laws, 1940, c. 43.

16. Miss., Laws, 1940, c. 28.

17. Miss., Laws, 1940, c. 272.

18. N. Y. A. 470.

19. N. Y., Laws, c. 682.

20. N. Y. S. 1100 and A. 1339.

21. N. Y. S. 1395.

22. N. Y., Laws, 1940, c. 830.

23. N. J., Laws, 1940, c. 204.

24. Miss. H. 726.

25. Va. H. 338.

26. N. Y. A. 1122.

27. Kentucky, Acts, 1940, c. 151.

28. Ky. H. 5.

29. Va., Laws, 1940, c. 81.

the serologic test made and in addition thereto a statement showing whether such test or tests, history and physical findings indicate as to such person evidence of syphilis. If the tests indicate the presence of syphilis and the person nevertheless marries, such person and the spouse are deemed to have agreed to take, so long as indication of syphilis remains, such treatments for the cure of such infection and such precautions as shall be prescribed by the state health commissioner.

BLOOD TESTS OF PREGNANT WOMEN.—A new Kentucky law³⁰ requires a physician or other person legally permitted to attend pregnant women to take or cause to be taken a specimen of blood for serologic tests for syphilis from such woman as soon as he or she is engaged to attend the woman and has reasonable grounds for suspecting that pregnancy exists. A new Louisiana law³¹ imposes a similar duty on physicians and other persons attending pregnant women *if no objection is made thereto by the woman*.

STATE FACILITIES FOR THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASE.—A new Mississippi law³² appropriates \$100,000 to the state board of health for the fiscal years 1940 and 1941 to conduct a program of eradication and control of venereal disease. Another new Mississippi law³³ empowers the board of supervisors of any county to acquire necessary real estate and to expend any amount deemed necessary for the erection and maintenance of community public health centers and clinics used in connection with the syphilis eradication program sponsored by public health units of any county.

STATE FACILITIES FOR THE DIAGNOSIS AND CONTROL OF TUBERCULOSIS.—Proposals to expand existing facilities for the diagnosis and treatment at public expense of needy persons suffering from tuberculosis were rejected in Kentucky,³⁴ Mississippi,³⁵ New York³⁶ and Virginia.³⁷ The Kentucky bill proposed the establishment of a state tuberculosis sanatorium in Johnson County. The Mississippi bill proposed to authorize the boards of supervisors of the several counties to levy a special 1 mill tax to provide treatment and hospitalization for such persons. The New York bill proposed a statewide system of assistance to needy tuberculous persons and their dependents. The Virginia bill authorized the acceptance of a conveyance of certain land in Princess Anne County to be used by the state board of health to operate such property in connection with its work in the prevention and treatment of tuberculosis.

CANCER.—A bill, which failed of enactment in Rhode Island,³⁸ proposed to create a cancer commission to establish a state cancer hospital for the use of indigents afflicted with cancer. The bill also proposed to empower the commission on the request of local medical societies to establish cancer clinics in the larger cities of the state. The New York senate rejected a bill³⁹ to authorize the board of supervisors of any county to establish a cancer clinic or clinics or to provide for cancer clinic service by contracting with an established cancer clinic located in the county.

III. LEGISLATION REGULATING THE DISTRIBUTION OR POSSESSION OF DRUGS, FOODS, COSMETICS AND THERAPEUTIC DEVICES

NARCOTICS.—The uniform narcotic drug act of Kentucky was so amended⁴⁰ as to redefine "narcotic drug" to include cannabis. Similar bills were killed in Alabama⁴¹ and South Carolina.⁴²

The narcotic drug act in force in California was amended⁴³ so as, among other things, (1) to substitute the term "osteopathic physician and surgeon" for the term "osteopath," as it appeared

in the prior law; (2) to define a "physician," to whom is given the right to prescribe, dispense or administer narcotics, as including "physician and surgeon and also osteopathic physician and surgeon"; (3) to enlarge the types of institution in which addiction may be treated to include a "State hospital," and (4) to limit a physician treating an addict for addiction to prescribing or furnishing during each of the first fifteen days of treatment only 8 grains (0.52 Gm.) of opium or 4 grains (0.26 Gm.) of morphine (the prior law permitted a choice of the two drugs in the quantities just stated or of 2 grains (0.13 Gm.) either of cocaine or of any derivative thereof or of heroin). For each additional day of treatment after fifteen a physician may utilize only 4 grains of opium or 2 grains of morphine.

Unsuccessful attempts were made in New York⁴⁴ to permit the sale at retail or the furnishing of hypodermic syringes or hypodermic needles to podiatrists without the written order of a licensed physician or veterinarian, as the present law requires.

BARBITURIC ACID.—A Mississippi law⁴⁵ prohibits the retail sale or distribution of any drug or medicine containing any quantity of barbituric acid and any compound, manufacture, salt, derivative mixture or preparation of barbituric acid, except on the written prescription of a physician, dentist or veterinarian, authorized by law to practice his profession and possessing a current federal narcotic license.

Bills failed of enactment in Alabama⁴⁶ and Louisiana⁴⁷ to prohibit the retail sale or distribution, except on the written order of a physician, dentist or veterinarian, of barbiturates. The Louisiana bill also proposed similar restrictions with respect to paramino-benzene sulfonamide, sulfanilamide, sulfamidol, prontosil, neoprontosil, neo-prontosil, sulfamethylthizol, dinitrophenol, edimalin, sulfonamid, cinchophen, thyroid and aminopyrine.

FOODS, DRUGS, COSMETICS, THERAPEUTIC DEVICES.—A new Virginia law⁴⁸ provides for the regulation and control of the manufacture, sale, advertising of and traffic in food and prohibits the manufacture, sale and traffic in adulterated or misbranded foods, as defined in the act. This new law in general corresponds with those provisions of the Federal Food, Drug, and Cosmetic Act of 1938 which relate to foods.

An unsuccessful attempt was made in Kentucky⁴⁹ to enact a law regulating the manufacture, sale, distribution and advertising of foods, drugs, cosmetics and therapeutic devices "uniform in principle with the Federal Food, Drug, and Cosmetic Act of 1938 and with the Federal Trade Commission Act to the extent it outlaws the false advertising" of such articles. Proposals failed in New York⁵⁰ to repeal existing laws relating to the manufacture and sale of food, drugs, cosmetics and therapeutic devices and to enact a so-called "Consumers' Protection Act" covering the field.

IV. LEGISLATION RELATING TO LICENSES TO PRACTICE THE HEALING ARTS

A. Conditions Precedent to Licensure Imposed Alike on All Applicants, Nonsectarian or Cult

KNOWLEDGE OF THE BASIC SCIENCES.—A basic science law was enacted in Rhode Island⁵¹ which will require all applicants for licenses to practice any form of the healing art to demonstrate to a state board of examiners in the basic sciences a comprehensive knowledge of anatomy, physiology, pathology, chemistry and bacteriology before presenting themselves to their respective professional boards for examination and licensure. The board of examiners in the basic sciences is to consist of three members selected by the director of health because of their knowledge of the basic sciences. Two members are to be selected from the combined faculties of Brown University, Providence College and Rhode Island State College, and the third member is to be a pathologist.

44. N. Y. S. 1220, A. 1815.

45. Miss., Laws, 1940, c. 297 (a somewhat similar bill, H. 760, died in the house).

46. Ala. H. 1049.

47. La. H. 934.

48. Va., Laws, 1940, c. 285.

49. Ky. H. 446.

50. N. Y. A. 183, A. 1005.

51. R. I., Laws, 1940, c. 891.

30. Ky., Acts, 1940, c. 149.

31. La., Acts, 1940, Act 174.

32. Miss., Laws, 1940, c. 47.

33. Miss., Laws, 1940, c. 302.

34. Ky. H. 532.

35. Miss. S. 322.

36. N. Y. A. 646.

37. Va. H. 84.

38. R. I. H. 612.

39. N. Y. S. 484.

40. Ky., Laws, 1940, c. 129.

41. Ala. H. 680.

42. S. C. S. 1085.

43. Calif., Laws, 1940, c. 9 (an apparent companion bill, A. 9-X, was killed in the assembly).

EDUCATIONAL QUALIFICATIONS.—Premedical College Study.—A proposal was killed in Rhode Island⁵² to require an applicant for a license to practice any form of the healing art to have completed successfully a satisfactory two year premedical course in a college properly accredited by the department of education to teach premedical subjects, prior to his enrolment in the professional college from which he is graduated.

CITIZENSHIP REQUIREMENT.—Another bill failed of enactment in Rhode Island⁵³ to prohibit the issuance of a license to practice any form of the healing art to a graduate of a foreign school of the healing art unless the applicant is a citizen of the state of Rhode Island.

B. Changes in Medical Practice Acts Affecting Nonsectarian Practitioners

CONDITIONS PRECEDENT TO LICENSURE.—Educational Qualifications.—The governor of New York vetoed a proposal⁵⁴ that an applicant for a license to practice medicine must have completed an internship of not less than twelve months in a hospital in the United States or Canada approved and registered or maintaining at the time a standard satisfactory to the commissioner of education and the state board of medical examiners. The legislature of New Jersey considered a bill,⁵⁵ which probably died in a senate committee, to permit the board of medical examiners to examine any applicant submitting satisfactory evidence that he has completed a course of study in a foreign country that would entitle him to licensure in that country except that the laws of that country require licentiates to be citizens thereof.

LICENSURE WITHOUT EXAMINATION.—A new New York law⁵⁶ provides that an applicant who meets the requirements of the law as to preliminary and professional education, who presents evidence of successful practice or professional experience satisfactory to the commissioner of education and who presents satisfactory evidence that he has been duly licensed by proper authority in any other state, territory, district or possession of the United States after passing examinations which were equivalent as to subject matter and standards to those of New York at that time may without further examination, on payment of a \$25 fee and on submitting such further evidence as the commissioner of education may require, receive from the commissioner in his discretion an endorsement of his license or diploma conferring all rights and privileges of a license issued by the department of education after examination.

PERSONS OR ACTS EXCEPTED FROM THE PROVISIONS OF THE MEDICAL PRACTICE ACT.—Hospital Practice by Residents and Interns.—Another new New York law⁵⁷ provides that the provisions of the medical practice act shall not apply (1) to the practice of medicine in a legally incorporated hospital by a physician appointed as a member of the resident staff or by an intern while actually serving in a state hospital or other state institution in which medical service is furnished, provided the resident physician or the intern has completed not less than four satisfactory courses of at least eight months each in a medical school in this country or Canada registered as maintaining at the time a standard satisfactory to the department of education, or in a medical school in a foreign country maintaining a standard not lower than that prescribed for medical schools in New York, or has received the degree of bachelor or doctor of medicine from such a medical school in this country or Canada registered as maintaining at the time a standard satisfactory to the education department, or a medical degree or diploma from a medical school in a foreign country maintaining a standard not lower than that prescribed for medical schools in this state, or a license to practice medicine in a foreign country issued under requirements not

lower than those exacted for a medical license in this state, and (2) to medical students performing clinical clerkships or similar functions in a legally incorporated hospital, state hospital or other state institution, provided such students are matriculated and enrolled in a medical school in this country or Canada registered as maintaining at the time a standard satisfactory to the department, or in a medical school in a foreign country maintaining a standard not lower than that prescribed for medical schools in New York.

RECORDING OF LICENSES.—A bill died in the New York Assembly⁵⁸ proposing to amend the provisions of the medical practice act requiring licentiates before beginning to engage in the practice of medicine to register their licenses with the county clerk in the county in which they intend to practice, by providing that in counties comprised in the city of New York the registration fee shall be \$2. Under the present law such registration fee is \$1.

C. Changes in Cult Licensing Laws

OSTEOPATHS.—The osteopathic practice act of Rhode Island was so amended this year⁵⁹ as to provide that a licensed osteopath, after registering his certificate with the clerk of the city or town wherein he resides, becomes a registered physician "subject to the same duties and liabilities and entitled to the same rights and privileges which may be imposed by law or governmental regulation upon physicians of any school of medicine, except the practice of major surgery." An osteopath who satisfies the division of examiners that he has completed one year postgraduate internship in a hospital approved by the division may be granted a license to practice any branch of surgery. The new law also provides that all applicants for certificates to practice osteopathy shall conform with the same regulations concerning premedical education and examination and shall be examined in the same subjects prescribed by the board of examiners of the department of health for the issuance of a certificate to practice medicine and surgery. The board of examiners in osteopathy is to cooperate with the board of examiners in medicine in giving the same examinations to candidates for licenses to practice osteopathy as are given to candidates for licenses to practice medicine and surgery, except that osteopathic applicants are to be given an additional examination in the theory and practice of osteopathy. The several examining boards are required to give the same recognition to approved osteopathic institutions and organizations as is given to approved medical institutions and organizations.

An unsuccessful attempt was made in Alabama⁶⁰ to enact a separate osteopathic practice act and to create an independent osteopathic examining board. The proposed definition of osteopathy was so broad as to permit osteopaths to use "anesthetics, antiseptics, antidotes, anodynes and all methods of healing of proved value."

CHIROPRACTORS.—The chiropractic practice act of Rhode Island was so amended⁶¹ as (1) to eliminate the fee of \$10 imposed by the prior law for the issuance of a license and (2) to reduce the annual registration fee required of licentiates to \$2 from \$8.

Unsuccessful attempts were made in Alabama,⁶² New Jersey,⁶³ New York⁶⁴ and Virginia⁶⁵ to enact separate chiropractic practice acts and to create independent boards of chiropractic examiners to examine and license applicants for licenses to practice chiropractic.

NATUROPATHS.—Proposals in New Jersey⁶⁶ and Rhode Island⁶⁷ to enact separate naturopathic practice acts and to create independent boards of naturopathic examiners to examine and license applicants for licenses to practice naturopathy failed of enactment. The New Jersey bill proposed that

52. R. I. S. 175.

53. R. I. H. 803.

54. Ala. H. 711.

55. R. I. S. 177.

56. N. Y. S. 42. S. 46. S. 166.

57. N. Y. S. 481.

58. Va. H. 120. S. 284.

59. N. J. A. 155.

60. R. I. S. 70.

61. N. Y. S. 481.

62. N. J. A. 155.

63. N. J. A. 155.

64. N. J. A. 155.

65. N. J. A. 155.

66. N. J. A. 155.

67. N. J. A. 155.

52. R. I. S. 175.

53. R. I. H. 803.

54. N. Y. A. 1420 (a companion bill, S. 1158, died in the senate).

55. N. J. S. 177.

56. N. Y. S. Laws, 1940, c. 332 (a companion bill, A. 1399, died in the assembly).

57. N. Y. S. Laws, 1940, c. 761 (a companion bill, A. 2158, died in the assembly).

58. N. Y. S. 481.

59. N. J. A. 155.

60. R. I. S. 70.

61. N. Y. S. 481.

62. N. J. A. 155.

63. N. J. A. 155.

64. N. J. A. 155.

65. N. J. A. 155.

66. N. J. A. 155.

67. N. J. A. 155.

naturopathy be defined as "that system of the healing art which uses and prescribes the following practices and usages: diagnosis and the practice of the combined physiological, mechanical and material sciences of healing as taught in schools, institutes and colleges of naturopathy, which shall include physiotherapy, hydrotherapy, mechanotherapy, psychotherapy, phytotherapy, electrotherapeutics, corrective and orthopedic gymnastics, external applications, manipulations, and nutritional control." The Rhode Island bill would have defined naturopathy "as a science dealing with the diagnosis and treatment of disease through natural therapeutics. It shall embrace and include physiological, anatomical and dietetic sciences, such as physiotherapy, dietetics and the use of herbs, including goods [sic], powdered and dehydrated, and fruits, and such other methods of treatment as are taught in the various recognized schools of naturopathy, except the practice of major surgery and the prescription of drugs."

PHYSIOTHERAPY.—Unsuccessful attempts were made in New York⁶⁸ to amend the provisions of the medical practice act relating to the practice of physiotherapy so as to provide that a person who has practiced physiotherapy under a license granted prior to July 1, 1930, who on submission of proper credentials or by satisfactory examination has shown that he has received sufficient instructions and training, might be granted the right to practice physiotherapy without being required to do so under the supervision of a duly licensed physician, as the present law requires.

MISCELLANEOUS.—A series of New York bills, all of which were killed,⁶⁹ proposed to prohibit the practice of roentgenology or radiology except by licensed physicians, osteopaths, dentists or chiroprapodists, subject, however, to the conditions and limitations of their respective licenses.

V. RIGHTS AND DUTIES OF PRACTITIONERS

A. Rights and Privileges

INSURING PAYMENT OF MEDICAL BILLS.—*Liens for Practitioners.*—A proposal to grant to physicians treating persons injured by accident not covered by the workmen's compensation act liens on all rights of action, judgments, settlements or compromises accruing to the injured person by reason of his injuries was killed in Rhode Island.⁷⁰

The governor of Alabama vetoed a bill⁷¹ which proposed that when a judgment or settlement was had in Mobile County for personal injuries the amount of the physician's and the hospital's bill for treating such personal injuries should be deducted by the payor and paid over directly to the physician or hospital.

RIGHT TO PRACTICE IN HOSPITALS.—A bill died in New York⁷² to require all hospitals wholly or partly supported by public funds or exempt from taxation to permit any licensed physician who so desired to treat patients therein.

EQUAL RIGHTS.—*Right to Treat Relief Cases.*—A bill died in New York⁷³ which proposed to grant to relief clients the right to select the physician or dentist they desire to treat them at public expense.

CONTRACEPTIVES—VENEREAL PROPHYLACTICS.—An unsuccessful attempt was made in Mississippi⁷⁴ to prohibit the retail sale or distribution of contraceptives or any prophylactic rubber or skin goods for the prevention of venereal diseases except by a licensed physician or pharmacist.

B. Duties and Liabilities

OCCUPATIONAL TAXES.—The privilege tax code of Mississippi was amended this year.⁷⁵ Among other things, the tax code as it now stands imposes an annual privilege tax of \$10 on "each physician, dentist, osteopath, chiropractor, podiatrist,

chiroprapist, oculist or naturopath, whether practicing alone or with another." The law also levies an annual tax of \$25 on persons engaged in the business of operating a clinical, bacteriological or biological laboratory or a dental laboratory performing services for dentists other than the owner or operator.

An unsuccessful attempt was made in Virginia⁷⁶ to require physicians to obtain annually revenue licenses, the cost of which was to be \$10 for a physician licensed less than five years and \$15 for a physician licensed for a longer period. The bill proposed, however, that if a physician who has been licensed for five years or more maintains an office in any community having a population of five thousand or more he should pay \$25 unless his receipts from practice from the preceding year were less than \$500 gross, in which case the annual fee was to be \$10. An unsuccessful attempt was also made in Kentucky⁷⁷ to prohibit any practitioner of the healing art from exercising the privileges of his profession until he had first obtained a license from the county court clerk of the county wherein the practitioner proposed to practice and had paid the clerk a fee of \$6.

REPORTS OF WOUNDS, DISEASES AND DEFECTS.—An unsuccessful attempt was made in New York⁷⁸ to require every physician to notify the appropriate health officer of every case of infantile paralysis under his care, the notice to contain such information concerning the case as might be required by the state commissioner of health. Like notice was to be required of the person in charge of any hospital, dispensary, asylum or other similar public or private institution. An unsuccessful Rhode Island bill⁷⁹ sought to require a physician having knowledge of a person afflicted with cancer who was indigent or unable financially to secure necessary care to file with the judge of the appropriate superior court an application for the treatment of such person at the state cancer hospital, which the bill proposed to authorize.

VI. LEGISLATION RELATING TO ALLIED PROFESSIONS AND SUNDRY VOCATIONS

DENTISTRY.—A new dental practice act was enacted in Louisiana⁸⁰ containing rigid restrictions on the right of licentiates to advertise that are quite similar to the restrictions appearing in the Oregon dental practice act, which the Supreme Court of the United States has held valid in *Semler v. Oregon State Board of Dental Examiners*, 65 Sup. Ct. 570. Of particular interest also is a provision in the new law specifically authorizing a licensed dentist to administer general and local anesthetics and to prescribe drugs or medicines necessary or proper in the practice of dentistry.

The dental practice act of New York was so amended⁸¹ as not to exempt from the provisions of the act "mechanical work upon inert matter in a dental office or laboratory" unless such work is done on the prescription of a licensed and registered dentist. Another new New York law⁸² exempts dentists from jury duty. The prior law exempted only a "surgeon dentist."

Unsuccessful attempts were made to amend the dental practice acts of four states.⁸³

NURSES.—The nursing practice act of New York was so amended⁸⁴ as to extend until July 1, 1941 the time during which persons not licensed to practice nursing under the act may practice nursing. After July 1, 1941 it will be unlawful for any person to practice or to offer to practice nursing or to use any title, sign, card or device to indicate that such a person is practicing nursing unless such person has been duly licensed and registered under the provisions of the law. Several unsuccessful attempts were made to amend the New York

76. Va. H. 200.

77. Ky. H. 403.

78. N. Y. A. 1373.

79. R. I. H. 612.

80. La., Acts, 1940, Act 334.

81. N. Y., Laws, 1940, c. 742.

82. N. Y., Laws, 1940, c. 534.

83. Ky. S. 196; N. Y. S. 622, A. 797, A. 1530, A. 1533; N. J. A. 372, A. 441; La. S. 370.

84. N. Y., Laws, 1940, c. 456.

68. N. Y. S. 1418, A. 1761.

69. N. Y. S. 508, S. 1289, A. 695.

70. R. I. S. 131.

71. Ala. S. 486.

72. N. Y. A. 1181.

73. N. Y. A. 2017.

74. Miss. H. 381.

75. Miss., Laws, 1940, c. 120.

nursing practice act in other particulars.⁸⁵ Unsuccessful attempts were made to amend the nursing practice acts of two states.⁸⁶

PHARMACY.—Two new Louisiana laws⁸⁷ amend the pharmacy practice act of that state. The amendments are not of sufficient interest to warrant a discussion other than a reference to the fact of their enactment. Unsuccessful attempts were made to amend the pharmacy practice acts of Kentucky,⁸⁸ Mississippi⁸⁹ and New York.⁹⁰ The New York bill, which was killed, proposed to require pharmacists on the request of a person for whom he has filled a refillable prescription to furnish a true and complete copy.

CHIROPODY.—An unsuccessful attempt⁹¹ was made to amend the New Jersey chiropody practice act so as to make it a misdemeanor to advertise in any manner the price or charge of chiropody work or products. An unsuccessful attempt was likewise made in New York⁹² to prohibit licensed chiropodists from advertising by means of any printed publications or mediums, or by flamboyant or large display or glaring or flickering signs or by means of any sign containing as part thereof any representation of the human foot or leg or appliance or any method of treatment. Three other bills were also killed in New York⁹³ to authorize the board of education in every city and union free school district, and the trustee or board of trustees of a common school district, to employ such podiatrists as may be necessary to perform such duties as may be prescribed by the governing board.

OPTOMETRY—OPTICAL DISPENSING.—The Virginia optometry practice act was so amended⁹⁴ as to exempt from its provisions (1) licensed physicians and (2) the sale of spectacles, or similar articles, as merchandise from a regularly located and established place of business.

Unsuccessful attempts were made to amend the optometry practice acts of four states.⁹⁵ The governor of New York vetoed a bill⁹⁶ to enact a practice act for optical dispensing and to create a board of examiners to examine and license persons desiring to practice as dispensing opticians.

COSMETOLOGY.—Unsuccessful attempts were made in Mississippi⁹⁷ to enact a separate cosmetology practice act and to create a board of beauty culture examiners to examine and license persons to practice beauty culture, manicuring and electrolysis. Among other things, the bills would have permitted such licentiates to remove superfluous hair from the face, shoulders or arms by the use of an electric needle or by the use of depilatories.

VII. BILLS AFFECTING HOSPITALS

A. Hospitals Generally

LIENS FOR HOSPITALS.—The governor of Alabama vetoed a bill⁹⁸ which proposed that when a judgment or settlement was had in Mobile County for personal injuries the amount of the hospital's bill for treating such injuries should be deducted by the payor and paid over directly to the hospital. Unsuccessful attempts were made in New York⁹⁹ and Rhode Island¹⁰⁰ to amend existing hospital lien laws. Both New York bills proposed that the injured person against whom a hospital asserts its lien, the injured person's representative or his attorney should be permitted to examine the hospital records pertaining solely to the injuries received in the accident which necessitated hospital treatment.

STATE PAYMENT FOR CARE RENDERED INDIGENTS INJURED IN MOTOR VEHICLE ACCIDENTS.—An unsuccessful Kentucky bill¹⁰¹ proposed a procedure whereby hospitals might be reimbursed by the state for the expense of caring for indigent persons injured in motor vehicle accidents. A New Jersey bill,¹⁰² which died in committee, proposed that 25 per cent of the receipts from motor vehicle licenses, from auto drivers' licenses and from gasoline tax receipts should be set aside as a voluntary nonprofit general hospital fund, which was to be disbursed to voluntary nonprofit general hospitals in the state in proportion to the number of beds each such hospital had available for the use of indigent persons injured in automobile accidents.

ADMITTANCE OF ALL PERSONS APPLYING FOR CARE.—Two proposals, which both failed of enactment, were considered in New York¹⁰³ to require certain types of hospitals to render care under stated circumstances to all persons applying therefor. The first of these bills proposed to make it a misdemeanor for any hospital, wholly or partly supported by public funds or exempt from taxation, to refuse to admit a private patient willing to pay for the facilities thereof or to deny to a duly licensed physician permission to attend or treat any such patient admitted to the hospital. The other bill proposed to make it a misdemeanor for any place for the care and treatment of the sick and injured to refuse to administer emergency aid, treatment and care to any sick or injured person or to require any deposit, agreement or other act as a condition precedent to rendering such aid.

HOSPITAL EQUIPMENT.—A bill rejected in Rhode Island¹⁰⁴ proposed that every non-fireproof building of two or more stories being used as a hospital should be equipped with a system of automatic sprinklers.

HOSPITAL EMPLOYEES—HOURS OF LABOR.—An unsuccessful attempt was made in New York¹⁰⁵ to make it unlawful for hospitals in New York City to permit or to require any employee to work more than eight hours in any one day nor more than forty-eight hours in any calendar week.

LICENSING OF ALL HOSPITALS.—Bills were considered and killed in Kentucky¹⁰⁶ and Mississippi¹⁰⁷ to regulate the construction and operation of all private hospitals and to require them to be licensed annually by a designated state agency. The Kentucky bills proposed to apply also to all hospitals, both private and governmental, and to clinics.

HOSPITAL RECORDS.—An unsuccessful New York bill¹⁰⁸ proposed that hospital records might be read in evidence in court to the state and should be prima facie evidence of the facts and circumstances therein stated provided only that any declaration or statement contained in such records, made by the injured party, of a nonmedical nature which were explanatory or descriptive of the occurrence, happening or accident in question should not be admissible.

B. Particular Types of Private Hospitals

MATERNITY HOSPITALS.—The Virginia law prohibiting the operation of a maternity hospital unless licensed so to do by the state board of health was repealed this year and a new improved act¹⁰⁹ enacted in its stead. The new law prohibits the maintenance or operation of a maternity hospital unless by virtue of a permit issued by the state board of health. A maternity hospital is defined to mean any place or establishment operated or maintained for the care or treatment of women during pregnancy, or for delivery or for care or treatment within ten days after delivery, whether the place or establishment so maintained is a general hospital, a hospital devoted exclusively to maternity cases, a maternity home or lying-in asylum, or a private home. Exempted from the act, however, are licensed physicians who receive women at their office for occasional examination and treatment only. The existing New York law prohibiting the

85. N. Y. S. 792, S. 968, S. 1095, S. 1486, S. 1973, S. 2030, A. 1219, A. 1797, A. 1968.

86. Ky. H. 531, S. 251; La. S. 382.

87. La. Acts, 1940, Acts No. 296 and 297.

88. Ky. H. 328.

89. Miss. S. 156, H. 699.

90. N. Y. A. 1126.

91. N. J. A. 459.

92. N. Y. S. 1633.

93. N. Y. A. 1940, S. 1633, S. 1647.

94. Va., Laws, 1940, c. 15.

95. Ala. H. 160; La. S. 33, H. 409 (vetoed by governor); Miss. H. 43; R. I. S. 139.

96. N. Y. S. 115.

97. Miss. H. 44, H. 133, H. 1100.

98. Ala. S. 486.

99. N. Y. A. 150 (vetoed by governor, April 23), A. 2276.

100. R. I. S. 12, H. 556.

101. Ky. H. 539.

102. N. J. S. 64.

103. N. Y. A. 1181 and S. 1801.

104. R. I. H. 549.

105. N. Y. A. 404.

106. Ky. S. 199 and H. 438.

107. Miss. S. 527.

108. N. Y. A. 330.

109. Va., Laws, 1940, c. 322.

operation of a maternity hospital unless by virtue of a license from the state department of health was so amended¹¹⁰ as to require such a hospital having a bed capacity of less than four beds to pay an annual fee of \$15 and for a hospital having a bed capacity of four or more beds to pay an annual fee of \$25. An unsuccessful attempt was made to amend the New York act in other particulars.¹¹¹

C. Governmental Hospitals

HOSPITAL EMPLOYEES—HOURS OF EMPLOYMENT.—The New York legislature rejected a series of bills¹¹² to limit the hours of employment of specified types of hospital employees of state hospitals.

STATE GENERAL HOSPITALS.—Unsuccessful attempts were made in Mississippi¹¹³ to create a new state charity hospital in North Mississippi. Another unsuccessful Mississippi bill¹¹⁴ sought to require all state charity hospitals to be equipped with at least ten beds for the exclusive use of maternity cases.

STATE TUBERCULOSIS HOSPITALS.—An unsuccessful attempt was made in Kentucky¹¹⁵ to authorize the establishment of a state tuberculosis sanatorium in Johnson County.

STATE CANCER HOSPITALS.—A proposal to establish a state cancer hospital failed of enactment in Rhode Island.¹¹⁶

VIII. WORKMEN'S COMPENSATION LEGISLATION

A. Proposed Legislation in State Having No Compensation Act

A bill was considered and killed in Mississippi¹¹⁷ to enact a comprehensive industrial insurance law to provide compensation for employees injured in the course of their employment. An employer, the bill proposed, was to supply to an injured employee such medical, surgical and hospital treatment, including nursing, medical and surgical supplies and appliances, as might reasonably be required at the time of the injury and thereafter during disability, but not exceeding one hundred and twenty days nor exceeding a total expense of \$350 unless the industrial commissioner directed an extension of the period of treatment referred to or directed an extension of the limit of expense to not exceed \$600. Apparently the injured employee was to have the right to select his own physician only when the employer refused or neglected to supply one and in an emergency.

B. Changes in Present Compensation Acts

COMPENSABILITY FOR SILICOSIS.—A new New York law¹¹⁸ states the conditions under which compensation will be paid and medical and hospital aid furnished for silicosis.

MEDICAL CARE FOR MENTAL DISABILITIES.—Two unsuccessful attempts were made in New York¹¹⁹ to supplement the workmen's compensation act so as to provide that every employee mentally disabled as a result of an accident arising out of and in the course of his employment might be entitled to receive, without any deductions from the amount of compensation payable to him, medical care, maintenance and attendance in a public hospital or institution, at the expense of his employer, until such time as he was discharged as cured.

RIGHT OF EMPLOYEE TO SELECT DENTIST OR PODIATRIST.—Unsuccessful attempts were made in New York¹²⁰ to permit an injured employee, when dental care was required, to select to treat him at his employer's expense any dentist authorized by the industrial commissioner to render dental care. Somewhat similar attempts¹²¹ to give an injured employee the right to select any podiatrist when care might be required for an injury to the foot were also killed in New York.

REPORTS REQUIRED OF ATTENDING PHYSICIANS.—A new New York law¹²² requires a physician attending an injured employee to submit a progress report every two weeks, or at intervals of not less than three weeks apart or at less frequent intervals, if requested by the industrial commissioner.

PHYSICAL EXAMINATION OF INJURED EMPLOYEE.—An unsuccessful attempt was made in New York¹²³ to deprive the employer or the employee of the right to select a physician to participate in such examinations of the injured employee as the industrial commissioner or the industrial board might require of the injured workman.

IX. MISCELLANEOUS LEGISLATION

AMBULANCE CALLS.—A new Virginia law¹²⁴ makes it a misdemeanor for any person, without just cause, to call or summon an ambulance.

ASEXUALIZATION.—A bill was killed in Rhode Island¹²⁵ to authorize the sexual sterilization of inmates of state institutions afflicted with insanity, idiocy, imbecility, feeble-mindedness or epilepsy.

INTOXICATION TESTS.—Unsuccessful attempts were made in New York¹²⁶ to provide that on the trial of action arising out of acts alleged to have been committed by any person arrested for operating a motor vehicle while intoxicated, the court might admit evidence of the amount of alcohol in the defendant's blood, the test for which must be made within two hours of the time of the arrest. Evidence that there was at that time 0.05 per cent or less by weight of alcohol in the blood was to be prima facie evidence that the defendant was not in an intoxicated condition sufficiently to lessen his driving ability. Evidence as to the presence of from 0.05 per cent to 0.15 per cent was to be relevant evidence but was not to be given prima facie effect in indicating the ability of the driver to operate the vehicle. Evidence as to 0.15 per cent, or more, was to be prima facie evidence that the defendant was in an intoxicated condition sufficiently to lessen his driving ability. The legislature of Mississippi rejected a bill¹²⁷ which merely provided that 0.15 per cent of alcoholic content in the blood shall be prima facie evidence of intoxication.

PHYSICAL EXAMINATION OF AUTOMOBILE DRIVERS.—A New York law¹²⁸ provides that the examination given an applicant for a license to operate a motor vehicle shall include a test for color blindness. An unsuccessful effort¹²⁹ was made to amend the New York law requiring the licensing of operators of motor vehicles so as to provide that the holder of a license to operate a motor vehicle must be examined by a physician at least once every three years and be certified to as physically fit to drive a motor vehicle.

EYE AND EAR EXAMINATIONS OF SCHOOL PUPILS.—A bill died in New Jersey¹³⁰ which proposed that in each school district the medical inspector, or the nurse under his immediate direction, should make eye and ear tests of the pupils of the schools in the district at least once in each school year.

PHYSICAL EXAMINATION OF SCHOOL EMPLOYEES.—A bill was killed in the New York Senate¹³¹ to authorize superintendents of schools to require any employee or applicant for employment of the board of education to submit to a medical examination.

EXPERT WITNESSES.—A proposal to authorize the court to appoint one or more experts to testify in a civil or criminal proceeding whenever the court deemed expert evidence desirable failed in Virginia.¹³²

110. N. Y. Laws, 1940, c. 792.

111. N. Y. S. 67.

112. N. Y. A. 1234, A. 1491, S. 1001.

113. Miss. H. 88, H. 816, H. 387.

114. Miss. H. 987.

115. Ky. H. 532.

116. R. I. H. 612.

117. Miss. H. 120.

118. N. Y. Laws, 1940, c. 548.

119. N. Y. S. 1284, A. 1477.

120. N. Y. S. 315, A. 498, A. 798.

121. N. Y. S. 1412, A. 1760.

122. N. Y. Laws, 1940, c. 542.

123. N. Y. A. 108.

124. Va. Laws, 1940, c. 18.

125. R. I. S. 203.

126. N. Y. A. 619, S. 1351.

127. Miss. H. 261.

128. N. Y. Laws, 1940, c. 744.

129. N. Y. S. 1348.

130. N. J. A. 141.

131. N. Y. S. 1992.

132. Va. S. 186.

MEDICAL LEGISLATION

DISTRICT OF COLUMBIA

Bill Introduced.—H. R. 4194, introduced, by request, by Representative Randolph, West Virginia, proposes to authorize the commissioners of the District of Columbia to set up facilities and appoint such personnel as may be necessary for the scientific determination of the degree of intoxication of any person whose motor vehicle causes personal injury or substantial damage to any other vehicle or property or who is arrested for violations of the traffic laws.

MEDICAL BILLS IN CONGRESS

Bills Introduced.—S. 1149, introduced by Senator Downey, and H. R. 4042, introduced by Representative Voorhis, both of California, propose to amend the Social Security Act so as to permit each state to have the exclusive right to adopt its own interpretation of the phrases "needy individuals who are blind" and "blind individuals who are needy," as used in the act. S. 1157, introduced by Senator Thomas, Oklahoma, provides that any tuberculous World War veteran whose disability compensation rating is service connected shall be rated as permanent and total for compensation purposes and for any other benefits to which such rating might entitle. S. 1194, introduced by Senator Shipstead, Minnesota, proposes to direct the Administrator of Veterans' Affairs to furnish free dental care to any honorably discharged war veteran who has a service connected disability. S. 1230, introduced by Senator Brown, Michigan, for himself and Senator Wagner, New York, and Senator George, Georgia, proposes to provide for the general welfare through the construction of needed hospitals and grants to states and political subdivisions thereof for the construction, improvement and enlargement of hospitals. This appears to be the Wagner-George hospital construction bill of the Seventy-Sixth Congress as it passed the Senate. H. R. 3844, introduced by Representative Gearhart, California, proposes an appropriation of \$3,000,000 to construct a veterans' hospital with a capacity of at least five hundred beds. The hospital will be constructed, it is proposed, in one of the counties of Fresno, Kern, Kings, Madera, Merced, Stanislaus or Tulare, Calif. H. R. 4106, introduced by Representative Weiss, Pennsylvania, proposes to establish in the United States Public Health Service a Division of Water Pollution Control. H. R. 4127, introduced by Delegate King, Hawaii, proposes an appropriation of \$1,000,000 to construct a veterans' hospital with a capacity of at least two hundred beds on a suitable site in or near the city of Honolulu. H. R. 4189, introduced by Representative Ford, California, proposes an appropriation of \$450,000 to construct a two hundred and fifty bed patient capacity addition to the existing Veterans' Administration facility at Los Angeles, for the care and treatment of general medical and surgical disabilities. H. R. 4184, introduced by Representative Flannery, Pennsylvania, proposes to authorize the deferment under the Selective Training and Service Act of 1940 of men engaged in the study of medicine. The bill provides that the President shall be authorized, under such rules and regulations as he may prescribe, to provide for the deferment from training and service of men whose employment in industry, agriculture or other occupations or employment, or whose activity in other endeavors, including the study of medicine, is found to be necessary to the maintenance of the national health, safety or interest.

STATE MEDICAL LEGISLATION

Illinois

Bill Introduced.—H. 363 proposes to authorize the compulsory sexual sterilization of insane, feeble-minded or epileptic inmates of state charitable institutions.

Michigan

Bills Introduced.—H. 215 proposes to give all welfare clients the right to choose their own physician. Under the present law this right does not exist in a community in which there is "any city physician or city pharmacist established under any

city charter." S. 250 and H. 317 propose to provide for the appointment of and to prescribe the powers and duties of the Michigan afflicted children commission and of the several county and district medical coordinators. The bill proposes to provide services for the locating, registration, examination, diagnosis, medical and surgical treatment, child supervision, convalescent and custodial care and education of children who are afflicted or crippled with a curable malady and whose parents or guardians are unable financially to provide proper treatment.

Minnesota

Bills Introduced.—S. 999 and H. 1171 propose that if for any reason a person afflicted with a malady, deformity or ailment of a nature which probably can be remedied by hospital service and treatment and who is unable financially to secure such care cannot be admitted to the Minnesota General Hospital for hospitalization, immediately on application in acute and urgent cases and within ten days after application in chronic cases the board of county commissioners of any county is to be authorized to provide for hospitalization and treatment of such cases at any hospital within the county of legal residence and, if there is no hospital within that county, at any hospital within the state.

Missouri

Bill Introduced.—S. 140 proposes to enact what it cites as the Missouri Food, Drug and Cosmetic Act to regulate the manufacture, sale, distribution and advertising of foods, drugs, cosmetics and therapeutic devices.

Ohio

Bills Introduced.—H. 311 proposes to enact a separate chiropractic practice act and to provide for an independent board of chiropractic examiners to examine and license applicants for licenses to practice chiropractic. The bill proposes to define chiropractic as "the art and science of locating, the procedure preparatory to adjusting, and the adjusting by hand of the subluxations of the articulations of the human spinal column, which is deemed to be the twenty-four movable vertebrae, including the sacrum and coccyx and adjacent tissues, for the purpose of removing any interference with nerve transmission; but it shall not include major surgery, nor the administration or prescription of any drug or medicine included in materia medica, and it shall not be deemed to be a branch of the practice of medicine or surgery within the meaning of section 1286 of the General Code, or of section 12694 of the General Code; neither shall it be deemed to be the practice of osteopathy, obstetrics, optometry, dentistry, chiropody, nor any limited branch of medicine or surgery, other than chiropractic, as designated in section 1274-1 of the General Code. However, nothing herein contained shall be construed as limiting a licensee in the use of any nontherapeutic procedure generally used by any healing profession either in making a proper analysis and diagnosis, or having such made by any accepted public agency or laboratory." H. 475 proposes that "hereafter all funds appropriated by the state of Ohio or available from allotment by the federal government, to the state, or otherwise established by the state, or from any other source whatever as a public fund, to be distributed or allotted for any public health program, financed in whole or in part by such public funds or administered or supervised by any public agency controlled by the state or any corporation or association organized under the laws of the state for the administration of such funds, shall, when administered or distributed in payment of services rendered by a physician under the provisions of such public health program, be so administered or distributed that there shall be no restrictions in the right of any person to select any duly licensed physician or surgeon of his choice for the performance of services under such program."

South Carolina

Bill Introduced.—H. 401 proposes to enact what it cites as the South Carolina Food, Drug and Cosmetic Act to regulate the manufacture, sale, distribution and advertising of foods, drugs, cosmetics and therapeutic devices.

Wisconsin

Bills Introduced.—S. 342, to amend the medical practice act, proposes that (1) an applicant for a license to practice medicine and surgery, in addition to having a diploma from a reputable professional college approved by the board, must present also satisfactory evidence of having completed a college course in physics, chemistry, biology and either German or French, the equivalent of the premedical course at the University of Wisconsin, and if the professional college from which a diploma is presented does not require for graduation a hospital internship of at least twelve months in addition to the four years course, a certificate of completion of internship in a reputable hospital; and (2) applicants for licenses to practice osteopathy and surgery, after the last Tuesday of June 1948, in addition to having

a diploma from a reputable professional college and recognized by the board, must present also satisfactory evidence for having completed two years' college work, including courses in physics, chemistry, biology and English, in an institution accredited by the University of Wisconsin. A. 575 proposes to authorize the appropriation annually of \$250,000 for public health nurses or public school health dispensaries. The bill also proposes to permit any school board to employ a public school health nurse or to establish a public school health dispensary for the prevention and correction of infectious diseases, tuberculosis, other communicable diseases, and defects of hearing. A. 586 proposes to create a statewide system of compulsory health insurance to provide cash benefits and all forms of medical, nursing and hospital care and extractions and other dental care of an emergency nature.

OFFICIAL NOTES

ADDRESSES BY OFFICIAL STAFF**DR. PAUL C. BARTON:**

- April 5—Illinois Association of Chemistry Teachers, Oak Park, Ill.
- April 23—Gold Coast Lions Club, Chicago.
- April 25—Michigan Schoolmasters' Club (annual meeting), Ann Arbor, Mich.

DR. W. W. BAUER:

- April 8—Florida Tuberculosis and Health Association, luncheon meeting, Jacksonville.
- April 8—Florida Tuberculosis and Health Association, general session, Jacksonville.
- April 9—Edward Waters College, Jacksonville, Fla.
- April 9—Jacksonville Women's Club, Jacksonville, Fla.
- April 9—Public Health and Institutional Nurses, Jacksonville, Fla.
- April 10—Army and Navy Club, Jacksonville, Fla.
- April 10—Institute for Negro Tuberculosis Workers, Jacksonville, Fla.
- April 11—University of Florida, Physical and Health Education Classes, Gainesville, Fla.
- April 11—Camp Roosevelt (NYA), Ocala, Fla.
- April 12—Bethune-Cookman College, Daytona Beach, Fla.
- April 16—Kiwanis Club, Mobile, Ala.
- April 16—University of Alabama Medical Alumni Association, Mobile.
- April 17—Murphy High School, Mobile, Ala.
- April 23—Illinois Congress of Parents and Teachers, Belleville, Ill.
- April 29—Medical Society of the State of New York Annual Meeting, Buffalo.

DR. MORRIS FISHBEIN:

- April 9—Cornell College, Mount Vernon, Iowa.
- April 16—Jackson County Health Forum, Kansas City, Mo.
- April 18-19—Golden Jubilee Arizona State Medical Association, Phoenix.
- April 21-24—California State Dental Association, San Francisco.
- April 21—Alameda County Medical Association, Oakland, Calif.
- April 22—Rotary Club, San Francisco County Medical Society, San Francisco.
- April 25—First District Dental Society, Hollywood, Calif.

DR. CARL M. PETERSON:

- April 9—Tennessee State Medical Association, Nashville.
- April 17—Fifth District Medical Society of Georgia, Atlanta.

DR. PAUL A. TESCHNER:

- April 8—Concordia College, River Forest, Ill.
- April 23—Educational and Vocational Conference, DeKalb, Ill.

DR. NATHAN B. VAN ETEN:

- April 8—Rensselaer County Medical Society, Troy, N. Y.
- April 14—Arkansas Medical Society, Little Rock, Ark.
- April 16—Wake Forest Medical School, Winston-Salem, N. C.
- April 19—University of Delaware, Newark, Del.

April 23—Fordham University College of Pharmacy, New York.

April 26—Dinner, Morrisania Hospital, New York.

April 29—Dinner, New York State Medical Society, Buffalo.

April 30—Broadcast, New York State Medical Society, Buffalo.

**EXHIBITS TO BE SENT OUT FROM
AMERICAN MEDICAL ASSOCIATION
HEADQUARTERS**

- April 1-5 Health Week Program
Y. M. C. A., Fort Wayne, Ind.
"The Human Factory"
"Your Personal Health"
"Prevention of Eye Injuries"
"Posture"
- April 3-5 California Tuberculosis Association
Del Monte, Calif.
"Silicosis and Pneumoconiosis"
- April 4-5 National Negro Health Week
Institute, W. Va.
"Information About Syphilis"
- April 8-10 Tennessee State Medical Association
Nashville, Tenn.
(Annual Meeting)
"Use and Abuse of Barbiturates"
"Industrial Health"
"Cutaneous Manifestations of Tuberculosis"
"Anesthesia"
- April 14-16 Arkansas Medical Society
Little Rock, Ark.
(Annual Meeting)
"The Human Factory"
"Heroes of Medicine"
"Use and Abuse of Barbiturates"
- April 17-19 Arizona State Medical Association
Phoenix, Ariz.
(Annual Meeting)
"Food Fads"
"Hygeia Exhibit"
- April 21-25 Western Electric Company
Chicago, Ill.
"Your Personal Health"
- April 28-May 1 New York State Medical Society
Buffalo, N. Y.
(Annual Meeting)
"Periodic Health Examinations"

RADIO BROADCASTS

The next three programs to be broadcast in the series "Doctors at Work" are as follows:

- April 9. The Life Ray.
- April 16. Health on the Wing.
- April 23. The Big Red Schoolhouse.

The program is scheduled over the Blue network of the National Broadcasting Company, Wednesdays at 10:30 p. m. eastern standard time (9:30 central, 8:30 mountain, 7:30 Pacific time).

MEDICAL ECONOMIC ABSTRACTS

MEDICAL SERVICE ASSOCIATION OF PENNSYLVANIA

The medical service plan of the Medical Society of the State of Pennsylvania, developed in accordance with an enabling act of the Pennsylvania legislature, has begun operations in fourteen counties, in only three of which, Mercer, Washington and Westmoreland, have subscribers been enrolled as yet. Tentative arrangements have been made with the Hospital Service Association of Pittsburgh under which this association is paid 10 per cent of the subscription income it collects for the Medical Service Association. To March 11, 217 physicians had signed arrangements of participation and 488 subscriptions to the service had been obtained, but these had 631 dependents, so that there was a total of 1,119 individuals covered. The monthly subscription rates for limited surgical and obstetric service are as follows:

From 35 to 68 cents for individuals, depending on the percentage of males and females in the group.

For a man and wife (obstetrics not included), \$1.05.

For a family of two or more (obstetrics included), \$1.75.

RELIEF COST OF MEDICAL CARE

Next to "family welfare," for which \$458,530,502 was expended in 1938, the largest item in the relief expenditures in twenty-nine urban areas studied by the Children's Bureau¹ was for hospitalization, which cost \$106,117,632. Of this sum about 44 per cent was

1. The Community Welfare Picture in Twenty-Nine Urban Areas, 1938, United States Department of Labor, Children's Bureau, June 1939.

received as payments by patients, leaving a total of \$59,424,717 contributed by public and private relief agencies. The total so paid amounts roughly to \$7.25 per capita "and suggests that the hospital care provided in the twenty-nine areas would meet minimum requirements if properly distributed." To be sure, nearly \$21,000,000 was spent for mental care, which is not included in hospital plans. Even with this allowance,

Total Expenditures for Health Services Other Than Hospital Care, by Field of Service and Type of Agency

Field of Service	Amount
Total health services, other than hospital care.....	\$23,576,929
Clinic service	8,431,694
Generalized public health services.....	6,051,479
Public health nursing.....	3,838,469
School nursing	1,639,479
Organized medical care in the home.....	1,019,061
Medical social service.....	894,318
School health services, other than nursing.....	853,173
Mental hygiene clinics.....	603,548
Fresh air and health camps.....	245,708

however, it would still seem to raise some questions of economic administration. The total expenditure for other health services is given in the accompanying table.

In view of the complaints sometimes voiced that home medical care involves too great an expense to be practicable, attention might be called to the fact that the cost of "organized medical care in the home" was less than 5 per cent of the total expenditures for health services outside of hospitals and less than 1 per cent of the expenditures for hospital care.

WOMAN'S AUXILIARY

Washington

The auxiliary to the Walla Walla Valley Medical Society met, November 13, at Walla Walla. The president, Mrs. W. V. Frick, conducted an "Information Quiz" on political-medical questions. Mrs. V. G. Backman, state auxiliary president-elect, gave a talk on William Osler.

Twenty-five members were present at the November meeting of the auxiliary to the Spokane County Medical Society with Mrs. Carroll Smith, president, presiding. It was voted to purchase a \$5 bond for the antituberculosis league. A report was given of ninety-nine hours of Red Cross work in surgical dressings to the auxiliary's credit. Mrs. Carl Quackenbush reviewed Hans Zinsser's "As I Remember Him."

The Pierce County auxiliary met at Tacoma, November 14, with forty-three members present. Mrs. J. B. Robertson, president, conducted the business meeting. Mrs. G. E. Hoxsey, state president, spoke on the *Bulletin*. Dr. Fay Nace gave a paper on the "History of Obstetrics."

The Chelan County auxiliary had its November meeting at Wenatchee. Mrs. Frank Culp, president, presided. It was voted to make Red Cross work the project for the year.

At the November meeting of the woman's auxiliary to the Clark County Medical Society at Vancouver, a legislative program was presented and members did Red Cross sewing. Mrs. Frank Boersman, president, presided.

One hundred and fifty members attended the King County auxiliary meeting, November 18, at Seattle at which the president, Mrs. W. A. Millington, presided. Dr. Homer Dudley, president of the state medical society, Dr. Shelby Jared, president of the county medical society, and Mr. Arthur Anderson, executive secretary of the state medical association, addressed the meeting on legislative matters. Mrs. G. E. Hoxsey, state auxiliary president, spoke on the national *Bulletin*.

West Virginia

The Woman's Auxiliary to the Fayette County Medical Society met at the home of Mrs. H. F. Troutman of Page in November. Mrs. Ralph Hogshead presided. Mrs. H. V. Thomas of Clarksburg, state auxiliary president, spoke.

Twenty members attended the November meeting of the Woman's Auxiliary to the Harrison County Medical Society. Mrs. James G. Ralston presided. Mrs. Carl Chandler spoke on "Hygeia, the Health Magazine." Mrs. Laurence H. Mills reviewed an article from *Hygeia*. A report on the national *Bulletin* was given by Mrs. John F. McCuskey. West Virginia leads in paid subscriptions. It was decided that the auxiliary would work with the local Red Cross in sewing and knitting.

At the meeting of the Woman's Auxiliary to the Lewis County Medical Society in November, Mrs. C. R. Davisson presided. Mrs. A. F. Lawson spoke on "How We Can Be an Aid to the Community."

Twenty-three members and 2 guests attended a meeting of the Marion County Auxiliary at which time Dr. J. B. Clinton and Dr. J. L. Blanton addressed the group on public relations. Mrs. John Helmick, state chairman of public relations, spoke on "What Our Organization Can Do for the State Organization."

The Woman's Auxiliary to the McDowell County Medical Society met in November with 16 members and 5 guests present. Mrs. H. V. Thomas, state president, and Mrs. John Helmick, public relations chairman of the state, were guest speakers.

The Woman's Auxiliary to the Raleigh County Medical Society met in November with Mrs. E. Newton Du Pier presiding. Twenty-four members were present. Mrs. H. V. Thomas, state president, spoke on "Organization of Local, State and National Auxiliary." Mrs. S. S. Hall spoke on plans for the state convention at Charleston next May.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ALABAMA

Society News.—Dr. James S. McLester, Birmingham, among others, recently addressed the Northeastern Division of the state medical association in Huntsville on "Recent Advances in Nutrition." The Madison County Medical Society was host. —Dr. Lee F. Turlington, Birmingham, discussed methods of birth control before the Walker County Medical Society, February 14, in Jasper.

Superintendent of New Hospital.—Dr. Walter Lawson Shackelford, West Palm Beach, Fla., has been appointed superintendent of the new Jefferson Hospital, Birmingham, effective March 10. Dr. Shackelford had been superintendent of the Good Samaritan Hospital, West Palm Beach, since 1926. He had also served as assistant superintendent of Laurel (Miss.) Charity Hospital for two years. The Jefferson Hospital, which was recently completed at a cost of \$2,250,000, has a capacity of 575 patients. Dr. Charles H. Young has been serving as temporary superintendent, pending a permanent appointment.

Changes in Health Officers.—Dr. Ernest A. Cook, a former medical missionary serving in Alaska and Labrador, has been named director of the Randolph County health unit, succeeding Dr. Winston A. Edwards, who resigned to enter private practice. Dr. Cook recently completed a course of special training at the station maintained by the state department of health at Opelika. —Dr. Myrtle Lee Smith, Nashville, Tenn., has been named health officer of Choctaw County, succeeding Dr. Thomas T. Box. —Dr. Harold W. Seff, formerly of Bethel, Ohio, has been named health officer of Sumter County, with offices in Livingston.

CALIFORNIA

Society Cooperates in Blood Bank.—The establishment of the Irwin Memorial Blood Bank of the San Francisco County Medical Society has been announced. The British War Relief Association, which is cooperating in the project, had been promised \$15,000 from the W. G. Irwin Trust Fund for a plasma center. The society's plans for a blood bank were combined with those of the relief society for a plasma center. The \$15,000 will be used to equip a new laboratory at 2180 Washington Street, San Francisco, the former Irwin home and now headquarters of the San Francisco County Medical Society. A budget was prepared showing that at least \$36,000 was needed to finance the blood bank and plasma center for the first year. Donations were received from various sources, including \$3,000 from the Columbia Foundation and the Bothin Helping Fund. Although \$9,000 remains to be supplied the laboratory is already under construction and the equipment, including a desivac machine, has been ordered. When a transfusion is required in any San Francisco hospital, the patient's blood will be typed at the hospital and a pint of blood of the designated type will be requested from the blood bank. The patient will pay a small service charge of \$5 or \$6. In case of national emergency the entire output will be made available for the armed forces. The voluntary technical committee named to operate the bank consists of Drs. Harry A. Wyckoff, chief, Adelbert M. Moody, Clayton G. Lyon and Karl F. Meyer, Ph.D.

FLORIDA

New Crippled Children's Clinic.—The Florida State Crippled Children's Commission has opened a new clinic at Pensacola Hospital with Dr. Herbert W. Virgin Jr., formerly of Madison, Wis., in charge. Weekly clinics for new and old ambulatory cases will be held at the state board of health building. Only indigent orthopedic cases will be treated, with no private cases and no general surgery, newspapers reported. In establishing the clinic, federal funds were received to augment those from the state. Other clinics are operated at Jacksonville, Miami, Orlando and St. Petersburg.

Changes in Health Officers.—Dr. George A. Dame, Inverness, has been appointed director of the Nassau County health unit, succeeding Dr. Irving E. Simmons, formerly of Fernandina, who has accepted a similar position in Coffee County,

Ga., with headquarters at Douglas.—Dr. Harry B. Smith, Tavares, has resigned as director of the Lake County health department to become epidemiologist for the state board of health. He will be succeeded in Lake County by Dr. Arthur W. Newitt, formerly director of the bureau of epidemiology, Michigan State Department of Health, Lansing. Dr. Smith graduated at the University of Pennsylvania School of Medicine, Philadelphia, in 1926. Dr. Erwin F. Hoffman, Sebring, director of the Highlands County health unit, has resigned to accept an appointment as assistant epidemiologist for the state board. Dr. Marion F. Johnson has been named city health officer of Fort Myers.

ILLINOIS

Personal.—Dr. Mary R. McConahy, Evanston, oldest alumna of the University of Michigan Medical School, Ann Arbor, observed her one hundred and first birthday, March 3. Dr. McConahy graduated in 1890.—Dr. Monroe Etherton, Carbondale, recently celebrated his fiftieth anniversary in the practice of medicine.

Drive on Tuberculosis.—The Evanston Branch of the Chicago Medical Society conducted its annual tuberculosis case-finding program in the Evanston High School, March 17-21. The project started March 3 when twelve local physicians appeared as speakers on tuberculosis in each of the school's home rooms. At that time each high school student was given special literature and a consent slip, which parents wishing their children included in the program this year were required to sign. Students showing a positive reaction to the cutaneous test were to have roentgen examinations. Cooperating in the project were the department of health and physical education at the high school, the city health department, the Tuberculosis Institute of Chicago and Cook County and the Visiting Nurse Association.

Chicago

The Ludvig Hektoen Lecture.—Dr. Daniel J. Glomset, Des Moines, Iowa, will present the seventeenth Ludvig Hektoen Lecture of the Frank Billings Foundation of the Institute of Medicine at the Palmer House, April 25. He will discuss "Observations on the Structure of the Cardiac Conduction System in Man and Other Mammals."

The Greensfelder Lectureship.—The third Louis A. Greensfelder Memorial Lectureship will be presented at Michael Reese Hospital on April 15. The speakers will be Dr. Owen H. Wangenstein, professor of surgery, University of Minnesota Medical School, Minneapolis, on "Distention and Its Effect on the Bowel and Bodily Economy" and Dr. Alfred Blalock, professor of surgery, Vanderbilt University School of Medicine, Nashville, Tenn., "Shock Prevention and Treatment."

Legion to Sponsor Blood Banks.—A plan has been announced by the American Legion posts of the Second District of Chicago whereby blood banks will be installed in every approved hospital of Cook County, newspapers reported. Five hundred volunteers from the twenty-six posts in this area have been asked to donate 1 pint of blood to form the original bank, and steps will be taken among Legion members to raise the funds to launch the project. The serum processed from the original supply will be made available to the hospitals according to their needs. The plan is similar to those carried out in other cities. Indigent persons will be given transfusions without charge, while relatives or friends of those able to pay will either replenish the bank with a blood donation or pay for the service.

KENTUCKY

State Psychiatric Meeting.—Dr. William K. Keller, Louisville, was named president-elect of the Kentucky Psychiatric Association at the recent annual meeting, held in Lexington. Dr. Robert H. Felix, Lexington, was elected president to serve instead of Dr. Lieuen M. Rogers, who was recently transferred by the U. S. Public Health Service to Springfield, Mo. Dr. William R. Summers, Hopkinsville, was elected vice president and Dr. Louis M. Foltz, Lakeland, secretary.

Changes in Health Officers.—Health units in several counties have recently been combined after health officers were called to military service. Trigg, Lyon and Caldwell counties have been placed under the supervision of Dr. Leonard A. Crosby, Elkton, formerly health officer of Todd County, which has been combined with Logan County under the direction of Dr. Edward M. Thompson, Russellville. Livingston and Crittenden counties form a combined unit with Dr. James O. Nall, Marion, in charge. Dr. Clifton M. Fischbach, recently in

Smithland, Livingston County, has been transferred to Barren County, with headquarters at Glasgow. Dr. Charles Edgar Reddick, Paducah, has been appointed health officer of McCracken County to succeed Dr. Russell E. Teague, Paducah, who has been appointed assistant state epidemiologist. Dr. Max E. Blue, formerly of Burkesville, has been appointed health officer of Madison County to succeed Dr. Charles B. Billington, Richmond, who has entered military service.

MASSACHUSETTS

Appointments to Harvard's New Dental School.—Appointments to the faculty of the new School of Dental Medicine at Harvard University, Boston, have been announced:

Dr. Joseph W. Ferree of Columbia University College of Physicians and Surgeons, New York, as assistant professor of dental medicine.

Charles M. Waldo, D.D.S., University of Michigan School of Dentistry, Ann Arbor, as assistant professor of orthodontics.

Alfred P. Rogers, D.D.S., clinical professor of orthodontics.

Paul E. Boyle, D.M.D., assistant professor of clinical dentistry.

Other appointments are four changes in the titles of faculty members who will give instruction at the school of dental medicine:

Dr. Varaztad H. Kazanjian, professor of clinical oral surgery, will become professor of plastic surgery.

Fred R. Blumenthal, D.M.D., assistant professor of orthodontia, will become assistant professor of orthodontics.

Kurt H. Thoma, D.M.D., Charles A. Brackett professor of oral pathology, will become also professor of oral surgery.

Arthur M. Maloney, D.M.D., associate professor of prosthetic dentistry, will become associate professor of clinical dentistry.

The other members of this first group which is to begin the development of the new school include Dr. Leroy M. S. Miner, professor of clinical oral surgery; Harold A. Kent, D.M.D., assistant professor of oral surgery; Paul K. Losch, D.D.S., instructor in clinical dentistry; Dr. David Weisberger, instructor in clinical dentistry, and Dr. Bradford Cannon, instructor in plastic surgery. A national scholarship has been established at the school of dental medicine to enable a young man of outstanding ability and promise to study dentistry, no matter what his financial circumstances may be. This year the award will go to a third or fourth year student in a college or university situated in Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota or South Dakota. The stipend will vary from a minimum of \$100 to a maximum of \$1,000, according to the recipient's need. A successful applicant who maintains an honor record at Harvard will continue to hold the scholarship throughout the five year course leading to the M.D. and D.M.D. degrees. Harvard established the school of dental medicine, which will open in September, to train new types of scientific workers, combining the skills of both medicine and dentistry, for an attack on dental disease. The school has been made possible by gifts from the Carnegie Corporation, the Rockefeller Foundation and the John and Mary R. Markle Foundation. Its permanent assets for teaching and research in dentistry will total \$2,550,000.

MICHIGAN

Incubators for Experimental Purposes.—The Michigan State Department of Health, Lansing, will lend newly designed incubators to communities selected on an experimental basis to see what can be done with the problem of infant care. With the incubators, postgraduate instruction will be provided for physicians and nurses so that the latest methods of care for under-sized and underweight babies will be made available. The incubators will be distributed for loan by local health departments.

Society News.—Dr. Geza de Takats, Chicago, discussed "Postoperative Thrombosis and Embolism" before the Wayne County Medical Society, Detroit, March 24.—The Detroit Ophthalmological Society was addressed, March 27, by Heinz Werner, Ph.D., Northville, on "Psychology of Stereoscopic Vision."—Dr. Frederick A. Coller, Ann Arbor, discussed "The Treatment of Wounds" before the Jackson County Medical Society in Jackson, March 18.—Dr. Robert F. Hague discussed "National Defense and Naval Service" before the Genesee County Medical Society, Flint, March 4.—Dr. Horace Newhart, professor of otology, rhinology and laryngology, University of Minnesota Medical School, Minneapolis, discussed "Conservation of Hearing" before the Calhoun County Medical Society, Battle Creek, March 4.

Physicians Honored.—A public reception was held in the high school gymnasium at Algonac, March 4, to honor Drs. Walter E. Bostwick and Thomas L. Stringer on their completion of forty-seven years of practice in Algonac and Clay township. Dr. Stringer died suddenly March 10.—Dr. James F. Darby, St. Ignace, was honored, February 14, when the

La Salle high school band led a group of more than five hundred school children in a parade to the city hall and presented him with a purse of \$22 donated by the children, marking Dr. Darby's forty-fifth anniversary in the practice of medicine in the community.—Drs. Wilbur F. Hoyt and John C. Maxwell, Paw Paw, were guests at a banquet, March 12, observing their many years' service to the community. Dr. Hoyt has practiced in Paw Paw forty-seven years, and Dr. Maxwell forty-six. Both were presented with inscribed plaques. The dinner was sponsored by the Paw Paw Council of Churches.—The Sanilac County Medical Society gave a banquet in honor of Dr. Lewis E. Cochran, Peck, March 13, in recognition of his many years' practice in the community. On September 6 Dr. Cochran will observe his fiftieth medical anniversary.

MINNESOTA

University News.—A grant of \$5,000 has been received by the University of Minnesota from the Carnegie Corporation of New York for continued support of investigations of viruses in relation to cell growth, conducted under the direction of Dr. Robert G. Green, Minneapolis, according to *Minnesota Medicine*.

Society News.—Dr. William B. Castle, Boston, addressed the Minnesota Pathological Society in Minneapolis, March 4, on "Hemolytic Anemias."—Dr. Edwin C. Hamblen, associate professor of obstetrics and gynecology, Duke University School of Medicine, Durham, N. C., addressed the Minneapolis Academy of Medicine, March 13, in Minneapolis on "The Sterol Family."—Dr. John Scudder, New York, delivered a Mayo Foundation lecture in Rochester, March 6, on "Blood Studies in Shock as a Guide to Therapy."—Dr. Frederick H. K. Schaaf, Minneapolis, discussed avitaminosis before the Scott-Carver Counties Medical Society, Mudbaden, March 11. The society was addressed in Shakopee, February 11, by Drs. Carl C. Chatterton, St. Paul, and Malvin J. Nydahl, Minneapolis, on "Fractures of the Elbow" and "Functions of the Crippled Children's Bureau," respectively.

MONTANA

Personal.—Dr. Allen R. Foss, Missoula, has been appointed to the state board of medical examiners, succeeding the late Dr. George M. Jennings, Missoula.

Society News.—Dr. Ambrose L. Hammerel, Billings, was elected president of the Montana Academy of Oto-Ophthalmology at a meeting in Butte February 10 and Dr. Fritz D. Hurd, Great Falls, was chosen secretary-treasurer. Drs. Earle Strain, Great Falls, and Russel Gwinn, formerly of Missoula and now of Glendale, Calif., were made honorary life members. Dr. Robert M. Morgan, Butte, was made an honorary member, according to the *Journal-Lancet*.

NEBRASKA

Food Poisoning at Indian School.—One hundred and thirty pupils in an elementary school on the Omaha Indian reservation near Macy became ill of food poisoning, March 21, the *Chicago Tribune* reported. Sixty-eight children were hospitalized. An investigation was begun of the children's lunch, which comprised potato salad, peanut butter sandwiches, canned salmon, dried peaches and milk.

Society News.—Dr. Thomas Leon Howard, Denver, addressed the Omaha-Douglas County Medical Society, Omaha, March 11, on "Place of the Excretory Urogram in Urologic Diagnosis." Dr. Albert V. Stoesser, Minneapolis, addressed the society, February 11, on "Prevention and Treatment of Contagious Diseases," and Dr. George E. Robertson, Omaha, "Bacterial Standards of Certified Milk."

NEW HAMPSHIRE

Prosecutions for Illegal Practice.—The state board of health has recently prosecuted two persons for practicing medicine illegally, *New Hampshire Health News* reports. Fritz Bartel, West Lebanon, was found guilty and fined \$200 and costs of \$11.50, with six months' suspended jail sentence and three years' probation. It was said that he had previously served thirty days in jail for a similar conviction. This man made a "medical examination" of an investigator who visited his office and diagnosed a "wrong condition" of the heart by application of the hands. In the second case, one Nathan C. Oban, Granite State Herb Company, Nashua, was said to have given treatments consisting of herbs and tablets to two persons. Fees of \$45 had been charged. On a plea of nolo contendere Oban received a fine of \$25 with costs of \$13.10 and was ordered to make restitution to the complainants.

NEW JERSEY

Hospital News.—Dr. Herman O. Mosenenthal, New York, gave a lecture at Aurora Institute, Morristown, March 30, on "Management of Diabetes." Dr. Foster Kennedy, New York, will speak at the institute, May 18, on "The Interrelationship of Mind and Body."

Society News.—Dr. William G. Leaman Jr., Philadelphia, addressed the Middlesex County Medical Society, February 19, on "Curable Types of Heart Disease."—Drs. Stanley P. Reimann and John Stewart Rodman, Philadelphia, addressed the Ocean County Medical Society, Lakewood, in February on "Secondary Breast Tumors" and "The Woman with a Lump in Her Breast" respectively.

Chemist Drowned.—The body of Erhard Fernholz, director of the division of organic chemistry of Squibb Institute for Medical Research, New Brunswick, who had been missing since Dec. 14, 1940, was found, March 15, in Lake Carnegie in Princeton, where he lived. He came to the United States from Germany in 1935, had held a fellowship at Princeton University and had been associated with Merck Laboratories before joining the Squibb Institute.

NEW YORK

Eastman Lecture.—Dr. Alfred Blalock, professor of surgery, Vanderbilt University School of Medicine, Nashville, Tenn., delivered the Eastman Memorial Lecture at the University of Rochester School of Medicine and Dentistry, March 7, on shock.

Changes in State Health Department.—Dr. Edward S. Rogers, director of the bureau of pneumonia control in the state department of health, Albany, has been provisionally appointed assistant commissioner for medical administration. Dr. Henry van Zile Hyde, Syracuse, has been appointed to succeed Dr. Rogers in the pneumonia bureau. Dr. Hyde graduated from Johns Hopkins University School of Medicine, Baltimore, in 1933 and has recently been instructor in clinical medicine at Syracuse University College of Medicine.

Buffalo Alumni Meeting.—The seventh annual clinical day presented by the Alumni Association of the University of Buffalo School of Medicine is being held April 5 at the Hotel Statler, Buffalo. There will be clinical lectures and a parallel program of round table discussions during the day and class reunions in the evening. Speakers announced are:

- Dr. Thomas E. Jones, Cleveland, Surgical Treatment of Diseases of the Colon.
- Dr. William Barry Wood Jr., Baltimore, Chemotherapy in Bacterial Infections.
- Dr. William F. Rienhoff Jr., Baltimore, Surgical Treatment of Carcinoma of the Lung.
- Dr. George W. Thorn, Baltimore, Treatment of Edema.
- Dr. Henry F. Helmholz, Rochester, Minn., Recent Developments in Treatment of Urinary Infections.
- Dr. Clarence D. Selby, Detroit, Occupational Diseases.

Dr. Frank N. Potts, Buffalo, is president of the alumni association and Dr. Louis Maxwell Lockie, Buffalo, secretary.

New York City

Annual Art Exhibit.—The fourteenth annual exhibition of the New York Physicians' Art Club will open, May 3, at 6 East Fifty-Seventh Street under the auspices and for the benefit of the British War Relief Society, medical aid department. Pictures and sculpture marked for donation will be auctioned at the close of the exhibition for the benefit of war relief. Works previously exhibited may be submitted, and the usual limitation to four has been waived for this occasion, according to an announcement. Dr. Percy H. Fridenberg, 38 West Fifty-Ninth Street, is secretary of the art club.

Health Department Seventy-Five Years Old.—The seventy-fifth anniversary of the founding of the New York City Department of Health was observed, March 5. The speakers were Mayor La Guardia, Drs. John L. Rice, health commissioner, Haven Emerson, and James Alexander Miller. Six former commissioners were present at the ceremony: Drs. Emerson, Thomas Darlington, Sigismund S. Goldwater, Julius Lewis Amster, Frank J. Monaghan and Shirley W. Wynne. In the first quarter century the board was concerned chiefly with environmental sanitation. During the next quarter century the development of bacteriology enabled the health department to pioneer in the application of new discoveries to the control of disease, notably under the leadership of Drs. Hermann M. Biggs and William H. Park. In the twenty-five years just ended, socioeconomic factors have been increasingly

considered in relation to public health. Most striking of recent developments is the decentralization of its work into district health centers. Seventy-five years ago the general death rate was 35 per thousand of population and the infant mortality 245 per thousand live births. Last year the death rate was 10.3 and the infant mortality rate was 35. The present health department has eleven bureaus with a personnel of 2,700.

Society News.—Dr. Frank H. Lahey, Boston, President-Elect of the American Medical Association, addressed the New York Surgical Society, March 12, on "Surgical Treatment of Peptic Ulcer; Primary and Secondary."—Speakers at a combined meeting of the New York Neurological Society and the section of neurology and psychiatry of the New York Academy of Medicine, March 11, were Drs. Charles Davison on "Effect of Liver Therapy on the Pathways of the Spinal Cord in Subacute Combined Degeneration"; George S. Sprague, White Plains, "Psychopathology of Psychopathic Personality," and Gregory Zilboorg, "Ambulatory Schizophrenias."—The Association of Private Hospitals, Inc., held its first scientific meeting, February 20, with Drs. Fred W. Rankin, Lexington, Ky., and Irvine H. Page, Indianapolis, as the speakers, on "Modern Management of Carcinoma of the Rectum" and "The Nature and Treatment of Hypertension" respectively.—Dr. Franz M. Groedel addressed the New York Cardiological Society, February 26, on "Possibility of an Isolated Electrocardiogram of Either Right or Left Ventricle."—Drs. Linn J. Boyd and Francis D. Speer discussed clinical and pathologic aspects, respectively, of "Carcinoma of the Adrenal Cortex" at a meeting of the New York Endocrinological Society, February 26, and Thomas H. McGavack, "Therapeutic Problems Created by Recent Advances in Our Knowledge of Addison's Disease."—Dr. Milton C. Winternitz, New Haven, Conn., addressed the New York Pathological Society, February 27, on "Studies on the Relation of the Kidney to Cardiovascular Disease."

OHIO

Annual Post-Collegiate Assembly.—The eighth Post-Collegiate Assembly of Ohio State University College of Medicine, Columbus, will be held April 15-17. The annual Alpha Omega Alpha Lecture by Dr. James E. Perkins, associate professor of preventive medicine and public health, Albany Medical College, Albany, N. Y., will be on communicable disease control. Seminars and symposiums by the faculty will make up the program. At the same time the university is presenting a special course under the auspices of the American College of Physicians on "Clinical Medicine from the Hematologic Viewpoint." April 16 there will be a joint meeting of the two groups for a symposium on blood transfusion. Speakers will be Dr. Charles A. Doan, Columbus, who will discuss general considerations, indications and contraindications; Laurence H. Snyder, Sc.D., Columbus, "Isoagglutination; the Significance of Groups M and N; Medicolegal Applications," and Dr. Paul I. Hoxworth, Cincinnati, "The Roles of Whole Blood, Plasma and Dried Plasma in a Transfusion Service" and also "Organization and Operation of a Blood Bank and Volunteer Donor Bureau for Cincinnati." Prof. Henrik Dam of the Biochemical Institute, University of Copenhagen, Denmark, will lecture Thursday afternoon, April 17, on "Vitamin K: (a) Its General Significance in Biochemistry, (b) Its Role in Human Pathology and Its Application in Therapeutics."

OKLAHOMA

Clinic Day in Oklahoma City.—The Oklahoma City Internists Association held Washington's Birthday Clinics at University Hospital. Among the presentations were:

- Dr. Frederick Redding Hood, Coronary Disease.
- Dr. Wayne M. Hull, Gastrointestinal Allergy.
- Dr. William M. Taylor, Low Grade Fevers of Childhood.
- Dr. Rufus Q. Goodwin, Vitamin Deficiencies.

Dr. Elmer R. Musick was chairman of the clinics.

Society News.—Drs. Joseph C. Canada and Thomas H. Briggs, Atoka, addressed the Atoka-Coal Counties Medical Society, February 18, in Coalgate on "Obesity and the Endocrines."—Drs. Tracey H. McCauley and Claude E. Lively, McAlester, addressed the Pittsburg County Medical Society, McAlester, February 21, on peptic ulcer.—Dr. Joseph W. Kelso, Oklahoma City, was a guest speaker before the Stephens County Medical Society in Duncan, February 25, on "Functional Bleeding."—Dr. George S. Baxter, Shawnee, discussed typhus fever at a meeting of the Pottawatomie County Medical Society, Shawnee, March 15.

OREGON

New Officers of State Board of Health.—Dr. Norman E. Irvine, Lebanon, was recently elected president of the state board of health and Dr. Wendell H. Hutchens, Portland, vice president. Dr. Frederick D. Stricker, Portland, state health officer, was reelected secretary.

Personal.—Dr. Wilmer C. Smith, Corvallis, has been appointed chief medical consultant for the state industrial accident commission.—Dr. Louis P. Gambee, Portland, has been appointed a member of the state public welfare commission to succeed Dr. Robert L. Benson, Portland, according to *Northwest Medicine*.

PENNSYLVANIA

Society News.—Drs. John Day Garvin, Pittsburgh, and Robert C. Johnston, New Kensington, addressed the Westmoreland County Medical Society at the Mountain View Hotel, Greensburg, March 4, on peptic ulcer.—Dr. Joseph H. Barach, Pittsburgh, addressed the Cambria County Medical Society, Johnstown, March 13, on "Peripheral Vascular Disease."

Philadelphia

Hospital News.—Dr. Louis J. Hirschman, Detroit, addressed the Proctologic Society of the Graduate Hospital, University of Pennsylvania, February 19, on "Sphincter Conservation in Fistula Surgery." Commentators were Drs. Frank C. Yeomans, New York, Descum C. McKenney, Buffalo, William Wayne Babcock and Collier F. Martin.

Alvarenga Prize Lecture.—Dr. Ernest W. Goodpasture, professor of pathology, Vanderbilt University School of Medicine, Nashville, Tenn., delivered the Alvarenga Prize Lecture of the College of Physicians of Philadelphia, March 5. His subject was "The Cell-Parasite Relationship in Bacterial and Virus Diseases." Award of the prize to Dr. Goodpasture was announced by the College of Physicians, July 14, 1940.

Medical College News.—Dr. Alice Hamilton, Hadlyme, Conn., medical consultant, Bureau of Standards, U. S. Department of Labor, gave a lecture at the Woman's Medical College of Pennsylvania, March 11, on "Dangers in the Manufacture of Explosives." Dr. Elise D. S. L'Esperance, New York, spoke, February 27, on "Treatment of Cancer of the Body of the Uterus," and Dr. Herbert T. Kelly, January 24, on "Calcium Metabolism and Its Abnormalities." Dr. Catharine Macfarlane, professor of gynecology, has received a grant of \$1,200 from the International Cancer Research Foundation.

Pittsburgh

Society's Six Graduate Courses.—The Allegheny County Medical Society is presenting its fifteenth series of practical courses for its members. The lecturers are:

Ear, Nose and Throat Diagnosis and Treatment for the General Practitioner, Drs. John R. Simpson, Emmett D. Boaz II and Daniel S. DeStio at Falk Clinic and Children's Hospital.

Clinical Considerations of Allergy, Dr. Leo H. Crip at Falk Clinic.

Physiology of Circulation and Respiration; Fundamental Concepts and Present Advances, Dr. Paul L. McLain, Theophile K. T. Kruse, Ph.D., and Dr. George J. Pastorius at the old Mellon Institute.

Refresher Course in Obstetrics, Dr. Howard A. Power at Elizabeth Steel Magee Hospital.

Practical Obstetric and Gynecologic Endocrinology for the General Practitioner, the faculty of the University of Pittsburgh School of Medicine and the staff of the Elizabeth Steel Magee Hospital.

Interpretation of Present Day Laboratory Findings, Drs. Joseph W. McMeans, Leonard A. Burgard and assistants at Pittsburgh Hospital.

SOUTH CAROLINA

Changes in Health Officers.—Dr. George H. Zerbst, formerly of Sumter, has been appointed to succeed Dr. James L. Mims, Lexington, as health officer of Lexington County.—Dr. John Y. O'Daniel, Bennettsville, has resigned as health officer of Marlboro County to engage in private practice in Georgia, it is reported.

District Meeting.—The Second District Medical Society held its semiannual meeting at Aiken recently with the following speakers: Drs. Orlando B. Mayer, Columbia, on "Acute Infectious Mononucleosis"; Emory C. Kinder, Aiken, "Extra-Uterine Chorionepithelioma in a 15 Year Old Girl," and Joseph Warren White, Greenville, "Elbow Fractures in Children."

Society News.—Dr. Claude S. Beck, Cleveland, addressed the Columbia Medical Society, February 10, on "Surgery of the Heart." Dr. Hugh McCulloch, St. Louis, addressed the society, March 10, on "Chorea and Rheumatic Fever."

Dr. Mason P. Young, Anderson, addressed the Anderson County Medical Society in Anderson, March 12, on "Medical Findings Among War Refugees in China."

TENNESSEE

State Medical Meeting.—The one hundred and eighth annual meeting of the Tennessee State Medical Association will be held at the Noel Hotel, Nashville, April 8-10, under the presidency of Dr. Leonard W. Edwards, Nashville. At an evening meeting Tuesday April 8 Dr. Edwards will make his official address, Drs. Frank H. Lahey, Boston, President-Elect, and Olin West, Chicago, Secretary and General Manager of the American Medical Association, will deliver addresses. Other guest speakers will be:

Dr. Howard K. Gray, R. Chester, Minn., Surgery of Peptic Ulcer.

Brig. Gen. Albert G. Love, M. C., U. S. Army, Washington, D. C., The Medical Profession and National Defense.

Dr. Arthur C. Christie, Washington, D. C., Diagnosis and Treatment of Cancer of the Throat.

Dr. Stanley Gibson, Chicago, Diagnosis of Rheumatic Infections in Children.

Dr. Carl M. Peterson, secretary, Council on Industrial Health, American Medical Association, Chicago, Medical Relationships in Industry.

Among Tennessee physicians who will present papers will be:

Dr. Francis Murphy, Memphis, Intervertebral Disk Pain and Its Relief.

Dr. Alfred Blalock, Nashville, Treatment of Shock with Particular Reference to the Use of Plasma.

Dr. Burnett W. Wright, Nashville, Present-Day Method of Treating Urinary Tract Infection.

Dr. Robert G. Reaves, Knoxville, Preserving Physiological Functions in Nasal Operations.

Dr. Philip H. Livingston, Chattanooga, A Study in Thyroid Heart Disease.

Dr. William Battle Malone II, Memphis, Gastrointestinal Hemorrhage.

The Tennessee Academy of Ophthalmology and Otolaryngology will hold its annual meeting April 8, with Dr. Daniel B. Kirby, New York, as the guest speaker on "Procedures in Cataract Extraction." The Tennessee State Pediatric Society will also meet April 8 with Dr. Gibson as its guest, speaking on "Differential Diagnosis of Heart Conditions in Children."

TEXAS

Lead Poisoning from Battery Boxes.—Two deaths of young children from lead poisoning in Dallas recently were attributed to fumes from lead-impregnated wood from old batteries salvaged from the city dump by indigent families to be used as fuel.

Special Society Meetings.—Dr. George R. Herrmann, Galveston, was elected president of the Texas Club of Internists at a meeting in Houston in February, and Dr. Merritt B. Whitten, Dallas, secretary. Dr. Neil D. Buie, Marlin, president-elect of the State Medical Association of Texas, was the speaker at a banquet given by Houston members.—Dr. Wilmer L. Allison, Fort Worth, was elected president of the Texas Society for Mental Hygiene at its sixth annual meeting in San Antonio in February; Dr. Francis J. O'Brien, New York, was the guest speaker on "Education for Mental Hygiene."—Dr. Edgar M. Dunstan, Dallas, was named president-elect of the Texas Hospital Association at its annual meeting in Houston February 26-28, and Mr. Harry G. Hatch, Amarillo, became president. Speakers included the Rev. Alphonse M. Schwitala, S.J., dean of St. Louis University School of Medicine, St. Louis, and Dr. Joseph C. Doane, medical director, Jewish Hospital, Philadelphia.

WASHINGTON

Society News.—Dr. William K. Livingston, Portland, Ore., addressed the Spokane County Medical Society, Spokane, March 13, on "Novocaine Injections in the Treatment of Pain."

—Dr. Herbert E. Coe and R. E. Ramaker, D.D.S., Seattle, addressed the Walla Walla Valley Medical Society, Walla Walla, in March on "Preoperative Care and Sequence of Operations for Cleft Lip and Palate" and "Prevention and Correction of Common Oral and Nasal Deformities During Infancy" respectively.—Dr. John W. Epton, Spokane, addressed the Whitman County Medical Society, Colfax, March 6, on surgery in children.

WISCONSIN

State Health Board Officers.—Dr. William W. Kelly, Green Bay, was elected president of the state board of health at the board's annual meeting recently. Dr. Stephen Cahana, Milwaukee, was elected vice president and Dr. Cornelius A. Harper, Madison, reelected secretary.

Hospital News.—An improvement program has recently been completed at the Luther Hospital, Eau Claire, at a cost of \$100,000. The changes include a modern department of obstetrics with a nursery, additional rooms for patients, a new diet kitchen and new mechanical equipment. The architects were Schmidt, Garden and Erikson, Chicago, and Harold M. Nelson, Eau Claire.

WYOMING

Changes in State Boards.—Recent appointments to the state board of medical examiners include those of Drs. George H. Phelps, Cheyenne; Foster C. Shaffer, Douglas, and Orson L. Treloar, Afton. Dr. William A. Steffen, Sheridan, and C. W. Tarrant, D.O., Laramie, were reappointed.—Dr. William F. Smith, Lander, has been appointed to the state board of health. Raymond Howe, D.D.S., Cody, Drs. Enos G. Denison, Sheridan, Najeeb E. Morad, Casper, and Marshall C. Keith, Cheyenne, secretary and state health officer, were reappointed.

GENERAL

Board Examinations Changed.—The American Board of Ophthalmology announces cancellation of its examination scheduled for Cleveland June 2. Instead an examination will be held in New York June 2 to accommodate candidates from the East Coast. Arrangements for the Pacific Coast examination have also been changed. This will be held July 15 at Portland, Ore.

Dr. Doub New Editor of "Radiology."—Dr. Howard P. Doub, Detroit, is the new editor of *Radiology*, succeeding Dr. Leon J. Menville, New Orleans, resigned. Dr. Menville has been editor of the publication since June 1931. He has been professor of radiology at Tulane University of Louisiana School of Medicine since 1934 and recently he was named director of the department of radiology of Charity Hospital in New Orleans. Dr. Doub graduated at Johns Hopkins University School of Medicine, Baltimore, in 1917.

Norman Baker Denied Rehearing—Conviction Stands.—The Supreme Court of the United States denied a petition of Norman Baker, recently of Eureka Springs, Ark., for a rehearing, March 3, so that the judgment of conviction for using the mails to defraud is now made final. On Nov. 22, 1940, the conviction of Baker and his two associates R. A. Bellows and Dr. J. L. Statler was affirmed by the Eighth Circuit Court of Appeals at St. Louis. In January 1940 Baker was sentenced by the federal district court to four years in prison and fined \$4,000 in connection with the promotion of his cure for cancer.

American College of Physicians.—The twenty-fifth annual session of the American College of Physicians will be held at the Hotel Statler, Boston, April 21-25, under the presidency of Dr. James D. Bruce, Ann Arbor, Mich. There will be six general sessions, the programs of which include symposiums on military medicine, diseases of the circulation, nutritional diseases and infectious diseases. Speakers in the symposium on military medicine will include Major Gen. James C. Magee, surgeon general, U. S. Army; Rear Admiral Ross T. McIntire, surgeon general, U. S. Navy, and Dr. Thomas Parran, surgeon general, U. S. Public Health Service, who will discuss their respective services. Others will be:

Dr. Paul A. Neal and John J. Bloomfield, U. S. Public Health Service, Washington, D. C., Industrial Hygiene in the National Defense Program.

Lieut. Col. Arthur P. Hitchens, M. C., U. S. Army, Philadelphia, Control of Infectious Diseases in Rapidly Mobilized Troops.

Dr. Max M. Strumia, Bryn Mawr, Pa., Development of Plasma Preparations for Transfusions.

Comdr. Charles S. Stephenson, M. C., U. S. Navy, Washington, D. C., Special Medical Service in the Defense Program.

Lieut. Col. Patrick S. Madigan, M. C., U. S. Army, The Recruit's First Year.

Among other speakers will be Dr. Russell M. Wilder, Rochester, Minn., chairman of the committee on food and nutrition of the National Research Council, who will discuss "The National Nutrition Program," and Lieut. Col. Paul P. Logan, O. M. C., U. S. Army, Washington, "Food Rationing in the Armed Forces." Dr. William C. Stadie, associate professor of research medicine, University of Pennsylvania School of Medicine, Philadelphia, who is to receive the John Phillips Memorial Medal, will deliver an address on "Fat Metabolism in Diabetes Mellitus." Dr. James Alexander Miller, New York, will deliver the convocation address and Dr. Bruce his official address at the annual convocation Wednesday evening. At the annual banquet Thursday evening Earnest A. Hooton, Ph.D., professor of anthropology, Harvard University, Cambridge, will be the speaker. His subject will be "Hip-Hip-Hippocrates or An Anthropological Cheer for Medi-

cine." In addition there will be lectures each morning, panel discussions each day at noon at the Statler and the Copley Plaza hotels, and clinics and demonstrations at various Boston hospitals each morning.

Illegal Solicitor Wanted.—The Post Office Department is endeavoring to secure information about Charles G. Turner, wanted at Wilmington, Del. Turner and three others were indicted by a federal grand jury at Wilmington, Nov. 13, 1940, charged with fraudulently using the mails in connection with a solicitation scheme. Garage owners and operators in New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, West Virginia, North Carolina and South Carolina were induced to enroll with the Underwriters Motor Bureau, Delaware Trust Building, Wilmington. It is believed possible that similar solicitations may be made to enroll doctors, lawyers or other professional men in some so-called bureau. The following description is furnished for Turner: age, about 37; height, 5 feet 8 inches; weight, 155 pounds; eyes, brown; hair, black; nationality, American; build, medium; dress, flashy; features, sharp; wife's name, Hazel. Any information concerning Turner should be either wired or telephoned to any post office, government collect. His immediate arrest should be effected if possible.

LATIN AMERICA

Visit of Brazilian Physicians.—Dr. A. C. Pacheco e Silva, professor of psychiatry at the University of São Paulo, Brazil, will arrive in the United States April 7 for a period of travel and observation, at the invitation of the U. S. Department of State. He has been president of the Medical and Surgical Society of São Paulo and chairman of the department of general culture of the Paulista Medical Association. In addition, he has been professor of social sciences of the school of sociology and politics of São Paulo. Dr. Arthur Ramos, Rio de Janeiro, psychiatrist, anthropologist and writer, is lecturing in the department of anthropology at Northwestern University, Chicago, for several weeks. He also spent some time at Louisiana State University, Baton Rouge. Dr. Ramos graduated from the Faculty of Medicine of Bahia, Brazil, in 1926 and practiced psychiatry for several years. He was chief of the mental hygiene section of the department of education in Rio de Janeiro and later was professor of social psychology in the University of the Federal District there.

FOREIGN

Cholera in Hongkong.—Cholera has recently been reported in the British crown colony of Hongkong. An Associated Press report dated March 21 said that there had been 366 cases so far this year. A report dated March 14 gave the number of cases as 69, all among Chinese.

Underground Hospital in Switzerland.—A subterranean hospital with facilities for treating an average of 500 slightly wounded patients has been completed at Basle, Switzerland, it is reported. The building was planned in accordance with the principles governing fortress architecture and is expected to be strong enough to resist the heaviest of bombs. It has four exits. The hospital is equipped for about one hundred and eighty operations a day and has a special plant which in case of emergency can furnish light, heat, hot water and fresh air.

Deaths in Other Countries

Dr. Matias Duque y Perdomo, former secretary of health of Cuba, died February 24 of cancer of the throat, aged 72.

—**Dr. Gilberto P. Alondo,** inspector general of hygiene of Nicaragua, died in Managua March 7, aged 57, the *New York Times* reported.

CORRECTIONS

Census of St. Joseph Hospital.—In the Hospital Number of THE JOURNAL, March 15, page 1129, St. Joseph Hospital, Reading, Pa., should have reported an average census of 156 instead of 70.

Births in Herman Kiefer Hospital.—The Herman Kiefer Hospital, Detroit, reported 1,010 births for the year 1940, as published in the Hospital Number of THE JOURNAL for March 15, page 1106. The hospital now informs us that this figure should have been 1,819.

Spermatic Cord Tumors: Report of a Fibromyxolipoma.—In the clinical note by Drs. M. Pinson Neal and J. Frank Jolley in THE JOURNAL, March 22, the parenthesis in the ninth line on page 1219 should close after "granulomas" rather than in the tenth line after "hematomas."

Government Services

Annual Report of Public Health Service

The sixty-ninth annual report of the Surgeon General of the U. S. Public Health Service for the fiscal year 1940 covers the first year's activities under the Federal Security Agency. The transfer of the Food and Drug Administration to the Federal Security Agency and of St. Elizabeths Hospital and of Freedmen's Hospital, Washington, D. C., to the jurisdiction of the public health service reflects the further coordination of health activities. Reports from forty-five states, the District of Columbia, Hawaii and Alaska give a provisional crude death rate of 10.7 for 1939, which is slightly higher than the lowest recorded rate of 10.6 per hundred thousand of population in 1938. The maternal mortality rate declined for the tenth consecutive year. The provisional rate was 10 per cent less than that of 1938. For the first time since such data have been available, the maternal mortality rate was less than 4 per thousand live births. The provisional infant mortality rate of 47 per thousand live births was the lowest on record and represents a decline of 15 per cent during the past five years. After a temporary increase in 1937 and 1938, the birth rate declined about 2 per cent during 1939.

No cholera has originated in the United States since 1911, and the last case of yellow fever occurred in 1924. One case of human plague occurred in Utah in December 1939. Human cases of rabies decreased from 71 in 1938 to 44 in 1939. There was also a decrease in the incidence of undulant fever. A total of 275,503 cases of influenza was reported in 1939, more than twice the number in 1938. The death rate from pneumonia was unusually low in 1939. Only two states reported higher pneumonia rates than in 1938. This is especially significant in view of the fact that a sharp increase in the prevalence of influenza is usually accompanied by an increase in pneumonia mortality. The decrease in pneumonia deaths during the past two years reflects the more extensive use of improved diagnostic techniques and of new methods of treatment. The provisional rate for fatal automobile accidents was 23.7 per hundred thousand of population for 1939, 20 per cent less than the corresponding rate of 1937, in which year the highest death rate from this cause was reported. An outbreak of poliomyelitis occurred early in the summer of 1939 in the South Atlantic states and later spread to all sections of the country. Thus, the report points out, although the prevalence of poliomyelitis was below the median for 1934-1938, it was four times greater in 1939 than in 1938.

Since the social security program became effective a total of \$36,833,000 has been appropriated for grants-in-aid to the states. During the last fiscal year new amendments authorized an increase from \$8,000,000 to \$11,000,000 for allocation to the states for grants-in-aid. The additional funds were utilized principally in strengthening or establishing special programs for pneumonia, tuberculosis, cancer, malaria, dental hygiene and industrial hygiene. The total amount of money available from all sources in those health jurisdictions where federal funds were budgeted was \$83,790,782 for the fiscal year 1940, representing an increase of \$32,714,421 over similar tabulations for 1939. The greatest proportion of this increase is attributed to the fact that certain large cities now participating in cooperative health programs are submitting their budgets to the public health service. During the year 1,577 counties were receiving some form of full time health service; 655 counties were served by single county units, 356 counties were under 122 local districts health units, and 566 counties were included in 106 state supervisory health districts. During the four and one half years that the Social Security Act has been operating the number of single county health units has increased 34.8 per cent and the number of counties served by local district health units has increased 187.1 per cent. The number of counties receiving full time health services is now greater than at any time in the past.

Venereal disease continues to be one of the principal causes of disability in military as well as in civilian populations. Existing diagnostic and treatment facilities have been expanded from 1,750 clinics and dispensaries for the treatment of venereal diseases as of July 1, 1938, to 2,900 as of July 1, 1940. Private physicians have supplemented these treatment facilities for the medically indigent by utilizing laboratory services and drugs provided by health authorities. There are more than 2,000 laboratories performing tests for venereal disease, three fourths of which are privately owned and operated. The number of laboratory tests reported increased from 5,500,000 in 1939 to 9,000,000 in 1940. The number of tests for gonorrhea increased

from 600,000 in 1939 to 1,100,000 in 1940. Sales of arsenical drugs for the treatment of syphilis have increased from 10,700,000 doses in 1938 to 12,400,000 in 1939. Thirty per cent of the arsenicals furnished by state health departments are given to private physicians for use in the treatment of indigent or part pay patients. About 424,000 patients received treatment in the twenty-six marine hospitals and 126 other relief stations of the service. A total of 213,778 physical examinations was performed. Although merchant seamen continued to compose the largest single group of patients, definite increases were noted in the number of patients from other classes of beneficiaries. Two new hospitals at Boston and at Kirkwood, Mo., were occupied during the year, and funds were appropriated for improvements at other hospitals. The organization of a tumor clinic at the Baltimore Marine Hospital has been practically completed. Patients have been received and treated there since Nov. 1, 1939, during which time 183 persons have been hospitalized and 43 have been treated as outpatients; 146 other patients have been seen or examined in consultation. The report contains recommendations for two tuberculosis hospitals, one near the East Coast and one in southern California, the latter to be combined with a general marine hospital needed in that area. The report also stated that new marine hospital facilities for general medical and surgical cases are much needed on the mainland of Florida. During the year quarantine officers of the service inspected 15,607 vessels, carrying 489,157 passengers and 933,360 seamen, and fumigated 900 vessels. Examinations of the rats recovered following fumigation showed none of them to be plague infected. Inspections were made at United States airports of entry of 2,184 airplanes, carrying 35,667 passengers, of whom 11,171 were aliens. Medical officers at the various United States ports of entry examined 637,398 alien passengers and 551,489 alien seamen. Eighteen thousand seven hundred and ninety-three passengers and 1,271 seamen were certified to immigration officials as having mental or physical defects or diseases. A total of 64,442 applicants for immigration visas was examined by medical officers of the public health service stationed at American consulates in foreign countries.

Although quarantinable diseases were prevalent in many parts of the world during the year, the only cases to reach United States territory were 2 cases of smallpox, 1 of which arrived at Honolulu and the other at New Orleans.

For the tenth consecutive year the service furnished the medical, psychiatric and other technical services in federal penal and correctional institutions. The hospital at Lexington, Ky., operated during the year with an average daily population of 1,014. The primary construction of the mental hospital at Fort Worth, Texas, was completed during the year; the intended capacity of 1,000 was reached. Diagnostic psychiatric service to federal courts was continued during the year by previously established units in connection with ten selected courts, but lack of funds prevented further expansion of this activity. The service established July 1, 1939 a section on mental health methods to take over the study of mental hospitals which formerly had been conducted by the mental hospital survey committee. Surveys were made of thirty hospitals for the care of the mentally ill, and nineteen other institutions were visited to note changes and improvements in practice or to provide advisory services. With the transfer of St. Elizabeths Hospital to the service, consideration is now being given to the advisability of establishing an institute for the study of mental and nervous diseases and epilepsy there.

The National Cancer Institute Building was occupied in October 1939. The institute lent radium to forty-seven hospitals in twenty-four states and in Hawaii during the period covered by the report. About 925 patients had been treated with government owned radium by July 1, 1940. Thirteen grants-in-aid totaling \$61,380 were approved and allocated during the current fiscal year.

Development in Pan American relations in the field of public health is attributed largely to the work of the Pan American Sanitary Bureau, which has shown unprecedented growth during the past two years. As in the past, officers of the service have served with the bureau in Washington and in the field. Four officers of the service continued to act as traveling representatives of the bureau. Other officers cooperated with the bureau in making hospital surveys in Peru and El Salvador, in the control of a poliomyelitis epidemic in Colombia and in the investigation of an outbreak of plague in the state of Aragua, Venezuela. In connection with cooperative activities, the service has provided internships in marine hospitals for seven medical students from Chile and from Ecuador. Similar opportunities have been offered to graduates in Brazil, Colombia, Cuba, Guatemala and Honduras.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 1, 1941.

A Medical Tragedy

In an air attack on Manchester, a surgeon, Mr. Edwin D'Arcy McCrea, his wife Edith McCrea, also a surgeon, and their two children were killed. McCrea was a distinguished surgeon who was just reaching the peak of his reputation. His principal interest was diseases of the male genital tract, on which he had published a series of monographs, and a successful book entitled "Diseases of the Urethra and Penis." Mrs. McCrea was honorary surgeon to the Manchester Babies' Hospital. She was a careful worker and precise writer. She was about to publish a paper on pyloric stenosis, the result of many years' work.

Blast Injuries

Before the war, injuries due to blast were rare; the dropping of bombs on the civilian population has made them common. At the Royal Society of Medicine Prof. Solly Zuckerman opened a discussion on the subject by describing experiments performed at the Department of Human Anatomy, Oxford, for the Ministry of Home Security. He said that since the Spanish war it had been known that the blast of high explosives can kill or injure people without causing external injuries. In such cases the most prominent internal lesions were hemorrhages in the lungs. These and hemorrhages in the central nervous system and in the abdominal organs were observed during the war of 1914-1918 in animals exposed to blast. When a high explosive detonated, the large volume of gases generated produced in the surrounding air a blast wave which was a single pulse of increased pressure followed by a phase of suction. The excess pressure in the neighborhood of a heavy explosion might be as much as 150 pounds per square inch but it fell so rapidly that 50 feet from the bomb it might be no more than 5 pounds. Small animals, such as rabbits, were killed instantaneously by excess pressure greater than 50 pounds per square inch; at slightly lower pressures they survived for a short period, during which their symptoms included dyspnea and tachypnea. Blood stained froth was occasionally present in the upper air passages. The principal lesions were pulmonary hemorrhages, which varied in severity with the pressure to which the animals were exposed. Lacerations of the lung were also found. In about 40 per cent of the cases of pulmonary hemorrhages, hemorrhagic lesions were also found in the abdominal organs, of which the most susceptible was the large intestine. Hemorrhages and occasionally lacerations were also found in the small intestine, stomach, liver, spleen, kidney, adrenals, bladder and uterus. Retroperitoneal and intraperitoneal hemorrhage was sometimes present. The central nervous system was affected only by very high pressures. The effect diminished when animals were protected by covering their body walls with sponge rubber. The pulmonary and abdominal injuries were comparable to those which occurred without open wounds from severe blows on the body wall.

In air raids, persons were injured not only by blast but also by missiles and falling masonry. A survey showed that injuries due to blast, such as were observed experimentally, occurred only close to an explosion and were few. Pulmonary hemorrhages could not be regarded as exclusively due to blast, as they might be due to secondary effects such as violent falls or the impact of flying masonry. The tympanic membranes should be examined, as they probably would be ruptured by blast sufficient to produce pulmonary hemorrhage.

Prof. Geoffrey Hadfield reported on thirty necropsies on victims of air raids. In eight there were no significant external injuries and in four pulmonary hemorrhages were associated with a high degree of carbon monoxide saturation of the blood. Two of the subjects died from compression asphyxia and three from asphyxia due to inhalation of the dust of debris; twenty-two showed pulmonary hemorrhages, which were rarely marked on the surface but were sometimes extensive in the substance of the lungs. Rupture of alveoli was not a prominent microscopic finding; alveoli filled with blood usually had intact walls. The primary lesion was widespread dilatation of the alveolar capillaries, from which diapedesis occurred into the alveoli.

New Type of Roentgen Ray Unit for the Fighting Forces

A new type of roentgen ray unit has been introduced for use by the medical services in the case of soldiers in advanced areas, naval men at sea and airmen at distant flying grounds. It will enable a thorough examination to be made without the men having to leave their posts and without the radiologists, who will examine the films, having to visit the patients. These mobile units, which were invented in England but perfected in the United States, take roentgenograms on cinematograph film for projection on a full size screen. It is claimed that these units are far cheaper to operate than the usual fixed type of apparatus. They can be used for any kind of radiography but will be chiefly used to detect the early stages of the many types of chest troubles to which men are subject under conditions of active service, particularly airmen who fly at great heights in a rarified atmosphere. During the war of 1914-1918 many men developed chest complaints because the early stage was undiagnosable by the usual methods used in the field and it was not practical to send them hundreds of miles for examination by specialists. Thus they had to carry on until the trouble was sufficiently advanced to be detectable by the medical officers of the units. Five of the new units have been presented by the American Red Cross and will soon be in service in England.

Benefit to British Spas from the War

The war has created a boom in spa treatment in this country. Many British spas, such as Strathpeffer, Harrogate, Buxton, Bath and Droitwich, are enjoying unprecedented prosperity. Chronic sufferers who used to migrate annually to such foreign health resorts as Spa in Belgium, Wiesbaden in Germany, Vichy and Aix-les-Bains now visit home resorts. There is not a single complaint remediable by Continental waters that cannot be treated with equal benefit at home, where there are seventy different springs.

Gift for Ophthalmologic Research

Lord Nuffield, the automobile magnate, has made a benefaction of \$125,000 to the University of Oxford to encourage ophthalmologic research. This is the latest of his many gifts running into millions of pounds which he has made for the benefit of hospitals, medical schools and medical research.

Frank Thomas Paul

Frank Thomas Paul, a great surgeon whose name is perpetuated in "Paul's tube," has died in his ninetieth year. Educated at Guy's Hospital, he spent his professional life at Liverpool, where he was surgeon to the Royal Southern Hospital and lecturer on clinical surgery at the university. His name will always be associated with the surgery of the large intestine. His first paper on colotomy appeared in 1891, when his glass tube is first mentioned. Ten years later he published a paper on colectomy, in which he perfected the method often wrongly ascribed to Mikulicz. In 1892 he described his improvement on Senn's method of gastroenterostomy, substi-

tuting a bone ring for the bone plate and recommending that the site of anastomosis should be the posterior and not the anterior wall of the stomach. In 1894 he described a new method of amputation at the hip joint. Moynihan said that Paul was the neatest operator he had ever seen. One of the treasures of the Liverpool Medical Association is a cast of Paul's right hand, a unique way of honoring him.

PARIS

(From Our Regular Correspondent)

Dec. 20, 1940.

War Psychosis and Alcoholism

The special infirmary connected with the prefecture of police receives all persons whose mental condition makes them a menace to the public. On admission they are examined and given psychiatric attention. As Heuyer pointed out recently before the Medical Society of the Hospitals of Paris, the police infirmary may be taken as an index of the mental life of Paris. Most of those admitted are persons in a state of acute alcoholism, afflicted with delirium tremens or exhibiting the results of former mental disorders. It is well known that anxiety, mental imbalance and despair, such as the national collapse evoked, drives many to the use of alcohol. However, contrary to general belief, alcohol does not confer courage to those who lack courage; rather it generates civil and military panic. During the second half of August 1938, a time of political unrest when war clouds hovered low, the number of alcoholic addicts in the police infirmary nearly doubled. This alcoholic exacerbation was followed by a return to usual conditions. Toward the end of August 1939, again under the pressure of national stress, the incidence of alcoholism rose to reach the peak of 186 per cent of the normal level by September 15. Then the war was almost forgotten and usual conditions returned until May 1940, when the German offensive began. Soon defeat and evacuations pushed alcoholism to its former peak.

Other psychoses also manifested augmentation, but not in the same proportion. The observations made at the prefecture of police were duplicated at the Ville Evrard. Here cases of chronic alcoholism increased fourfold, beginning with May 1940. Heuyer pointed out that all cases observed in the police infirmary were cases of alcoholism due to wine. Apéritifs and essences were of only secondary significance. It indicates that wine is as harmful as other alcoholic beverages and is capable of inducing acute delirium. The measures employed at the beginning of the World War and in 1920 reduced the incidence of delirium tremens by five eighths. The control measures now in operation were somewhat tardily instituted and are enforceable only in Paris.

BUENOS AIRES

(From Our Regular Correspondent)

Dec. 20, 1940.

Health in Venezuela

According to the annual report for 1939 on public health in Venezuela, a larger number of centers for the distribution of milk to underprivileged children were opened throughout the country and the construction of obstetric institutions was promoted. The mortality rate for children from 1 to 5 years of age slightly increased over that for 1938, because of the pertussis epidemic, for which an effective prophylaxis was lacking. The mortality rate for older children was somewhat lower. The birth rate was higher. In Caracas a policlinic for venereology was instituted in which physicians are trained for service in the interior of the country. The control of malaria continued unabated. In nine hundred and thirty-four villages 3,500 Kg. of quinine was distributed. On invitation of the

Venezuelan government, the Misión Social Norteamericana studied the social problems of the country in cooperation with the various departments. A reformatory for juvenile criminals is to be erected. In the latter part of 1939 the antituberculosis sanatorium Simón Bolívar was founded. It serves also as a center of instruction and much is expected of it in the fight against tuberculosis. Improvements and reforms were introduced into the leprosaries.

Public health activities are administered by the ministry of public health and social welfare, which has charge of maternal and child welfare, tuberculosis, venereal diseases, malaria, epidemiology and vital statistics, control of yellow fever, sanitation and sanitary inspection, inspection of drug stores and the medical professions, health education, and supervision of the national health institute and of the health of school children. Some of the hospitals are supported entirely by the state, others in part. The system of notification of infectious diseases has been improved. The leading transmissible diseases are ancylostomiasis, ascariasis, whooping cough, diphtheria, amebic dysentery, typhoid, gonorrhea, influenza, malaria, measles, syphilis, pulmonary tuberculosis, smallpox, anthrax, bacillary dysentery, leprosy, pellagra, plague, poliomyelitis, rabies and typhus.

Public Health and Social Welfare in Chile

According to M. López in the *Boletín de Medicina Social* (March 1940), the Beneficencia Pública de Chile is an independent semiofficial organization embracing with a few exceptions the entire hospital service of Chile. It cooperates with the sick funds and similar institutions in the work of the policlinics and consultorios. The Beneficencia came into existence in 1819 in general through philanthropic grants and private beneficence, but government aid was not lacking. Begun as a charitable organization, it became increasingly socialized and as a social institution received increasingly government aid. Administratively it assumed more and more a public character and fifty years ago a special division was created in the Ministry of the Interior charged with supervising its functions. At present the Beneficencia owns one hundred and seventy-one institutions, divided into one hundred and six hospitals, five obstetric institutions, twenty-four service stations of various kinds, eight independent policlinics and so on. The hospitals total 15,498 beds and have 7,022 additional beds in asylums and first aid shelters. Of these beds about 5,300 are available for patients with internal diseases, about 3,600 in surgery wards, 1,500 in obstetric divisions, 1,400 for tuberculous patients, 800 for those with cutaneous and venereal diseases, 400 for psychiatric and an equal number for infectious cases. In 1938 the hospitals took care of 214,000 new cases. Including old cases, a total of 225,000 persons were cared for. The hospital personnel consists of 11,000 persons, 1,237 of whom are physicians. The maximum salary for physicians on full time is 2,500 Chilean pesos (\$87.50). The management of the entire organization is in the hands of a central board of ten members presided over by the minister of public health. The dean of the faculty of medicine is also a member of the board.

Dysentery in Paraguay

According to P. J. Fleitas in the *Anales de la Facultad de Ciencias Médicas* (December 1939), Asunción, Paraguay, has a long history of epidemic and endemic bacillary dysentery. The most recent epidemic began in the Chaco in March 1933, presumably among Bolivian troops, and was transmitted to Paraguayan troops and by them to civilian populations. Shiga's bacillus, *Shigella paradysenteriae* Flexner, *Salmonella morganii*, *Bacillus typhosus*, *Bacillus paratyphosus* B and *Bacillus paratyphosus* N were identified in the feces. Dysentery bacilli, especially of the Shiga type, were thus found in acute as well

as chronic cases, but *Salmonella* and *Eberthella* were also represented. The amebic type was not observed but cannot be excluded as a possibility.

ITALY

(From Our Regular Correspondent)

Dec. 15, 1940.

War Surgery

General Dr. Filippo Caccia, a surgeon with extensive experience in war surgery, gave physicians of the army in the fighting zones advice on how to aid the wounded in the advanced lines. Through the Accademia Lancisiana of Rome he pointed out that the wounded with hemorrhages, asphyxia and fractures call for emergency treatment by physician officers. External hemorrhages from open wounds can be arrested by complete section of the blood vessel, even if it is a main one, because of the fact that section results in retraction of the tunic of the blood vessel and the formation of an occlusive clot. In wounds with partial lesion of the blood vessels, hemorrhage is favored by retraction of the middle tunic of the vessel. Internal hemorrhages in wounds from bullets or from small splinters have a tendency to stop, because of collapse of the borders of the wound or from the obstacle that the adjacent tissues offer to the diffusion of blood. Spontaneous hemostasis occurs in about 25 per cent of wounds causing hemorrhages in preformed cavities, such as the thorax and abdomen.

Tourniquets applied for transportation of the wounded, Caccia said, may lead to the development of gas gangrene and should be removed in less than two hours at the maximum. Whenever a tourniquet is applied, the time should be recorded on the diagnosis tag which is attached to the wounded. In certain cases of asphyxia from mechanical causes it is necessary to do an emergency tracheotomy. The best treatment for asphyxia due to falling of the tongue consists in external traction on the tongue by means of a wire transfixing it. The immobilization of wounded limbs is a task for medical officers in charge of first aid posts in the line where there is a supply of wire netting and splints, including the Thomas splint for the arm and the Thomas-Lardennois splint for the leg, which makes it possible to immobilize the limb in extension or contraction. The limb remains immobilized during transportation of the wounded to more remote surgical centers, where the proper kind of plaster bandage is substituted for the splint. Open fractures can be treated, after definitive attention to the fracture and the removal of necrotic tissue, by the application of closed plaster casts.

Acute Anterior Poliomyelitis

A medical reunion was recently held at the Accademia Medica Filippo Pacini of Pistoia under the presidency of Prof. Luigi Spolverini, a senator and a pediatrician in Rome. The topic of discussion was an epidemic of acute anterior poliomyelitis which occurred in the region of Tuscany. Professor Mazzitelli made observations on 202 cases in Apuania. About 33 per cent of the cases occurred in children living in isolated houses in the country. There were no 2 cases in children living in the same house. The disease prevailed among poor children from above 3 months to 6 years of age. In large families only 1 of the youngest children had the disease. The speaker is undecided whether or not the disease spreads by direct contact and doubts the practical value of disinfection of the houses of patients, the closing of schools and the excluding of children under 10 years of age from the movies. He thinks it is not necessary to isolate infected children together with physicians and the sanitary personnel in separated pavilions or pesthouses.

Professor Satta also discussed the epidemic of Apuania. He reported 4 cases of contagion from carriers who were apparently in normal health. There are rare cases in newborn infants, adolescents and adults. The curve of morbidity rises during September and October, coincidentally with the opening of schools. This is due to contact between children who become carriers during summer and normal children who transmit the disease to receptive children. Morbidity is greater during summer than late winter, whereas the mortality is greater in winter. This may be explained by the following hypothesis: It is probable (1) that some children who acquire the infection in summer die from complications in late winter, (2) that a certain morbidity during summer passes unobserved by physicians or (3) that seasonal factors make the course of the infection more acute in winter than in summer with consequent higher mortality for winter.

Professor Ficaï spoke on epidemics which occurred in the province of Arezzo. The last epidemic included about 400 cases with fifty deaths. All the patients were isolated and treated in hospitals. The cases were distributed in isolated remote communities with few or no means of communication and seemed unrelated to hydrographic and geological conditions. The disease developed in both poor and rich children and occasionally in adolescents and young adults.

Professor Spolverini said in explaining the spread of epidemics that only persons with diminished resistance show actual development of the infection. The reason the youngest children in families are most sensitive to the infection is that relative immunity develops with age. While the closing of schools and theaters as a means of preventing spread of the infection seems useless, the measure has psychologic effects on the people which make it advisable. The speaker believes it advisable also to maintain the acutely involved patients in isolation.

Professor Piazza reported observations made in the hospital under his care. He emphasized the importance of early diagnosis and therapy and directed attention to the value of intraspinal administration of serum of convalescents or of blood of the mother if convalescent serum is not available. He reported satisfactory results from the administration of a combined treatment with antitoxin serum and vitamin B₁.

Professor Arrigoni reported observations on patients in his hospital at Arizzo. The various syndromes caused by the infection in the last epidemic confirmed the opinion that the virus is variable in the symptoms it produces. Nervous symptoms and paralysis sometimes appear and sometimes they do not. He discussed symptoms of poliomyelitic meningitis, in which lumbar puncture is indicated only when the reactions of the cerebrospinal fluid are first polymorphonuclear and then lymphocytic.

Professor Magni reported observations on 23 patients cared for in his hospital in the last two years. The acuteness of the disease was not related to the age of the patients. The infection can be regarded as one in the group of certain forms of influenzal infection with predominance of nervous symptoms which appear periodically during certain years, especially in children. The bacteria in this type of infection produce toxic antigens of neurotropic character.

Professor Spolverini emphasized the difficulties of diagnosis in the preparalytic period unless the infection is epidemic. Lumbar puncture does not give precise data for a diagnosis but is of value when there is meningeal involvement. The results of treatment are a subject of controversy. The antibodies in serum injected into patients cannot resolve the paralysis when it has already occurred. Early treatment of paralytic sequelae is of great importance. The first specialized center for treatment of poliomyelitic sequelae was recently established in Ariccia, Rome. Professor Spolverini is head of the center.

Deaths

Lloyd Vernon Briggs, Boston; Medical College of Virginia, Richmond, 1899; member of the Massachusetts Medical Society and the American Psychiatric Association; past president of the New England Society of Psychiatry; formerly director of the Massachusetts Society of Mental Hygiene and chairman of the National Committee for Mental Hygiene; member of the Massachusetts Society of Examining Physicians and Surgeons, American Institute of Criminal Law and Criminology, National Committee on Prisons and Prison Labor; honorary member of the Royal Medico-Psychological Society of Great Britain and Ireland; was president of the board of trustees of the Atkinson (N. H.) Academy; consultant in the U. S. Veterans Bureau; served during the World War; at one time director of the New England Hospital for Women and Children; commissioner of the alien insane for Massachusetts from 1912 to 1916; member and secretary of the Massachusetts State Board of Insanity from 1913 to 1916; was president of the staff and physician to the mental department of the Boston Dispensary; wrote the Massachusetts law requiring mental examination before trial of all persons indicted for felony in Massachusetts; aged 77; died, February 28, in Tucson, Ariz., of coronary thrombosis and hypertension.

Peter Yudkowsky * New York; Long Island College Hospital, Brooklyn, 1913; member of the American Academy of Ophthalmology and Otolaryngology; instructor in laryngology from 1924 to 1929, lecturer in laryngology from 1929 to 1932 and instructor in otorhinolaryngology from 1932 to 1937, University and Bellevue Hospital Medical College, later known as the New York University College of Medicine; served during the World War; secretary of the medical board of the Sydenham Hospital; on the staff of the New York Eye and Ear Infirmary; aged 49; died, January 24, in Palm Beach, Fla.

Elizabeth Hurdon, London, England; Trinity Medical College, Toronto, Ont., Canada, 1895; formerly director of medical services and research at the Marie Curie Hospital; at one time associated with Dr. Howard Kelly and later with Dr. Thomas S. Cullen at Johns Hopkins University School of Medicine, Baltimore; medical officer attached to the Royal Army Medical Corps in Malta and Salonika, from 1916 to 1918; co-author with Dr. Kelly of "The Vermiform Appendix and Its Disease," published in 1905; aged 72; died, January 29, at Exeter.

John Dudley Dunham * Columbus, Ohio; Ohio Medical University, Columbus, 1897; professor of medicine, Ohio State University College of Medicine from 1924 to 1927; member of the American Gastro-Enterological Association and fellow of the American College of Physicians; served during the World War; president of the city board of health, 1936-1937; past president of the Columbus Academy of Medicine; on the staffs of the White Cross, Mount Carmel and Grant Hospital; aged 67; died, January 28, of angina pectoris.

William Wade Harper, Selma, Ala.; Tulane University of Louisiana School of Medicine, New Orleans, 1891; member of the House of Delegates of the American Medical Association in 1928; member and past president of the Medical Association of the State of Alabama; member of the Southeastern Surgical Congress; fellow of the American College of Surgeons; served during the World War; for many years member of the city school board; surgeon, Selma Baptist Hospital; aged 72; died, January 14.

John Goodrich Henry * Winchendon, Mass.; Dartmouth Medical School, Hanover, N. H., 1881; member of the New England Obstetrical and Gynecological Society; fellow of the American College of Surgeons; medical superintendent, Millers River Hospital; consulting surgeon, Children's Hospital, Baldwinville; aged 82; died, January 18, of pneumonia.

Mark Leonidas Stricklin, Clarendon, Texas; Baylor University College of Medicine, Dallas, 1910; member of the State Medical Association of Texas; for many years president of the Donley-Armstrong Counties Medical Society; served during the World War; health officer; aged 58; died, January 6, of injuries received in an automobile accident.

George Lincoln Walton, Boston; Harvard Medical School, Boston, 1880; member of the Massachusetts Medical Society and the American Neurological Association; on the staff of the Massachusetts General Hospital; author of "Why Worry," "Those Nerves," "Peg Along" and others; aged 86; died, January 17, of cerebral hemorrhage.

Henry Joseph Jurgens * Quincy, Ill.; Keokuk (Iowa) Medical College, 1896; fellow of the American College of Surgeons; past president of the Adams County Medical Society; served during the World War; aged 69; on the staff of St. Mary's Hospital, where he died, January 8, of injuries received in an automobile accident.

Phil Hawkins Neal * New York; Medical College of Virginia, Richmond, 1923; member of the American Academy of Ophthalmology and Otolaryngology; aged 44; on the staff of the New York Eye and Ear Infirmary, Tonsil Hospital, Gouverneur Hospital and Doctors Hospital, where he died, January 22, of intestinal obstruction.

Kirby Smith Howlett * Franklin, Tenn.; Vanderbilt University School of Medicine, Nashville, 1881; University of Nashville Medical Department, 1882; past president of the Tennessee State Medical Association; secretary of the Williamson County Medical Society; formerly bank president; aged 78; died, January 22.

Warren Sutton Baldwin, Verbena, Ala.; Vanderbilt University School of Medicine, Nashville, Tenn., 1892; veteran of the Spanish-American War; aged 68; died, January 28, in the Veterans Administration Facility, Atlanta, Ga., of carcinoma of the esophagus and chronic pulmonary tuberculosis.

Nelson John Burden * Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1925; assistant instructor in pathology at his alma mater from 1926 to 1932 and at one time head of the student health service; aged 39; died, January 31, in St. Joseph's Hospital of brain tumor.

Albert Francis Henning, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1904; member of the Illinois State Medical Society; fellow of the American College of Surgeons; aged 61; died, January 25, in Homewood, Ill., of myocarditis.

Eugene Malcolm Dolloff, Lynn, Mass.; Boston University School of Medicine, 1893; served during the World War; for many years superintendent of the Union Hospital; aged 73; died, January 26, in the Captain John Adams Hospital, Chelsea, of cerebral thrombosis and diabetes mellitus.

William Lawrence Kantor, Los Angeles; Columbia University College of Physicians and Surgeons, New York, 1896; member of the Medical Society of the State of New York; formerly on the staffs of the Lebanon and Bronx hospitals, New York; aged 74; died, January 17.

Kenneth William Dick, Imlay City, Mich.; Detroit College of Medicine, 1907; member of the Michigan State Medical Society; formerly on the staff of the Lapeer Home and State Training School, Lapeer; aged 54; died, January 25, in Detroit of cerebral hemorrhage and hypertension.

Sedgwick E. Austin, Auburn, N. Y.; University of Pennsylvania Department of Medicine, Philadelphia, 1893; member of the Medical Society of the State of New York; for many years on the staff of the Auburn City Hospital; aged 72; died, January 31, of coronary occlusion.

George Washington Hatfield, Mount Morris, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1887; member of the Medical Society of the State of Pennsylvania; formerly president of the school board; aged 75; died, January 29, of diabetes mellitus.

Charles Floyd Griffith, Griffin, Ga.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1908; past president of the Spalding County Medical Society; for many years a member of the state board of medical examiners; aged 56; died, January 1.

James Cyril Flemming * Assistant Surgeon Lieutenant (j. g.), United States Navy, San Diego, Calif.; Hahnemann Medical College and Hospital of Philadelphia, 1933; entered the navy Sept. 4, 1935; aged 36; died, January 5, in an airplane accident.

David Oliver Bridgforth, Salt Lake City; Vanderbilt University School of Medicine, Nashville, Tenn., 1903; served during the World War; aged 62; on the staff of the Veterans Administration Facility, where he died, January 15, of coronary occlusion.

George Hart Hansell * Rising Sun, Ind.; Ohio-Miami Medical College of the University of Cincinnati, 1910; past president of the Dearborn-Ohio County Medical Society; county health officer; aged 75; died, January 24, of coronary occlusion.

Selmer Dean Gausemel, Atlanta, Ga.; University of Minnesota Medical School, Minneapolis, 1918; member of the Medical Association of Georgia and the Southeastern Surgical Congress; aged 48; died, January 18, of carcinoma of the lung.

Albert Leonard Castleman • Los Angeles; McGill University Faculty of Medicine, Montreal, Que., Canada, 1888; member of the Utah State Medical Association; aged 77; died, January 15, of coronary occlusion and arteriosclerosis.

Henry Turner Edmondson • Moultrie, Ga.; College of Physicians and Surgeons, Baltimore, 1911; served during the World War; aged 53; on the staff of the Vereen Memorial Hospital, where he died, January 19, of myocarditis.

Adelbert Chittenden Douglass, Ilion, N. Y.; Long Island College Hospital, Brooklyn, 1899; member of the Medical Society of the State of New York; aged 66; died, January 3, of coronary thrombosis and diabetes mellitus.

Jesse Franklin Fair, Trenton, Mo.; Homeopathic Medical College of Missouri, St. Louis, 1885; member of the Missouri State Medical Association; formerly county coroner; aged 83; died, January 22, of heart disease.

John C. Bram, St. Louis; Barnes Medical College, St. Louis, 1901; member of the Missouri State Medical Association; aged 66; on the staff of the Central Hospital, where he died, January 17, of arteriosclerosis.

John Francis Dodson, Kirksville, Mo.; Hahnemann Medical College of the Kansas City (Mo.) University, 1902; member of the Missouri State Medical Association; aged 74; died, January 21, of pneumonia.

Clarence Eugene Kidder, Hastings, Neb.; Cotner University Medical Department, Lincoln, 1914; member of the Nebraska State Medical Association; aged 59; died, January 11, of coronary disease.

Samuel Harvey Iams • Princeton, N. J.; University of Pennsylvania Department of Medicine, Philadelphia, 1905; on the staff of the Princeton Hospital; aged 61; died, January 18, of cerebral thrombosis.

James Chapman Graves Jr. • Hartford, Conn.; Harvard Medical School, Boston, 1904; served during the World War; aged 65; died, January 26, of uremia, pyelonephritis and carcinoma of the prostate.

Joseph Hughes • Spanish Fork, Utah; Jefferson Medical College of Philadelphia, 1910; aged 64; medical superintendent of a hospital bearing his name, where he died, January 16, of coronary occlusion.

Francis Bonaventure Krol, Chicago; Chicago Medical School, 1921; member of the Illinois State Medical Society; aged 44; died, January 12, in the Albert Merritt Billings Hospital of peritonitis.

Walter Lee Gossett, Adairville, Ky.; University of Nashville (Tenn.) Medical Department, 1911; member of the Kentucky State Medical Association; aged 60; died, January 17, of pneumonia.

Silas Asa Conduff, Mount Airy, N. C.; University of the South Medical Department, Sewanee, Tenn., 1907; aged 59; died, January 13, in the Martin Memorial Hospital of cerebral hemorrhage.

George Orman Beery • Lancaster, Ohio; Miami Medical College, Cincinnati, 1891; past president of the Fairfield County Medical Society; aged 71; died, January 25, of coronary thrombosis.

William Elbert Jennings • Danville, Va.; Medical College of Virginia, Richmond, 1909; on the staff of the Danville Memorial Hospital; aged 54; died, January 26, of coronary thrombosis.

Ira Alfred Botts, Industry, Ill.; Northwestern University Medical School, Chicago, 1893; member of the Illinois State Medical Society; aged 72; died, January 16, of cerebral hemorrhage.

George Green Jackson, Newark, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1899; aged 63; died, January 8, in St. Barnabas Hospital of cardiovascular renal disease.

Harvey E. Bowers, Galt, Mo.; University Medical College of Kansas City, Mo., 1900; member of the Missouri State Medical Association; aged 63; died, January 28, of cardiorenal disease.

James Marvin Wells, Middleburg, N. C.; North Carolina Medical College, Davidson, 1905; aged 64; died, January 25, in the Maria Parham Hospital, Henderson, of bronchopneumonia.

William Edwin Coleman, Chipley, Fla.; Medical College of Alabama, Mobile, 1892; formerly member of the state legislature; aged 72; died, January 2, in a hospital at Dothan, Ala.

Andrew Duncan Shope, Little Rock, Ark.; Chattanooga (Tenn.) Medical College, 1898; aged 67; died, January 1, in the Davis Hospital, Pine Bluff, of a ruptured gastric ulcer.

Rollins P. Collins, Bishopville, Md.; University of Maryland School of Medicine, Baltimore, 1890; formerly bank president; aged 76; died, January 20, of cerebral hemorrhage.

David Samuel Herman • Richmond Hill, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1921; aged 44; died, January 12, of coronary disease.

Siegmund Hirschfeld, Chicago; Loyola University School of Medicine, Chicago, 1917; aged 71; died, January 25, in the Illinois Masonic Hospital of injuries received in a fall.

Charles Patrick Hoffman, Danville, Ill.; Miami Medical College, Cincinnati, 1896; member of the Illinois State Medical Society; aged 65; died, January 26, of heart disease.

George Wellington Brown, Shelburne, N. S., Canada; University of the City of New York Medical Department, New York, 1893; aged 76; died, January 3, of myocarditis.

Carl Christian Reifeis, Indianapolis; Indiana University School of Medicine, Indianapolis, 1922; aged 47; died, January 15, in the Methodist Hospital of multiple abscesses.

James Thomas Buckley, Worcester, Mass.; Baltimore Medical College, 1902; served during the World War; aged 63; died, January 24, of arteriosclerotic heart disease.

John W. Baird, Louisville, Ky.; University of Louisville Medical Department, 1884; aged 81; died, January 28, of coronary thrombosis, myocarditis and bronchiectasis.

William Davidson Hennen, New York; Columbia University College of Physicians and Surgeons, New York, 1904; aged 64; died, January 31, of heart disease.

Logwood Ulysses Goin, Birmingham, Ala.; Meharry Medical College, Nashville, Tenn., 1899; aged 67; died, January 19, of arteriosclerosis and diabetes mellitus.

Ellis Burrell Fanning, Colorado Springs, Colo.; Hahnemann Medical College and Hospital of Philadelphia, 1885; aged 79; died, January 16, of lobar pneumonia.

Clarence S. Bratton, Palestine, Texas; Medical College of the State of South Carolina, Charleston, 1889; also a druggist; aged 75; died, January 24, of influenza.

Arthur H. de Masy, St. Louis; Washington University School of Medicine, St. Louis, 1911; aged 54; died, January 15, in the Christian Hospital of pneumonia.

Lester Kenneth Strate, San Francisco; University of Colorado School of Medicine, Denver, 1912; aged 50; died, January 13, of coronary thrombosis.

William H. Barks, Perryville, Mo.; Barnes Medical College, St. Louis, 1903; aged 63; died, January 18, in St. John's Hospital, St. Louis, of pneumonia.

Prentiss Du Puy Johnston • Tazewell, Va.; Medical College of Virginia, Richmond, 1906; aged 62; died, January 3, of cerebral hemorrhage.

Frank M. Cook, Hackettstown, N. J.; College of Physicians and Surgeons, Baltimore, 1883; aged 82; died, January 18, of arteriosclerosis.

Aurelius McDonald Bennett, Bryson City, N. C. (licensed in North Carolina in 1885); aged 79; died, January 20, of coronary thrombosis.

John W. Higson, St. Louis; Homeopathic Medical College of Missouri, St. Louis, 1902; aged 79; died, Dec. 7, 1940, in St. Luke's Hospital.

A. S. Kemper, Lynnwood, Va.; University College of Medicine, Richmond, 1895; aged 74; died, January 13, of carcinoma of the prostate.

John Alvin Balcom, Swampscott, Mass.; Boston University School of Medicine, 1895; aged 71; died, January 23, of cerebral hemorrhage.

James Franklin Adams • Ann Arbor, Mich.; College of Physicians and Surgeons of Chicago, 1893; aged 73; died, January 10.

Van Dorn Craddock, Bogata, Texas (licensed in Texas under the Act of 1907); aged 78; died, January 6, of pneumonia.

Frank Theodore Dare • Wellsburg, W. Va.; Baltimore Medical College, 1900; aged 64; died, January 21, of carcinoma.

Willard P. Burke, Santa Rosa, Calif.; Cooper Medical College, San Francisco, 1885; aged 93; died, January 31.

Thomas P. Hanna, Detroit; Detroit College of Medicine, 1906; aged 59; died, January 25, of angina pectoris.

Bureau of Investigation

CEASE AND DESIST ORDERS

Abstracts of Certain Federal Trade Commission Releases

The work of the Federal Trade Commission, in helping to protect the public against misrepresentation or fraud in the medical as well as other fields, has been greatly extended by the provisions of the Wheeler-Lea Amendment to the Federal Trade Commission Act. The Food, Drug and Cosmetic Act of 1938 added to the Food and Drug Administration's control of the advertising claims and statements made on the labels of medicines or on the carton or in the accompanying leaflet, whereas what might be termed collateral advertising, that which appears in newspapers and magazines and over the air, comes more actively under the purview of the Federal Trade Commission, by virtue of the Wheeler-Lea Amendment.

THE JOURNAL has at various times commented on the activities of the Federal Trade Commission in this connection, even before the Wheeler-Lea Amendment gave it its added rights. In some cases the Commission may accept from the person or concern involved a stipulation that the objectionable practices or claims cited will be discontinued. In other cases the Commission issues what is known as a Cease and Desist Order, in which the individual, manufacturer or distributor cited is ordered to cease and desist from practices which have been declared objectionable.

Abstracts of some of the orders issued during 1940 follow:

Atmozon Aerifier.—This is a device put out by Theodore Radin, Inc., of New York for the purpose of administering "Glyciranen," "Glyciranen-Forte," "Jodiranen," "Inhaledrin-Compositum" and "Aeriozone," which it recommended as treatments for asthma, hay fever, sinus discomfort and bronchial irritations. On May 17, 1940, the Federal Trade Commission charged that representations in the advertising were misleading and untrue because the preparations did not constitute competent and effective treatments for the ailments mentioned, aside from furnishing certain temporary relief, and that, by reason of the epinephrine and ephedrine they contain, their use over a long period of time might produce such prolonged vasoconstriction as to cause tissue damage from anoxemia, with secondary inflammatory reactions. Hence the Commission ordered the Radin concern to discontinue these misrepresentations.

Baby Skin Oil and Soap.—A Chicago concern known as Imogene Shepherd, Ltd., puts these out. On Aug. 22, 1940, the Federal Trade Commission ordered this company to cease representing that these preparations are remedies or effective treatments for dryness or roughness of the skin or for eczema and acne; that their use will prevent or correct skin disfigurements, rejuvenate the texture of the skin or restore to adults the soft and silken texture of baby skin; that they nourish or cause permanent benefit to the skin on account of their vitamin E and so-called vitamin F content; that they restore essential lipids to the skin, or that they are amazing discoveries and the outstanding development in beauty culture of the present day. A lengthy discussion of the activities of Imogene Shepherd and her associate, A. J. Pacini, including the so-called vitamin preparations that they put out, appeared in THE JOURNAL, April 10, 1937, page 1279, under the title "Rats—and Vitamin F (?) in Cosmetology."

Garter's Special Formula.—On July 13, 1940, the Federal Trade Commission ordered George C. Huskins, Mina D. Huskins and Howard W. Ellison, trading as the Carter Sales Company, Los Angeles, to desist from advertising that this product is a cure, remedy or competent treatment for alcoholism or the liquor habit; that its use will eradicate the desire for alcoholic stimulants or that it is in all cases safe or harmless.

Danson Formula.—This was put out as a "liquor cure" by a Dan M. Thompson, Chicago, formerly trading as Danson Laboratories and Thompson Laboratories. On July 6, 1940, the Federal Trade Commission ordered Thompson to cease advertising that his preparation is a cure, remedy or effective treatment for alcoholism or the liquor habit in excess of its value as a nerve sedative, or that it will counteract the desire for liquor. Thompson was further ordered to cease using the word "laboratories" or any similar word to describe his business or representing in any manner that he owns or operates a laboratory. The Commission pointed out that ammonium bromide, which was found to be the active ingredient of Danson Formula, is of value only for quieting nerves and will not produce the results that Thompson claimed for it.

Edna Wallace Hopper Preparations.—Affiliated Products, Inc., Jersey City, N. J., was ordered by the Federal Trade Commission on Feb. 24, 1940, to discontinue certain misrepresentations in the sale of two of its products. Among these were that "Edna Wallace Hopper's Restorative Cream" is the discovery of a French scientist or famous beauty expert or that it is capable of rejuvenating the skin, restoring the oils of youth and a youthful appearance to aged skin and preventing and erasing wrinkles; and that "Edna Wallace Hopper's White Youth Pack (Clay)" is of French origin, will nourish or revive the skin, remove blackheads or eliminate large pores or have any beneficial effect other than loosening blackheads and thereby aiding in their removal.

Femalade Tablets.—This alleged remedy for delayed menstruation was promoted by one, Charles L. Klapp, trading as the Cardinal Company, St. Louis, which also put out "Femalade Liquid." On July 1, 1940, the Federal Trade Commission ordered Klapp to cease disseminating advertisements which fail to reveal that the use of his products may result in serious and irreparable injury to health.

Gardner's Food Herbs.—On June 25, 1940, the Federal Trade Commission ordered Gardner Remedies, Inc., Seattle, to cease representing that this product is a cure or remedy for hyperacidity or excess acid, acidosis, rheumatism, kidney, liver or stomach disorders, stomach ulcers, indigestion, constipation, acid or sour stomach, gas, heartburn, colitis, dizziness, abnormal kidney functions, backache, swelling of the ankles, soreness in the region of the kidneys, soreness or stiffness in the cords or muscles of the neck, hives, skin rashes, heart pains, shortness of breath, high or low blood pressure or sleeplessness.

Harold L. DeBar.—This Los Angeles person did business under the names Hygienic Corporation of America, Hygienic Company of America, Merrill-Saunders Company, Ltd., Women's Advisory Bureau, Women's Co-operative Service, Protex-U-Hygienic Service, American Bureau of Hygiene, Surete Laboratories and American Health Association of Washington, D. C. He employed women agents who pretended to be "Visiting Nurses" and to be promoting more healthful living through public education. The business was, of course, nothing more than a "patent medicine" outfit. On June 12, 1940, the Federal Trade Commission ordered these concerns to cease and desist from representing that any of the their preparations or appliances used alone or with any other such articles would prevent conception or would possess therapeutic value in treating women's ailments; that they would destroy bacteria or prove effective as prophylactics. The order also prohibited the misrepresentations that the concerns in question were connected with the public health service; the use of the name "American Health Association" or similarly deceptive titles, or use of the words "Nurse," "Visiting Nurse" of "Nurse Membership" by the solicitors or saleswomen for these companies.

John B. Roche.—This person, trading as the G-H-R Electric Dilator Company and the Roche Electric Machine Company, Grand Rapids, Mich., was ordered by the Federal Trade Commission on July 14, 1940, to discontinue certain misrepresentations in the sale of devices that he promoted for various diseases. Among these misrepresentations were that his "Electric Thermoitis Dilator" was a cure or effective treatment for impotency, sexual decline, kidney weakness, hemorrhoids or prostatic disorders; that it would have any value in the last-named condition aside from the beneficial effect of heat; that the use of the dilator would stop the wasting away of tissues and beneficially affect the function of glands or would supply or renew so-called vigor or vitality; or that the "Roche Electric Hygienic Machine" was a cure or effective treatment for paralysis, locomotor ataxia, apoplexy, rheumatism, gout, high blood pressure or hardening of the arteries, or that it would be an effective substitute for exercise, would insure perfect blood circulation, restore health, renew vitality or prove effective for weakness in any vital organ.

Knogray.—This was put out under the firm names Madame Turnel, Madame Marguerite Turnel and Madame Marguerite Turnel, Inc., New York. On April 2, 1940, this outfit was ordered by the Federal Trade Commission to cease representing that Knogray will color the roots of the hair or have any effect thereon or on new hair growth; will restore the natural or original color to the hair or affect the color of the hair in any way other than as a dye, or that it is anything other than a dye, and that anything less than repeated applications of "Knogray" will cause the hair to retain the color imparted to it by the preparation.

Ladies' Aid Products.—These are some of the items put out by the Progressive Medical Company of Chicago. In January 1940 the Federal Trade Commission obtained from a federal court a preliminary injunction restraining Blanch Kaplan of Chicago, trading as the Progressive Medical Company and the Ladies' Aid Company, from disseminating any advertisements that would represent her "Ladies' Aid No. 2, Ordinary Strength" and "Ladies' Aid No. 3, Extra Strength" as being safe, competent, efficient or specific treatments for delayed menstruation or that their use would have no ill effect on the body, whereas such use might result in serious or irreparable injury to health. On April 24, the Commission definitely ordered the concern to cease and desist from these false representations. Nor was this all. On October 23, the Commission issued a new cease and desist order against Blanch Kaplan, trading as Progressive Medical Company, Progressive Laboratories, Ladies' Aid Company, Ladies' Aid and Ladies' Aid Products. This order directed the concern to cease representing in its advertisements that "Ladies' Aid No. 1 H. Y. G. Tablets" is an effective prophylactic or dependable contraceptive; that "Ladies' Aid No. 4" possesses therapeutic value in the treatment of certain ailments of women beyond its use as an accessory; that "Promeco Cod Liver Oil Compound Tablets" is a new scientific discovery and an effective remedy for every condition for which physicians might prescribe cod liver oil; that "Ladies' Aid Reducing Tablets" is an amazing new scientific discovery, or that it is harmless, or that by its use one can reduce 5 pounds a week, or any other appreciable amount. The order further prohibited the use of advertisements which fail to reveal that these so-called reducing tablets may cause cutaneous eruptions and excessive irritation of the bowels.

Madam Vera Hair Grower Salve.—The product is put out by Veronica Ignatovitch, Bridgeport, Conn., trading under the name Madam Vera and similar titles. On July 14, 1940, the Federal Trade Commission ordered her to cease representing that this salve is a competent or effective treatment for dandruff or falling hair, that it grows new hair or that it has been used successfully by any one.

Menstru-Eze.—This item is put out by the B & T Sales Company, Indianapolis. On May 19, 1940, the Federal Trade Commission ordered this Indianapolis concern to cease advertising that its nostrum "Menstru-Eze" is a cure or remedy for delayed, difficult, painful or irregular menstruation.

Council on Medical Education and Hospitals

INTERNSHIPS IN NAVAL HOSPITALS

The Surgeon General of the U. S. Navy has informed the Council on Medical Education and Hospitals that interns will be assigned to additional naval hospitals for training beginning July 1, 1941. The following naval hospitals are approved by the Council for training interns:

U. S. Naval Hospital, Mare Island, Calif.
U. S. Naval Hospital, San Diego, Calif.
U. S. Naval Hospital, Washington, D. C.
U. S. Naval Hospital, Pensacola, Fla.
U. S. Naval Hospital, Pearl Harbor, Hawaii.
U. S. Naval Hospital, Great Lakes, Ill.
U. S. Naval Hospital, Annapolis, Md.
U. S. Naval Hospital, Chelsea, Mass.
U. S. Naval Hospital, Portsmouth, N. H.
U. S. Naval Hospital, Brooklyn.
U. S. Naval Hospital, Philadelphia.
U. S. Naval Hospital, Newport, R. I.
U. S. Naval Hospital, Charleston, S. C.
U. S. Naval Hospital, Parris Island, S. C.
Norfolk Naval Hospital, Portsmouth, Va.
U. S. Naval Hospital, Bremerton, Wash.

Information concerning internship appointments in these hospitals may be secured by writing to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

Medical Examinations and Licensure

COMING EXAMINATIONS

BOARDS OF MEDICAL EXAMINERS

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of boards of medical examiners and boards of examiners in the basic sciences were published in *THE JOURNAL*, March 29, page 1477.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: Parts I and II. Various centers, June 23-25. Part III. Various centers, June or July. Exec. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY: *Written*. Nov. 3. Final date for filing application is Sept. 23. *Oral*. Dec. 12-13. Final date for filing application is Nov. 8. Sec., Dr. C. Guy Lane, 416 Marlboro St., Boston.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral*. April, in advance of the meeting of the American College of Physicians and June, in advance of the meeting of the American Medical Association. *Written*. Oct. 20. Final date for filing application is Sept. 1. Sec., Dr. William S. Middleton, 1301 University Ave., Madison, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral*. Philadelphia, June 6-7. Sec., Dr. R. Glen Spurling, 404 Brown Bldg., Louisville, Ky.

AMERICAN BOARD OF OPHTHALMOLOGY: *Oral*. New York, June 2; San Francisco, Aug. 8; Chicago, Oct. 18. *Written*. March 7, 1942. Sec., Dr. John Green, 6830 Waterman Ave., St. Louis.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Washington, January. Final date for filing application is Nov. 1. Sec., Dr. Guy A. Caldwell, 1640 State St., New Orleans, La.

AMERICAN BOARD OF PATHOLOGY: *Oral and Written*. Cleveland, June 2-3. Final date for filing application is May 1. Sec., Dr. F. W. Hartman, Henry Ford Hospital, Detroit.

AMERICAN BOARD OF PEDIATRICS: Chicago, May 18, following the Region III meeting of the American Academy of Pediatrics, Boston, Oct. 12, immediately following the annual meeting of the American Academy of Pediatrics. Sec., Dr. C. A. Aldrich, 707 Fullerton Ave., Chicago.

AMERICAN BOARD OF RADIOLOGY: *Oral*. Cleveland, May 30-June 1. Final date for filing application is April 15. Sec., Dr. Byrl R. Kirklín, 102-110 Second Ave., S.W., Rochester, Minn.

Maine November Report

Dr. Adam P. Leighton, secretary, Board of Registration of Medicine, reports the written examination for medical licensure held at Portland, Nov. 12-13, 1940. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Eighteen candidates were examined, 9 of whom passed and 9 failed. Two physicians were licensed to practice medicine by reciprocity and two physicians so licensed by endorsement. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
Tufts College Medical School.....	(1939)		81
Albany Medical College.....	(1940)		80
Columbia University College of Physicians and Surgeons	(1937)		82
Hahnemann Med. College and Hospital of Philadelphia	(1939)		78
University of Alberta Faculty of Medicine.....	(1938)		80

University of Toronto Faculty of Medicine.....	(1928)	79	
McGill University Faculty of Medicine.....	(1932) 75, (1938)	76	
Regia Università di Napoli Facoltà di Medicina e Chirurgia	(1936)	77	
School	FAILED	Year Grad.	Number Failed
Georgetown University School of Medicine.....	(1936)		1
Boston University School of Medicine.....	(1940)		1
Tufts College Medical School.....	(1933)		1
Laval University Faculty of Medicine.....	(1940)		1
McGill University Faculty of Medicine.....	(1940)		1
University of Montreal Faculty of Medicine.....	(1940)		1
Ludwig-Maximilians Universität Medizinische Fakultät, München	(1937)		1
Faculté Française de Médecine de l'Université de St. Joseph, Beyrouth	(1936)		1
Université de Genève Faculté de Médecine.....	(1936)		1

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Kansas School of Medicine.....	(1937)		Kansas
Harvard Medical School.....	(1909)		New Hamp.

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Boston University School of Medicine.....	(1938)	N. B. M. Ex.	
University of Vermont College of Medicine.....	(1939)	N. B. M. Ex.	

Tennessee December Report

Dr. H. W. Qualls, Secretary, Tennessee State Board of Medical Examiners, reports the written examination for medical licensure held at Memphis, Dec. 18-19, 1940. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Nineteen candidates were examined, all of whom passed. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
Harvard Medical School.....	(1940)		91.6
University of Tennessee College of Medicine.....	(1940)		83.4
83.7, 83.8, 83.9, 84.4, 84.7, 84.7, 85.3, 85.6, 85.9, 86.3, 86.4, 86.7, 87, 87.5, 88.1, 89.2			
University of Western Ontario Medical School.....	(1938)		90.9

South Carolina November Report

Dr. A. Earle Boozer, secretary, State Board of Medical Examiners of South Carolina, reports the oral examination for medical licensure held at Columbia, Nov. 12, 1940. The examination covered 17 subjects. An average of 75 per cent was required to pass. One physician was licensed to practice medicine by endorsement. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
Emory University School of Medicine.....	(1935)		83.7
School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
College of Medical Evangelists.....	(1939)	N. B. M. Ex.	

Iowa December Report

Mr. H. W. Grefe, director, Iowa State Board of Medical Examiners, reports the written examination for medical licensure held at Des Moines, Dec. 9-11, 1940. The examination covered 8 subjects and included 100 questions. An average of 75 per cent was required to pass. Six candidates were examined and passed. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
State University of Iowa College of Medicine.....	(1940)	83.1,* 83.2*	
Duke University School of Medicine.....	(1938)		89
University of Texas Faculty of Medicine.....	(1939)		87.9
Rheinische Friedrich-Wilhelms-Universität Medizinische Fakultät, Bonn	(1920)		81.4
Universität Basel Medizinische Fakultät.....	(1939)		81.5*

Nine physicians were licensed to practice medicine by reciprocity and 1 physician so licensed by endorsement from October 24 through December 31. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Yale University School of Medicine.....	(1939)		Indiana
Rush Medical College.....	(1939)		Illinois
University of Michigan Medical School.....	(1938, 2)		Michigan
University of Minnesota Medical School.....	(1934)		Minnesota
Creighton University School of Medicine.....	(1931), (1938)		Nebraska
University of Cincinnati College of Medicine.....	(1937)		Ohio
University of Wisconsin Medical School.....	(1929)		Nebraska

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Rush Medical College.....	(1937)	N. B. M. Ex.	

* License has not been issued.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Intoxication: Admissibility in Evidence of Blood Tests Unlawfully Obtained.—The defendant while operating a motor vehicle was seriously injured in an automobile collision in Hamilton County, Iowa, and was taken to a hospital in Story County for treatment. A physician, the coroner of Hamilton County who was investigating the accident, came to the hospital and drew a sample of blood from the defendant's arm while the defendant was unconscious and being treated on an operating table. The defendant, of course, was not capable of expressing either assent or protest to such procedure, and no attempt was made to obtain the consent of his wife, although she was in the hospital at the time. The physician caused chemical tests for alcoholic intoxication to be performed on this blood at a state laboratory. The defendant was later prosecuted for manslaughter and at the trial the sample of blood and expert testimony based on the results of chemical tests performed on such blood were introduced in evidence, over the defendant's objection, for the purpose of establishing that the defendant was driving while intoxicated at the time of the accident. From a judgment of conviction for manslaughter the defendant appealed to the Supreme Court of Iowa.

The defendant contended that the trial court had erred when it improperly admitted in evidence the sample of blood and the expert testimony as to the results of chemical tests made on such sample. This contention was upheld by the Supreme Court. At the time the sample of blood was taken by the coroner, said the court, the defendant was neither under arrest nor charged with a crime nor did the coroner have a search warrant in his possession. Under such circumstances, considering the unconscious condition of the defendant, the coroner's conduct in intruding himself into the operating room and obtaining the sample of blood without legal warrant and without express or implied consent was clearly a violation of the constitutional prohibition against unlawful search and seizure of persons or property. The court concluded, therefore, that the conviction could not be sustained because it was based on evidence unlawfully obtained and therefore inadmissible. Accordingly, the judgment of conviction was reversed.—*State v. Welch*, 292 N. W. 148 (Iowa, 1940).

Society Proceedings

COMING MEETINGS

- Alabama, Medical Association of the State of, Mobile, Apr. 15-17. Dr. D. L. Cannon, 519 Dexter Ave., Montgomery, Secretary.
- American Academy of Physical Medicine, New York, Apr. 28-30. Dr. Herman A. Osgood, 144 Commonwealth Ave., Boston, Secretary.
- American Association for the Study of Goiter, Boston, May 26-28. Dr. W. Blair Mosser, 133 Biddle St., Kane, Pa., Secretary.
- American Association for the Surgery of Trauma, Montreal and Montebello, Canada, May 29-31. Dr. Ralph G. Carothers, 409 Broadway, Cincinnati, Secretary.
- American Association of Anatomists, Chicago, Apr. 9-11. Dr. E. R. Clark, Dept. of Anatomy, University of Pennsylvania School of Medicine, Philadelphia, Secretary.
- American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 29-31. Dr. Charles C. Higgins, 2020 East 93d St., Cleveland, Secretary.
- American Association of Pathologists and Bacteriologists, New York, Apr. 10-11. Dr. Howard T. Karsner, 2085 Adelbert Road, Cleveland, Secretary.
- American Association of the History of Medicine, Atlantic City, N. J., May 4-6. Dr. Henry E. Sigerist, 1900 East Monument St., Baltimore, Secretary.
- American College of Physicians, Boston, Apr. 21-25. Mr. E. R. Loveland, 4200 Pine St., Philadelphia, Executive Secretary.
- American Dermatological Association, New Orleans, Apr. 7-11. Dr. Harry R. Foerster, 208 East Wisconsin Ave., Milwaukee, Secretary.
- American Gastro-Enterological Association, Atlantic City, N. J., May 5-6. Dr. Thomas T. Mackie, 16 East 99th St., New York, Secretary.
- American Gynecological Society, Colorado Springs, May 26-28. Dr. Richard W. TeLinde, Johns Hopkins Hospital, Baltimore, Secretary.
- American Laryngological Association, Atlantic City, May 28-30. Dr. Charles J. Imperatori, 108 East 38th St., New York, Secretary.
- American Ophthalmological Society, Hot Springs, Va., May 29-June 1. Dr. Eugene M. Blake, 303 Whitney Ave., New Haven, Conn., Secretary.
- American Otological Society, Atlantic City, N. J., May 26-28. Dr. Isidore Friesner, 36 East 73d St., New York, Secretary.
- American Physiological Society, Chicago, Apr. 16-19. Dr. Philip Bard, 710 North Washington St., Baltimore, Secretary.
- American Psychiatric Association, Richmond, Va., May 5-9. Dr. Arthur H. Ruggles, 305 Blackstone Blvd., Providence, R. I., Secretary.
- American Society for Clinical Investigation, Atlantic City, N. J., May 5. Dr. Eugene M. Landis, University of Virginia Hospital, Charlottesville, Va., Secretary.
- American Society for Experimental Pathology, Chicago, Apr. 15-18. Dr. Harry P. Smith, Dept. of Pathology, University of Iowa, Iowa City, Secretary.
- American Society for Pharmacology and Experimental Therapeutics, Chicago, Apr. 15-19. Dr. G. Philip Grabfield, 319 Longwood Ave., Boston, Secretary.
- American Society of Biological Chemists, Chicago, Apr. 15-19. Dr. C. G. King, Dept. of Chemistry, University of Pittsburgh, Pittsburgh, Secretary.
- American Society of Clinical Pathologists, Cleveland, May 30-June 1. Dr. A. S. Giordano, 531 North Main St., South Bend, Ind., Secretary.
- American Surgical Association, White Sulphur Springs, W. Va., Apr. 28-30. Dr. Charles G. Mixer, 319 Longwood Ave., Boston, Secretary.
- American Therapeutic Society, Cleveland, May 30-31. Dr. Oscar B. Hunter, 1835 Eye St. N.W., Washington, D. C., Secretary.
- American Urological Association, Colorado Springs, Colo., May 19-22. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.
- Arizona State Medical Association, Phoenix, Apr. 16-19. Dr. W. Warner Watkins, 15 East Monroe St., Phoenix, Secretary.
- Arkansas Medical Society, Little Rock, Apr. 14-16. Dr. William R. Brooksher, 602 Garrison Ave., Fort Smith, Secretary.
- Association for the Study of Internal Secretions, Atlantic City, N. J., May 2-3. Dr. E. Kost Shelton, 921 Westwood Blvd., Los Angeles, Secretary.
- Association of American Physicians, Atlantic City, N. J., May 6-7. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.
- California Medical Association, Del Monte, May 5-8. Dr. George H. Kress, 450 Sutter St., San Francisco, Secretary.
- Connecticut State Medical Society, Bridgeport, May 21-22. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.
- Federation of American Societies for Experimental Biology, Chicago, Apr. 15-19. Dr. D. R. Hooker, 19 West Chase St., Baltimore, Secretary.
- Florida Medical Association, Jacksonville, Apr. 28-30. Dr. Shaler Richardson, P. O. Box 1018, Jacksonville, Secretary.
- Georgia, Medical Association of, Macon, May 13-16. Dr. Edgar D. Shanks, 478 Peachtree St., N.E., Atlanta, Secretary.
- Illinois State Medical Society, Chicago, May 20-23. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.
- Iowa State Medical Society, Davenport, May 14-16. Dr. R. L. Parker, 3510 Sixth Ave., Des Moines, Secretary.
- Kansas Medical Society, Topeka, May 13-15. Mr. C. G. Munns, 112 West Sixth St., Topeka, Executive Secretary.
- Louisiana State Medical Society, Shreveport, Apr. 21-23. Dr. P. T. Talbot, 1430 Tulane Ave., New Orleans, Secretary.
- Maryland, Medical and Chirurgical Faculty of, Baltimore, Apr. 22-23. Dr. Richard T. Shackelford, 1211 Cathedral St., Baltimore, Secretary.
- Massachusetts Medical Society, Boston, May 21-22. Dr. Robert N. Nye, 8 Fenway, Boston, Secretary.
- Medical Library Association, Ann Arbor, Mich., May 29-31. Miss Anna C. Holt, 25 Shattuck St., Boston, Secretary.
- Minnesota State Medical Association, St. Paul, May 26-28. Dr. B. B. Souster, 493 Lowry Medical Arts Bldg., St. Paul, Secretary.
- Mississippi State Medical Association, Biloxi, May 13-15. Dr. T. M. Dye, Box 295, Clarksdale, Secretary.
- Missouri State Medical Association, St. Louis, Apr. 28-30. Mr. E. H. Bartelsmeyer, 634 North Grand Blvd., St. Louis, Executive Secretary.
- National Gastroenterological Association, New York, May 13-16. Dr. G. Randolph Manning, Room 319, 1819 Broadway, New York, Secretary.
- National Tuberculosis Association, San Antonio, Tex., May 5-8. Dr. Charles J. Hatfield, 1790 Broadway, New York, Secretary.
- Nebraska State Medical Association, Lincoln, May 5-8. Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln, Secretary.
- New Hampshire Medical Society, Manchester, May 13-14. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.
- New Jersey, Medical Society of, Atlantic City, May 20-22. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.
- New York, Medical Society of the State of, Buffalo, Apr. 28-May 1. Dr. Peter Irving, 292 Madison Ave., New York, Secretary.
- New York State Association of Public Health Laboratories, Syracuse, May 19. Miss Mary B. Kirkbride, New Scotland Ave., Albany, Secretary.
- North Carolina, Medical Society of the State of, Pinehurst, May 19-21. Dr. I. H. Manning, Chapel Hill, Secretary.
- North Dakota State Medical Association, Grand Forks, May 19-21. Dr. L. W. Larson, 221 Fifth St., Bismarck, Secretary.
- Northern Tri-State Medical Association, Tiffin, Ohio, Apr. 8. Dr. E. Benjamin Gillette, 320 Michigan St., Toledo, Ohio, Secretary.
- Oklahoma State Medical Association, Oklahoma City, May 19-22. Dr. L. S. Willour, 210 Plaza Court Bldg., Oklahoma City, Secretary.
- Pacific Coast Oto-Ophthalmological Society, Los Angeles, May 26-29. Dr. C. Allen Dickey, 450 Sutter Street, San Francisco, Secretary.
- Philippine Medical Association, Manila, Apr. 22-26. Dr. Candido M. Africa, 547 Herran St., Manila, Secretary.
- Rhode Island Medical Society, Providence, May 28-29. Dr. Guy W. Wells, 124 Waterman St., Providence, Secretary.
- Society for the Study of Asthma and Allied Condition, Atlantic City, N. J., May 3. Dr. W. C. Spain, 116 East 53d St., New York, Secretary.
- South Carolina Medical Association, Greenville, Apr. 15-17. Dr. Julian P. Price, 105 West Cheves St., Florence, Secretary.
- South Dakota State Medical Association, Mitchell, May 18-20. Dr. Clarence E. Sherwood, 107½ Egan Ave., Madison, Secretary.
- Tennessee State Medical Association, Nashville, Apr. 8-10. Dr. H. H. Shoulders, 706 Church St., Nashville, Secretary.
- Texas, State Medical Association of, Fort Worth, May 12-15. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.
- West Virginia State Medical Association, Charleston, May 12-14. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1931 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Digestive Diseases, Huntington, Ind.

8:1-34 (Jan.) 1941

- Use of Vitamin B₁ in Diabetes Mellitus: Clinical Study. A. Trasoff and C. Bordin, Philadelphia.—p. 1.
Banana Diet in Bacillary Dysentery: Proctoscopic Study. L. H. Block, Chicago, and A. Tarnowski, Dixon, Ill.—p. 3.
Gastroscopic Observations on Gastric Motility. R. Schindler and M. E. Dailey, Chicago.—p. 8.
Gastrointestinal Manifestations of Heart Disease. N. Flaxman, Chicago.—p. 10.
Urinary Excretion of Silica in Humans Following Oral Administration of Magnesium Trisilicate. R. C. Page, New York; R. R. Heffner, New Rochelle, N. Y., and A. Frey, Valhalla, N. Y.—p. 13.
Small Bowel Obstruction: Roentgenologic Study. H. C. Ochsner, Indianapolis.—p. 16.
Absorption of Novatropine in Presence of Colloidal Aluminum Hydroxide. R. C. Batterman and O. A. Rose, New York.—p. 20.
Intestinal Absorption of Amino Acid Mixture in Normal Subjects. L. Zetzel and B. M. Banks, Boston.—p. 21.
Emptying Time of Normal Human Stomach After Administration of Bile Preparation. E. J. Van Lierc and D. W. Northrup, Morgantown, W. Va.—p. 26.
Treatment of Experimental Mann-Williamson Ulcers with Anterior Pituitary-like Hormone (Antuitrin S). G. G. Broad and L. G. Berman, Syracuse, N. Y.—p. 27.
Experimental Gastric Ulcer in Albino Rats. K. C. Chen, San Francisco.—p. 28.

Archives of Otolaryngology, Chicago

33:1-144 (Jan.) 1941

- New Anatomic and Functional Systematization of Connective Tissues of Neck: Peripharyngeal and Postvisceral Spaces. J. D. Weintraub, Cincinnati.—p. 1.
Anatomic-Pathologic Studies of Retropharyngeal (Peripharyngeal) Abscess. S. Iglauer, Cincinnati.—p. 31.
*Cancer of Larynx: Its Increasing Incidence. C. Jackson and C. L. Jackson, Philadelphia.—p. 45.
Mucous Sheet on Respiratory Mucous Membrane. J. K. Leasure, Indianapolis.—p. 66.
Evaluation of Lothrop Operation on Frontal Sinus. O. A. Lothrop, Boston.—p. 72.
Congenital Absence of Cranial Venous Sinuses on the Right. H. L. Williams and O. E. Hallberg, Rochester, Minn.—p. 78.
Functional Examination of Hearing. A. Lewy and N. Leshin, Chicago.—p. 91.

Cancer of Larynx.—The Jacksons present data on the incidence of laryngeal cancer and on the trend of the incidence. They believe that it is necessary to distinguish the incidence from the mortality and to record primary endolaryngeal cancer as cancer of a particular site. Data from members of the American Academy of Ophthalmology and Otolaryngology, covering more than 2,700 cases, indicate that cancer of the larynx is today a relatively common disease. When this statement is compared with the opinions of prior generations of laryngologists, who regarded it as rare, it can be said that its incidence is increasing. Differences in diagnostic skill in the two periods are not important, because if laryngeal cancer was overlooked early it would inevitably have been discovered later. Another point demonstrated is that many patients treated for such cancer are cured and live to die of other diseases. This shows that mortality records are not a fair criterion of the incidence of cancer of the larynx. What vital statistics are available show a progressive increase in incidence. Before this apparent increase can be accepted, an equation of adjustment should be applied. Some of the factors of the equation are the shortcomings of statistics, increase of population and changes in age distribution, increase in longevity, greater skill in laryngeal examination, the record-

ing of primarily laryngeal cancer after extension as pharyngeal or esophageal, inaccuracy of diagnosis without biopsy or necropsy and the relative increase of the incidence of cancer of other parts of the body. The importance of these factors is greatly diminished or practically excluded by considering only the last five years. The statistics of the Bureau of the Census show 1,100 deaths from cancer of the larynx for 1934, 1,152 for 1935, 1,239 for 1936, 1,237 for 1937 and 1,340 for 1938. The shortness of the period minimizes practically all the factors in the equation of adjustment. Data on the trend of mortality from cancer of the larynx among policyholders of the Metropolitan Life Insurance Company show no significant trend in incidence. The absolute percentage is small, partly because the age range includes childhood. There was 1 death from cancer of a patient less than 4 years of age and of 1 between 10 and 14. These data and those of Voegtlin, chief of the National Cancer Institute, lead the authors to conclude that there is a small but progressive increase, from year to year, in the incidence of cancer of the larynx. In examining the probable causes of the increased incidence they point out that the percentage of smokers among patients with laryngeal cancer is high. The proportion of men to women with this lesion is 10:1. Among the authors' patients about 95 per cent of the men were tobacco smokers; none of the women prior to two years ago were smokers. As smoking among women is becoming common it will be interesting to note the relative future incidence of laryngeal cancer in women. The same may be said of alcohol. Its increased consumption since repeal has had and, in the authors' opinion, will continue to have an effect in increasing the incidence, among women as well as men. Unquestionably age and sex are etiologic factors and they must be considered in dealing with the incidence. Since the curability of laryngeal cancer is potentially 80 per cent, the increased incidence is actually greater than mortality. The increase in the incidence parallels that of pulmonary cancer; this suggests a common operative cause on the respiratory system below the level of the food and air passages. One prophylactic measure is to educate the public to the fact that persistent hoarseness in an adult calls for immediate examination of the larynx to exclude cancer.

Bulletin New York Academy of Medicine, New York

17:1-80 (Jan.) 1941

- Sex Hormones and Endocrine Balance. W. Cramer, St. Louis.—p. 3.
Blood Plasma for Great Britain Project. D. Stetten, New York.—p. 27.
Gonorrhea in the Male. P. S. Pelouze, Philadelphia.—p. 39.
Current Trends in Diagnosis of Renal Tuberculosis. J. L. Emmett, Rochester, Minn.—p. 45.
Treatment of Renal Tuberculosis. W. P. Herbst, Washington, D. C.—p. 59.
Gonococcal Infections of Women. R. M. Lewis, New Haven, Conn.—p. 64.

Journal of Pharmacology & Exper. Therap., Baltimore

71:1-104 (Jan.) 1941. Partial Index

- Toxicity of Strontium and Calcium. Versa V. Cole, B. K. Harned and Roberta Hafkesbring, Philadelphia.—p. 1.
Action of Strontium and Calcium on Uterus. B. K. Harned and Versa V. Cole, Philadelphia.—p. 6.
Effect of Para-Aminobenzoic Acid on Bacteriostatic Action Produced by Sodium Paranitrobenzoate on Strain of Streptococcus Viridans. J. K. Miller, Albany, N. Y.—p. 14.
Effects of Certain Chemical Changes on Addiction Characteristics of Drugs of Morphine, Codeine Series. C. K. Himmelsbach, Lexington, Ky.—p. 42.
Comparison of Response of Yaws and Syphilis in Rabbit to Therapy with Mapharsen and Neosphenamine. B. J. Longley, N. M. Clausen and A. L. Tatum, Madison, Wis.—p. 49.
Chemotherapeutic Activity of N-Acetylsulfanilhydroxamides. Betty Lee Hampil, G. W. Webster and M. L. Moore, Glendolen, Pa.—p. 52.
Pharmacologic Studies in Experimental Alcoholism: I. Effect of Sympathomimetic Substances on Blood-Alcohol Level in Man. M. Rinkel and A. Myerson, Boston.—p. 75.

Maine Medical Association Journal, Portland

32:1-26 (Jan.) 1941

- Responsibility of Every Doctor to Provide Adequate Maternal Care. A. N. Creadick, New Haven, Conn.—p. 1.
Place of the Hospital in a Continuation Program of Graduate Medical Education. F. T. Hill, Waterville.—p. 7.
Cardiac Drugs: Their Rational Use. W. J. Comeau, Bangor.—p. 10.

North Carolina Medical Journal, Winston-Salem

2:1-56 (Jan.) 1941

- Physiotherapy in Ophthalmology. W. T. Davis, Washington, D. C.—p. 1.
- Nutrition Survey. D. F. Milam, Chapel Hill.—p. 6.
- Management of Diabetic Coma with Limited Laboratory Aid. O. N. Smith, Greensboro.—p. 11.
- Addison's Disease: Report of Case. P. H. Ringer and W. Pendleton, Asheville.—p. 17.
- Derangements of Low Back with Sciatica. H. Winkler, Charlotte.—p. 20.
- Bacterial Endocarditis Due to Streptococcus Viridans; Recovery Following Sodium Sulfapyridine Therapy. E. S. Orgain and Mary A. Poston, Durham.—p. 24.
- Subtotal Gastrectomy for Medically Treated, Nonresponding Gastric and Duodenal Ulcer: Preliminary Case Reports. E. V. Benbow, Winston-Salem.—p. 28.
- Common Complications of Pregnancy. C. Wrenn, Mooresville.—p. 33.
- Tumor of Acoustic Nerve: Case Report. W. R. Stanford, T. H. Byrnes and Annie T. Smith, Durham.—p. 38.
- Antistreptococcus Action of Local Applications of Alcohol-Acetone Aqueous Mercurochrome in Acute Tonsillitis and Pharyngitis. Mary A. Poston and W. D. Farmer, Durham.—p. 44.

Northwest Medicine, Seattle

40:1-34 (Jan.) 1941

- Lesions About Shoulder Joint. A. Steindler, Iowa City.—p. 3.
- Alloy Wire Tension Sutures, as Utilized in Abdominal Surgery. G. E. Pfeiffer, Portland, Ore.—p. 8.
- Indication for Vaginal Hysterectomy in Treatment of Gynecologic Conditions. W. W. Mattson, Tacoma, Wash.—p. 11.
- Ski Injuries at Sun Valley: Discussion of Causes, Unusual Type of Fracture and Treatment. W. W. Brothers, Pocatello, Idaho.—p. 14.
- Coracoclavicular Joint. D. B. Slocum, Eugene, Ore.—p. 16.
- Fungal Allergies. P. Schonwald, Seattle.—p. 17.
- Radiation Treatment of Salivary Fistulas. A. M. Popma, Boise, Idaho.—p. 20.
- Sodium Acid Sulfate Poisoning: Report of Case. J. Beeman, Portland, Ore.—p. 21.
- Development and Problems of a State Medical Journal. C. A. Smith, Seattle.—p. 21.

Pennsylvania Medical Journal, Harrisburg

44:417-544 (Jan.) 1941

- *Recent Studies on Diagnosis of Hypothyroidism in Children. L. Wilkins, Baltimore.—p. 429.
- Pennsylvania's Activities in Pneumonia Control. D. C. Stahle, Harrisburg.—p. 440.
- Sulfathiazole in Treatment of Pneumonia. L. Schwartz and H. F. Flippin, Philadelphia.—p. 446.
- First Impressions of Electroshock Treatment. L. H. Smith, J. Hughes and D. W. Hastings, Philadelphia.—p. 452.
- Vesical Diverticula Today. S. W. Mulholland, Philadelphia.—p. 456.
- *Carcinoma of Colon: Early Diagnosis with Double Contrast Enema. J. Gershon-Cohen and H. Shay, Philadelphia.—p. 462.
- Vaccine Treatment of Facial Paralysis. J. V. Connole, Wilkes-Barre.—p. 467.
- Pulmonary Signs and Symptoms in Acute Upper Respiratory Infections. R. T. Devereux, West Chester.—p. 470.
- Present Status of Cyclopropane. I. B. Taylor, Philadelphia.—p. 472.
- Value of Early Diagnosis of Rheumatic Fever in Childhood. J. L. Foster, Pittsburgh.—p. 476.
- Rheumatic Heart Disease in Families. J. M. Cahan, Philadelphia.—p. 481.
- Evolution of Rheumatic Heart Disease in Childhood. Rachel Ash, Philadelphia.—p. 484.

Hypothyroidism in Children.—Wilkins discusses structural and functional changes of children with hypothyroidism and the early recognition of atypical and borderline cases. The rate of growth is always slowed, and the size of the child will depend on when the deficiency began. The ratio between the upper and lower skeletal segments changes during childhood because of a more rapid growth of the lower segment. In the hypothyroid dwarf the ratio remains that of a younger child, corresponding to his height rather than his age. Dwarfs who are not hypothyroid usually attain ratios normal for their actual age. In hypothyroidism the nasal structures fail to develop normally, and if the deficiency dates from early childhood the naso-orbital configuration remains infantile; the nose is short and the nasal bridge broad and flat. Ossification of the cartilaginous centers is delayed, and treatment with thyroid accelerates the rate. Osseous development can be followed during treatment, and whether the dosage given is sufficient to cause a normal level of development can be determined. Endochondral ossification is not controlled by thyroid alone, and a diagnosis of hypothyroidism should not be based entirely on delayed ossification. Many dwarfs with no evidence of thyroid insufficiency who fail to respond to therapy show as

advanced degrees of osseous retardation as do hypothyroid patients. Dentition is always delayed, and the teeth formed during thyroid deficiency are structurally defective and decay early. Epiphysal dysgenesis, causing abnormalities in subsequent ossification, occurs. Ossification arises in multiple areas. As these enlarge and coalesce, they appear on roentgen study as stippled, porous or fragmented. When thyroid deficiency occurs in early life cerebral development is delayed, and if untreated permanent damage may result. If hypothyroidism occurs in late childhood there may be no cerebral defect; the intelligence quotient may be normal even though the patient may be mentally sluggish. When all or most of the foregoing anatomic changes are present, the clinical picture is usually unmistakable. Thyroid deficiency may exist without any characteristic structural abnormalities, and its diagnosis depends on functional studies. Some degree of mental sluggishness and physical inactivity is shown. They are distinct from retarded or defective cerebral development and disappear rapidly on treatment. A pale grayish color of the cheeks and lips and circulatory mottling of the skin are evidences of decreased peripheral circulation and are encountered regularly. A cholesterol value above 300 mg. per hundred cubic centimeters of serum is suggestive of hypothyroidism if other causes of hypercholesterolemia (diabetes, nephrosis or hepatic disease) are absent. After the injection of 5 mg. of thyroxine there was a decrease in the serum cholesterol of the hypothyroid child amounting to from 120 to 230 mg. The effect lasted for from thirty to seventy days. In the normal child the effect of the thyroxine was only slight and transient. The serum cholesterol of hypothyroid children after withdrawal of thyroid medication rose to between 300 and 600 mg. within eight to twelve weeks. A similar rise did not occur in normal children. Frequently the cholesterol levels of hypothyroid children reached higher levels than had been observed before treatment. These observations are of particular diagnostic value in those children treated elsewhere whose stigmas of hypothyroidism have disappeared. If a previous diagnosis is questionable, thyroid medication can be discontinued and the cholesterol observed for from eight to twelve weeks. A definite rise often occurs long before characteristic clinical signs appear. Three types of response to thyrotropic hormone are found. A positive response, indicating that the thyroid is responsive to stimulation, consists of an increased creatinuria after thyrotropic hormone and thyroid medication. A negative response, indicating that the gland is absent or cannot be stimulated, consists of no increase in creatinuria with thyrotropic hormone but a decided increase with desiccated thyroid or thyroxine. In the "false negative" response there is no effect on the creatinuria. In such patients, failure to react to thyrotropic hormone cannot be interpreted as indicating that the thyroid is absent or unresponsive, because even thyroid has no effect on the creatinuria.

Carcinoma of Colon.—Gershon-Cohen and Shay stress that no rectal examination should be done without a barium sulfate enema examination of the entire colon. Many errors can be overcome by taking roentgenograms through oblique planes, by changing the patient from the recumbent to the erect position or by taking double exposures to locate areas of rigidity with no peristaltic activity. Many roentgenologists recommend examination of the evacuated colon for studying the mucosal patterns. This is a definite advance over the ordinary barium sulfate enema routine. The double contrast enema not only overcomes these difficulties but allows visualization of small intraluminal changes before they are disclosed by the single contrast barium sulfate enema. After the rectum, the cecum is the most common site of cancer. Obstructive symptoms are usually late in appearing. Occult blood in the stools is an early finding. It precedes subjective awareness of abnormal function by a long time. As a result of this bleeding an "unexplained" anemia may be the first suggestive sign. For early diagnosis, periodic stool examination for occult blood is to be followed by the double contrast enema. This enema is of value as a check on the single contrast enema, which is especially serviceable when the absence of disease is to be established.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Radiology, London

14:1-42 (Jan.) 1941

- Medical Uses of Radium: Summary of Reports from Experimental Research Centers for 1939. Joint Radiology Committee of the Medical Research Council and the British Empire Cancer Campaign.—p. 1.
X-Ray Diagnosis of Acute Intestinal Obstruction. P. B. Ascroft and E. Samuel.—p. 11.
The Optimal Dosage in Treatment of Carcinoma of Uterine Cervix by Radiation. Margaret C. Tod.—p. 23.
Influence of Radiation on Electrolytic Coagulation of Mastic Sols. F. L. Warburton.—p. 30.
Gastrocolic and Gastrojejunalocic Fistula: Report of Five Cases. E. R. Williams.—p. 36.
Radiologic Findings in Two Unusual Cases of Inguinal Hernia. E. R. Williams.—p. 41.

British Medical Journal, London

2:891-924 (Dec. 28) 1940

- *Tetanus Prophylaxis and Circulating Antitoxin in Men and Women. Doris M. Marvell and H. J. Parish.—p. 891.
Hospital Infection of War Wounds. A. A. Miles, Herta Schwabacher, A. C. Cunliffe, J. P. Ross, E. T. C. Spooner, R. S. Pilcher and Joyce Wright.—p. 895.
Treatment of Bronchopneumonia Under the Age of 1 Year. A. M. Gill.—p. 900.
Talipes Cavus. W. K. Hughes.—p. 902.

Tetanus Prophylaxis and Circulating Antitoxin.—According to Marvell and Parish, in the summer of 1939 active immunization against tetanus was offered to all members of the staff of the Wellcome Physiological Research Laboratories. As facilities offered under wartime conditions the titers of circulating antitoxin induced by the injections were estimated. The results confirm the observations of Boyd (1938) on antitoxic titers and support the evidence that the general immunologic principles primarily established in experimental animals are applicable to tetanus prophylaxis in man. Much higher titers of circulating antitoxin were observed after two injections (from thirteen days to nine months apart) of 1 cc. of toxoid than after a single dose. The largest group comprised 187 blood samples from 116 persons (male and female) inoculated with two doses of tetanus toxoid at an interval of approximately six weeks. The most useful amounts of circulating antitoxin were had by this group. Women gave a better response to the injections than men. Inquiry whether this greater immunizability could be correlated with lower annual death rates of females from tetanus suggested that females apparently have a greater inborn resistance to the infection. This may perhaps be correlated with the greater response of women to immunization in the present investigation. The other results are in accordance with immunologic principles and experiences. A third dose of toxoid given from seven to nine months after the two doses revealed a response that more than counteracted the effect of any waning immunity. The wide interval before the "boosting" dose is the important factor in achieving a rapid rise in circulating antitoxin—this recalls that in the immunization of horses for serum production Glenny found it an advantage to allow at least several months to elapse between the first specific stimuli and the course of injections proper. The French have applied the principle of a wide interval (one year) for the "boosting" dose of toxoid to members of the fighting forces and to all wounded on the basis that the response should be extensive and sufficiently rapid to ensure safety from any infection due to toxigenic tetanus bacilli. Figures have been published showing that useful amounts of antitoxin were still present in the serum of patients from four to five years after immunization. Decline in values is very slow, but a "boosting" dose of toxoid after long intervals or on the receipt of a wound will ensure a sufficiently high level of antitoxin.

Medical Journal of Australia, Sydney

2:589-620 (Dec. 7) 1940

- Some Debts of Medicine to the Fighting Services. S. F. McDonald.—p. 589.
Riedel's Disease and Lymphadenoid Goiter. N. M. Harry.—p. 595.
Critical Review of Cases of So-Called Reflex Anuria: Report of Case. P. L. Hipsley.—p. 602.

2:621-650 (Dec. 14) 1940

- Surgical Treatment of Pulmonary Tuberculosis. K. Hirschfeld.—p. 621.
Control of Tuberculosis. D. R. W. Cowan.—p. 627.
Some Unusual Renal Lesions Associated with Vascular Hypertension. A. J. Canny.—p. 631.
Note on Lipoid Cell Pneumonia. F. Tidswell.—p. 638.

2:651-682 (Dec. 21) 1940

- Diagnosis and Treatment of Acute Abdominal Conditions in Children. P. L. Hipsley.—p. 651.
*Results of Intranasal Inoculation of Modified and Unmodified Influenza Virus Strains in Human Volunteers. F. M. Burnet and M. Foley.—p. 655.
Some Associations of the Old Hobart General Hospital. W. E. L. H. Crowther.—p. 659.
Effect of Exercise in Hot Atmospheres on Pulse Rate. D. H. K. Lee and G. P. B. Boissard.—p. 664.
Destructive Skin Disease of Face in Natives of Papua and North Australia. E. Ford.—p. 668.

2:683-714 (Dec. 28) 1940

- Chloroform Anesthesia: Report on 3,000 Cases. C. A. Thelander.—p. 683.
Menorrhagia and Metrorrhagia. R. F. Matters.—p. 688.
Air Raid Experiences in the East End of London. T. F. Rose.—p. 690.
Incidence of Hemolytic Streptococci in Throats of Obstetric Nurses: Results of Treatment by Tonsillectomy and Sulfanilamide. J. N. Chesterman and Shirley Scandrett.—p. 695.

Inoculation of Human Volunteers with Influenza Virus.—Burnet and Foley report the data of three intranasal injections of influenza virus into 15 human volunteers in normal health who had not suffered from the disease during the 1939 epidemic. The first two instillations of attenuated virus were given in the laboratory and the subjects were required to report any symptoms. As the third instillation was of virulent virus, it was given in strict isolation for at least seven days. Three subjects suffered from clinical influenza following the third instillation of virus, which was considered to be of full human virulence. Serologic results from all subjects indicate the high correlation of resistance to a standardized exposure, with high antibody level. The attenuated strains administered appeared to have no protective effect. Virus was readily reisolated from the subjects showing clinical symptoms by the injection of throat-washing filtrates into chick embryos by the amniotic route. Although the primary object of the experiment was a failure, the authors believe that it has supplied useful information not previously available and has provided a basis for further work on human immunization. It has indicated the value of the amniotic injection method for influenza virus research and that unlimited amounts of high titer sterile virus can be prepared in a convenient form and of any degree of virulence. The infections suffered by 2 of the subjects were similar to the natural cases in the 1939 epidemic from which the virus was derived, and therefore the authors assume that no significant change in the virus occurred in the interim. The experiment proved that virus could be isolated by the amniotic method from human throat washings. The third subject showed only trivial symptoms. The present experiment makes it clear that when exposure is standardized the antibody level has a dominant influence in determining the outcome. With some reservations it may be assumed that in susceptible human beings the administration of more unmodified virus than would be received during a natural infection produces the same clinical effect as the natural infection. The authors conclude that susceptible human beings must differ from ferrets and mice as to their reaction to attenuated influenza virus. As a working hypothesis they assume that the most important factor in preventing a take of the attenuated strains is the presence of the virus-inactivating agent of Burnet, Lush and Jackson in the nasal and (probably) tracheobronchial secretions. If this is true, the problem of immunization by living attenuated strains is either to select a strain resistant to the virus-inactivating agent or to restrict the output of the virus-inactivating agent temporarily by some pharmacologic maneuver creating an opportunity for infection to take place. The control of influenza by immunologic means may never be practicable unless the immunizing agent is capable of being prepared rapidly and in large amount and can be administered easily. Only egg-grown viruses administered by the natural route seem at present to offer the required potentialities.

Revista Medica Brasileira, Rio de Janeiro

9:767-928 (Dec.) 1940. Partial Index

*Emergency Surgery in Cerebral Angiospasm. B. V. Baptista.—p. 773.
Tuberculosis in Old Age. R. Fernandes.—p. 817.

Emergency Surgery in Cerebral Angiospasm.—According to Baptista, spasm of the cerebral vessels is caused by the disturbances in the nerve supply of the cerebral arteries due to sympathetic stimulation of the vasoconstrictive cerebral centers. The angiospasm may be mechanical or reflex. In either case it causes ischemia of cerebral tissue with consequent infarct formation. It is likewise the cause of cerebral hemorrhage. Cerebral angiospasm does not subside spontaneously and constitutes an urgent indication for surgical intervention in order to improve the circulation about the ischemic zone in an attempt to prevent infarction. The author reports satisfactory results with procaine hydrochloride infiltration of the stellate ganglion, or with stellectomy, in 11 cases. He infiltrated the ganglion and the tissues about it with from 20 to 30 cc. of a 1 per cent procaine hydrochloride solution. Stellectomy was performed by Leriche's technic. Either operation results in suppression of sympathetic stimuli and cerebral vasoconstriction with consequent vasodilatation and normalization of the local circulation. In the 11 cases reported the results were satisfactory. Functional restitution in hemiplegia took place immediately after the operation.

Tokyo Igakkwai Zassi, Tokyo

54:907-1027 (Nov.) 1940. Partial Index

*Changes in the Muscularis of Gallbladder in Diseases of Bile Ducts. S. Sato.—p. 1005.

Muscularis of Gallbladder in Bile Duct Diseases.—Sato made a histopathologic study of the surgically removed gallbladder in 102 cases of various diseases of the bile ducts, with special reference to the hypertrophy and other changes in the muscular layer. In practically all cases the hypertrophy of the muscularis was most noticeable at the fundus of the bladder, the thickness of the layer being influenced by such factors as the severity of the clinical symptoms, the duration of the formation of the stone, the degree of inflammation, the number of attacks and the presence or absence of gallstones. The most pronounced thickening was encountered in patients having a long history of cholelithiasis, particularly those with stone formation in the neck of the gallbladder, and those with typical and severe attacks associated with severe inflammatory changes. In patients not displaying these manifestations, the muscularis was often found to be hypoplastic. There was a strict parallelism between the thickness of this layer and the degree of fibrosis. In cases of acute inflammation the muscularis reflected the advanced degree of the changes, such as suppuration and ulceration, necrosis and lysis of muscle fibers and karyolysis of muscle bundles. In subacute conditions the muscularis was frequently thickened, with round-cell infiltrations in the interstitial tissues and an increase in connective tissue. Cloudy swelling, vacuolization and hypertrophy of muscle fibers were present, but necrosis was seldom seen. In chronic cases the muscularis often showed hypertrophy, with some round-cell infiltrations, but interstitial fibrosis and cicatrization were also prominent. The hypertrophy of muscle fibers must be considered independently of the thickness of the muscle layer itself. The hypertrophy was noted in 28 out of 102 cases, which must be interpreted as being caused by inflammatory stimulation compensatory to the decrease of muscle fibers, by disturbance in the biliary drainage due to stone formation or by mechanical stimulation due to changes in the pressure within the duct. In 4 cases a giant muscle bundle had formed around the neck of the bladder.

Nordisk Medicin, Gothenburg

8:1851-1934 (Nov. 2) 1940. Partial Index

Hygiea

*Treatment of Malignant Granulocytopenia. N. G. Nordenson. 1899.

Treatment of Malignant Granulocytopenia.—Nordenson states that his study of 915 cases from the literature together with 59 personal cases verifies the generally accepted view that there is not at present any specific or reliable treatment

for this condition. He points out that in cases of mild involvement expectant treatment may be given because of the tendency to spontaneous recovery, while in cases of grave involvement active treatment is called for and the choice of treatment depends to a certain degree on the results of examination of the bone marrow. When there are grave changes in the bone marrow he advocates roentgen treatment for three days; in cases in which there are less marked changes he recommends pentnucleotide for seven days. Blood transfusions and liver treatment, he says, as well as mixed therapy often give good results, and treatment with leukocyte and bone marrow extract and with transfusion of leukemic blood should be given further trial. A lengthy bibliography is appended.

8:1935-2028 (Nov. 9) 1940. Partial Index

Medicinsk Revue

*Inflammation-like Strictures in Intestinal Tract with Clinical Picture of Malignant Tumors. E. Hval and K. Schnitler.—p. 1968.

Strictures in Intestinal Tract Simulating Malignant Tumor.—Hval and Schnitler say that occasionally history, clinical course and macroscopic appearance clearly point to cancer, but the histologic examination of the excised part excludes malignant neoplasm. The clinical diagnosis in these cases is difficult. Inflammatory tumors may be located anywhere in the large intestine, the sigmoid flexure apparently being the place of predilection; they occur less often in the small intestine. There are two main types, one with a smooth surface and resembling a diffuse circular thickening of the wall, the other with a more irregular appearance and a growing together of the surrounding tissue. Sometimes sharply defined nodes are seen. The size varies from that of a walnut to that of a man's head, and the consistency, from firm to as hard as wood, although softer parts may be present here and there because of abscesses. Perhaps the considerable tendency to connective tissue formation and fibrous transformation is the most prominent feature in the microscopic picture. These pseudotumors with signs of acute, subacute and chronic inflammation are probably a further development from a local acute purulent phlegmon in the intestinal wall. A number of very different etiologic factors may play a part and may often have manifested themselves far earlier and differently than the later pseudotumors. The authors describe 3 cases of such cancer-like stricture which the microscopic examination showed to be due to nonspecific inflammation, in men aged respectively 60, 32 and 65, the first 2 with stenosing tumor-like formation in the colon, the third with an ulcerative formation in the rectum. In these cases an inflammation had involved the intestinal wall and infiltrated the surrounding fatty tissue. There was in part acute inflammation, in part inflammation ranging from subacute to chronic, with reparative tendency and considerable fibrous transformation.

8:2029-2120 (Nov. 16) 1940. Partial Index

Hospitalstidende

*Treatment of Phlebitis in Lower Extremities with Paravertebral Injection of Procaine Hydrochloride in Sympathetic Lumbar Ganglions (Leriche's Method). E. C. Dalsgaard.—p. 2048.

Treatment of Phlebitis with Paravertebral Injections.—Dalsgaard reports 20 cases (11 grave, 7 moderately grave, 2 milder) in women aged from 19 to 65 treated by paravertebral injections of procaine hydrochloride into the sympathetic lumbar ganglions. He finds the advantages of the treatment to be (1) almost immediate cessation of pain and comfortable rest in bed, without any immobilization, (2) reduction of the duration of the disease, especially the acute stage, (3) reduction of the frequency and intensity of the after-effects of the phlebitis, (4) probable reduction of the danger of embolism, since no case of infarct was observed in his total of 70 cases in which purely injection treatment was given. He considers the method indicated in every form of phlebitis in the deeper veins of the lower extremities. Since the first injection seems to be the most important, he advises institution of the treatment as early as possible. From the experiences since 1936, he says, there is no contraindication, and the superiority of this method over the classic immobilization treatment is undoubted.

Book Notices

Fractures and Dislocations for Practitioners. By Edwin O. Goeckler, M.D. Second edition. Cloth. Price, \$4. Pp. 314, with 267 illustrations. Baltimore: William Wood & Company, 1940.

The treatment of fractures and dislocations is presented in a concise and compact form. The procedures are outlined in fair detail, with comments on possible complications. The indications for the more radical methods are outlined. The book should be of value to the practitioner who must rely on his own resourcefulness in the handling of the traumatic cases. The subject of plaster technic is well covered. The illustrations are instructive. While there are no foolproof methods for the treatment of fractures, those described by Goeckler are well chosen and should form an adequate approach to that large number of cases which do not present unusual problems or require unusual apparatus. This book gives the practitioner the information necessary for the immediate care of a fracture or dislocation. He can consult, if necessary, larger sources and specialists. One of the virtues of the book is the ready availability of the information contained. The book can take its place in the present setup of everyday practice and in the library.

Le débit cardiaque: Études expérimentales et cliniques. Par Jean Lequime, assistant à l'Université de Bruxelles. Préface du Professeur Paul Govaerts Acta medica Scandinavica, Supplementum CVII. Paper. Price, 90 cents. Pp. 223. Paris: Masson & Cie; Liège: Georges Thone, 1940.

In the domain of circulatory disease the physician has benefited greatly from physiologic methods. Likewise, of all the medical specialties cardiology has been most inspirational to physiology. The idea of determining the cardiac debit (cardiac output), i. e. the quantity of blood expelled by the left ventricle into the aorta, in unit time, is old. Its history is the more interesting, since a study of this one problem in its diverse aspects demonstrates the evolution of physiologic thought.

Dr. Lequime, in this well written monograph reviews the significant literature, describes the various methods available and makes important personal contributions. He concludes: The direct method of Fick permits accurate measurement of cardiac output in the unanesthetized dog. During chloral or pentobarbital sodium anesthesia, the considerably reduced cardiac output parallels the diminution in respiratory exchange. Application of the principle of Fick to man, according to the technic of Meakins and Davies, can yield perfectly dependable results. However, the technic is difficult and is not suited to most physiologic and pathologic studies. In certain congenital anomalies, the resulting arterialization of venous blood can be demonstrated by the technic of "rebreathings." This is reliable evidence of an arteriovenous shunt and contributes interesting data to the clinical study of cardiac malformations. The acetylene method is exact. It is easy and requires only moderate cooperation on the part of the patient. With slight change in technic it is applicable to the majority of physiologic and pathologic states. In hyperthyroidism cardiac output is increased, the result of two partially independent factors, the relative importance of which varies from patient to patient: increased oxygen consumption and changes of the peripheral vascular bed. The circulatory variations are reversible by iodine and thyroidectomy. They provide a reasonable explanation of the cardiac disorders following severe or prolonged hyperthyroidism. In hypothyroidism the decrease in cardiac output is essentially due to lowered tissue metabolism and secondarily to the reduced peripheral circulation. Thyroxine reverses these findings. Insufficiency of the hypophyseal thyrotropic secretion leads to variations comparable to those of hypothyroidism. Ingestion of a liter of water constantly and definitely increases the cardiac output and, to a larger degree, the systolic output in normal man. These variations do not necessarily parallel the diuresis, since they are more apparent after the ingestion of saline solution (which leads only to a slight diuresis) than after the ingestion of water (which provokes a rapid and intense diuresis). They are not the result of an increase in metabolism, since the consumption of oxygen does not vary appreciably. Supposedly they are to be attributed principally to the splanchnic, renal and cutaneous vasodilatation which follows the ingestion of water. Arterial hypertension, regardless of its origin, does not

modify cardiac output. In the unanesthetized dog, moderate increase in heart rate results in marked increase in cardiac output. When the rate becomes too rapid, the cardiac output is diminished. In paroxysmal tachycardia and auricular flutter the cardiac and systolic output is markedly decreased. These changes, due in part to the extreme acceleration of ventricular rate, likewise depend on the condition of the muscle of the heart involved. They explain perfectly the resulting symptoms. In the bradycardia of total heart block there is a slight decrease in cardiac output and a decided increase in systolic output. In patients with chronic circulatory insufficiency, cardiac output is diminished but improves considerably with "recompensation." These modifications of cardiac output permit a rational explanation of the clinical symptomatology of heart failure.

This report, replete with case histories, tabulations and a bibliography of three hundred and forty-five titles, including one hundred and fifty-one American and forty English contributions, provides additional data valuable to students of cardiovascular physiology.

Hydrotherapy in Psychiatric Hospitals. By Rebekah Wright, M.D., Hydrologist, Massachusetts Department of Mental Health. Cloth. Price, \$4. Pp. 334, with 91 illustrations. Boston: Tudor Press, Inc., 1940.

This revision of a 1932 edition devotes the introductory chapter to a historical sketch of hydrotherapeutic principles established during the last few centuries. Here one learns of the experiments which demonstrated that a cold bath may produce a mild leukocytosis or a material increase in the circulation of the red blood cells. The book is splendidly illustrated to make clear the nature of equipment or technics that may be employed to produce such effects as sedation, relief of pain, reduction of fever, elimination and stimulation—all to be accomplished by water used in one way or another. The need for accurate prescription writing is stressed. One section is especially given to the task of teaching physicians the fundamentals of this art. The physician who would master it must be a clinical physiologist as interested in the effects of heat and cold as he would be in those of digitalis or other drugs. There is brief discussion of the treatments of choice for various psychiatric syndromes. One is greatly impressed by the importance which the author attaches to the skin as a vital organ that may be affected by heat or cold through the medium of water applied in many ways, with the aim of relieving tension, dissipating vasomotor imbalance or relieving localized or general discomfort. A psychiatric hospital is not basically equipped unless it has personnel and facilities for administering the cold wet sheet pack (sedative) or the continuous (prolonged) neutral tub bath. The descriptions and illustrations pertaining to these, among many other technics, are excellent. For the physician, the nurse, the attendant, the professional physical therapist there are chapters of special interest. Floor plans of hydropathic departments, records, reports, house-keeping, special training, are only a few subjects fully discussed. Supplementary references and a complete index add to the usefulness of the book. While one might differ with the author on minor points of procedure, it is a book to be commended to the personnel of psychiatric and general hospitals.

John D. Rockefeller: The Heroic Age of American Enterprise. By Allan Nevins. Volumes I and II. Cloth. Price, \$7.50 per set. Pp. 683, with 43 illustrations; 747, with 57 illustrations. New York: Charles Scribner's Sons, 1940.

The name of Rockefeller is known to every American. His career included a variety of aspects in the development of great utilities, in financial manipulation, in benefactions to religion, education and health. All of these aspects are fully covered by the author, and the book has had comprehensive reviews in many publications. The chief interest for the physician is obviously in those sections which concern endowment for public health and medical science. These are all covered in the second volume, and largely in the final section, which is entitled "A Man and His Money." Particularly interesting is the story of the founding of the University of Chicago, although Mr. Rockefeller had begun giving considerably to charities and philanthropies early in his career. In this section of the book are repetitions of conversations and of correspondence which will be of interest to every one who has followed the growth of the university. Under "Adventures in Spending" comes the inside story of the Rockefeller gifts to medical causes. Apparently

the reading by Gates of Osler's "Principles and Practice of Medicine" was the determining incident. In July 1897 he brought this book by Osler to the office at 26 Broadway and there dictated for Mr. Rockefeller a memorandum regarding his views concerning the necessity for research in medicine. It was first anticipated that a research institute would be associated with the University of Chicago. The affiliation between Rush Medical College and the University of Chicago in 1898 led the Rockefeller group to abandon the idea of a new medical research institute in the university. Later when John D. Rockefeller Jr. had a conversation with L. Emmett Holt and several others in New York there came the stimulus for the establishment of the Rockefeller Institute. Every step in the creation of the institute is carefully followed. Then come the stories of other great philanthropies, including the establishment of the General Education Board. There is a section on the great battle over tainted wealth and a final chapter entitled "Exeunt Omnes" leading to the story of the death of Mr. Rockefeller and an evaluation of the great empire that he built. An appendix provides some interesting statistics as to the earnings of Standard Oil combinations and as to Mr. Rockefeller's gifts. The record before 1880 is especially interesting. It begins with a gift of \$2.77 to philanthropy in 1855, then shows ultimately an increase in figures, reaching \$1,472,122.52 in 1893. Thereafter came the contributions of tens of millions which made of John D. Rockefeller the greatest philanthropist that the world has ever known.

The Medical Reports of John Y. Bassett, M.D. The Alabama Student. With an introduction by Daniel C. Elkin, M.D., Joseph B. Whitehead Professor of Surgery, Emory University, Atlanta. Boards. Price, \$1.50. Pp. 62, with illustrations. Springfield, Illinois & Baltimore: Charles C. Thomas, 1941.

Dr. Osler's Alabama Student recalled from oblivion an observant and courageous practitioner as well as a keen critic of the foibles of men and not the less of his own profession. Furthermore, he had to no small degree the philosophic temper of mind which his illustrious commentator so well exemplified. Dr. Daniel C. Elkin's introduction to the text of Bassett's Medical Reports tells the interesting story of how these reports came to be written. This was due to his interest in an ephemeral medical journal, the *Southern Medical Reports*, 1849-1850, edited by Erasmus Darwin Fenner. This enterprising physician, a graduate of Transylvania College, settled in New Orleans in 1841, started the *New Orleans Medical Journal* in 1845 and became the dean and professor of the principles and practice of medicine in 1856 in the newly organized New Orleans School of Medicine. As the result of internal disagreements he was forced from the editorial staff of the *New Orleans Medical and Surgical Journal* and in 1849 founded the *Southern Medical Reports* in the belief that physicians of the South were alone competent to deal with the medical problems of the South, "What does the most cultivated Northern physician know about treating our yellow fever, or pernicious fever or our diarrheas? While I certainly would respect the cultivation of their minds, I confess I'd rather have an intelligent and experienced plantation overseer to treat me with one of these diseases." He was also a proponent of the doctrine of the unity of fevers and a strong believer in the relations of topography to disease. This second dogma struck a responsive chord in the mind of Dr. John Y. Bassett of Huntsville, Ala., whose daily experiences with the localized onsets of malaria in his wide practice had impressed on him the importance of environmental factors in certain diseases. Perhaps his medical contacts in Paris had brought him within the influence there of Lamarckian ideas on the efficacy of environment. His case reports also reveal the extent to which he employed hot baths and cold plunges. Equally drastic are the massive doses of quinine and calomel which he employed. The two volumes of the Reports contain reports of 18 of his cases, his Topography, Climate and Diseases of Madison County, Alabama, his Climate and Diseases of Huntsville, and his Meteorological Summary.

His case records abound in indications that his practice had to do with severe malaria, even of the blackwater fever type, with amebic dysentery and with typhoid. A comparison of his records with present practice reveals the progress scientific medicine has made in the century since he began his career. Only a careful reading of his observant accounts of disease and

patients, and witty and caustic comments on professional and human weaknesses can reveal the sources of delight which Dr. Osler found in Dr. Bassett's reports.

Plague on Us. By Geddes Smith. Cloth. Price, \$3. Pp. 365, with illustrations. New York: Commonwealth Fund; London: Oxford University Press, 1941.

Here in an attractive form is a beautifully written account of man's battle against the plagues that have attacked him since the earliest times. For twenty centuries men have attempted scientifically to understand and forestall all pestilence. In our advance we have learned that such plagues are carried by insects and rodents. We have learned to know that they are caused by viruses and germs. We have developed vaccines and serums and preventive inoculations. These are the materials from which Geddes Smith has constructed this beautifully written book. He has had the advice of experts in the fields of bacteriology and epidemiology, and he tells the story of man's battle against the plagues in eight chapters, a prologue and an epilogue.

One of the most fascinating of the chapters, called "Detective Work," indicates how modern scientists determine the causes of epidemics. Here is the case of the Methodist ladies, the case of the wading boys, the case of the ladylike oysters, the case of the plumber's patchwork, and many other fascinating anecdotes of scientific detection. Under the title "Unfinished Business" comes an account of our attempts to control influenza, pneumonia and the common cold and the most recent efforts against malaria and yellow fever. This book is one which every physician may read to his own interest and one which every school should make readily available to its students, for they will find in no other place an equally competent record of what science has done in the combat against plagues.

The 1940 Year Book of Pathology and Immunology. Pathology. Edited by Howard T. Karsner, M.D., Professor of Pathology, Director of the Institute of Pathology, Western Reserve University, Cleveland. Immunology. Edited by Sanford B. Hooker, A.M., M.D., Professor of Immunology, Boston University School of Medicine, Boston. Cloth. Price, \$3. Pp. 688, with 115 illustrations. Chicago: Year Book Publishers, Incorporated, 1940.

In this new volume, the publishers of the popular Year Books have now expanded their series to cover the fields of pathology and immunology. It consists of a collection of abstracts selected from the world literature and regarded by the editors as being the important contributions in 1939 and most of 1940. They present the main features of these articles with their conclusions; frequently there is added editorial comment with the good critical judgment that one might expect from two such well known workers in these branches of medicine. The first half of the book, devoted to pathology, has been prepared by Dr. Karsner. It is divided into sections dealing with general pathology, tumors and the various systems; in addition there are useful notes on new technical methods. Where some of the papers were part of a series, their authors contributed brief summaries of their previous work in order to round out the subject. The second half of the book, edited by Dr. Hooker, deals with immunologic aspects of disease with reference to the various etiologic agents as well as to chemotherapy, anaphylaxis, blood grouping, immunochemistry and bacteriology. Here too one finds a section on technical methods. With the increasing amount of literature to which every medical man can and should expose himself, any help in the difficult task of keeping abreast of advances in medicine is extremely welcome. For the pathologist this volume is almost indispensable.

The Era Key to the USP XI & NF VI. Revised by Lyman D. Fonda, Professor of Pharmacy, Brooklyn College of Pharmacy, Long Island University, Brooklyn. Cloth. Price, \$1. Pp. 320. Newark, N. J.: Haynes & George Company, Inc., 1939.

The first edition of this volume appeared in 1893, and subsequent copyrights indicate that the intervening editions have appeared in 1905, 1914 and 1926. It is stated that the book is designed for the convenience of physicians and pharmacists. It should be noted, however, that it is of far greater usefulness to the pharmacist than to the physician. The principal reason for this is that while the uses which have been made of the various preparations are indicated there is no evaluation of their usefulness for those purposes. The book contains a glossary of technical terms, a list of incompatibilities, a list of Latin terms and abbreviations, and a section dealing with nonofficial remedies.

The descriptive leaflet received from the publishers with the book states that "growing use of New and Nonofficial Remedies creates a demand for similar condensed data" and that the book contains an "alphabetical list of new and nonofficial preparations with maker, formula and specifications, doses, therapeutic properties, etc." If, by these sentences, they mean to imply that a complete list of the items in New and Nonofficial Remedies has been included in this section of the book, they are in error. Few references to N. N. R. appear in the volume, and some of those which appear refer to items which have not been N. N. R. items since 1938.

Fleas of Eastern United States. By Irving Fox. Cloth. Price, \$3. Pp. 191, with 166 illustrations, Ames, Iowa: Iowa State College Press, 1940.

This is strictly a systematic account of the fifty-five known species of fleas occurring in the Eastern half of the United States, east of the one hundredth meridian, excluding Texas. These pests belong to thirty-three genera and five families and annoy seventy-five different mammalian and avian hosts. Fortunately only nine of the species have thus far been captured on man. All of these nine occur also on animals associated with man, such as the rat, mouse, cat, dog, hog, rabbit and fowl, as well as on a considerable range of species of wild mammals and birds. The fleas breed in the sleeping places of the mammals and the nests of birds. The eggs are laid in the hair or feathers of the host, are not attached and fall on the ground or substrate, where the white or yellow larvae develop. Fleas are hardy and the dog flea can live for two months without feeding. This manual has keys and illustrations of diagnostic anatomic details, lists of localities and hosts, full descriptions of both sexes of each species, indexes of synonyms and of hosts, and a bibliography. Since fleas are vectors of sylvatic and bubonic plague and possibly of some other communicable diseases, this manual is a useful addition to every public health library.

Bailey's Text-Book of Histology. Edited by Philip E. Smith, Ph.D., Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York, Russell L. Carpenter, Ph.D., Professor of Biology, Tufts College, Medford, Mass., Charles M. Goss, M.D., Professor of Anatomy, University of Alabama Medical School, University, Wilfred M. Copenhaver, Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, and Aura E. Severinghaus, Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University. Tenth edition. Cloth. Price, \$6. Pp. 764, with 448 illustrations. Baltimore: William Wood & Company, 1940.

Histology is a structural science which serves to complete the anatomic knowledge gained from dissection. This book, however, also emphasizes the intimate relation of histology to physiology and pathology. Following the first two chapters on a discussion of the cell, the structure of the various tissues is presented, followed by the microscopic anatomy of the various organs. In this edition two new chapters have been added, one on the organization of nervous tissues and another on morphogenesis. The other chapters have been extensively revised and a short list of references added to each chapter, thus enabling the student to follow the literature more extensively. Many new and original illustrations, a number of which are in color, have been added. The same five anatomists who revised the two previous editions have made this revision. The authors also present the major controversial differences of opinion, but in this edition they have still further adapted the book to the use of students rather than to make it a source book for teachers and research workers.

The 1940 Year Book of General Medicine. Edited by George F. Dick, M.D., J. Burns Amberson Jr., M.D., George R. Minot, M.D., S.D., F.R.C.P., William B. Castle, A.M., M.D., William D. Stroud, M.D., and George B. Eusterman, M.D. Cloth. Price, \$3. Pp. 934, with illustrations. Chicago: Year Book Publishers, Inc., 1940.

This volume is a culmination of the long series of Year Books of General Medicine that began in 1901 with an idea of Dr. Gustavus P. Head. There followed a luncheon in Chicago to which a small group of distinguished physicians were invited, including Frank Billings, John B. Murphy, Emilus C. Dudley, Casey A. Wood, Norman Bridge and Henry Baird Favill. This, the fortieth anniversary number, is celebrated in part by an extensive preface in which the history of these notable year books is reviewed along with the pictures of many of the eminent physicians who have been editors and otherwise taken part in maintaining a high standard for the clarifying and reviewing of medical progress year by year.

The remainder of the volume follows the plan suggested by Dr. Billings in 1921, when after twenty years of association with the year books he resigned the editorship at the time his many obligations necessitated giving up active medical practice. Instead of four divisions, however, the Year Book of General Medicine now has five divisions: (1) infectious diseases, edited by Dr. George F. Dick, (2) diseases of the chest, edited by Dr. J. Burns Amberson Jr., (3) diseases of the blood and blood-forming organs; diseases of the kidney, by Drs. George R. Minot and William B. Castle, (4) diseases of the heart and blood vessels, by Dr. William D. Stroud and (5) diseases of the digestive system and of metabolism, by Dr. George B. Eusterman. These names are enough to prove the high quality of the reviews and critical comments which they offer. The continued success of the year books is a monument to Dr. Gustavus P. Head, the founder, and to his brother, Cloyd James Head, who for years struggled to provide these volumes for the medical profession at a price which was then less than cost.

Znachenie vypadeniya funktsii selezenki v razviti kholesterinemii i fosfatidemii, eksperimentalnoe issledovanie k voprosu o mozgovom proiskhozhdenii lipidemii. [By] V. I. Glod. [Role of Exclusion of Splenic Function in Development of Cholesterolemia and Phosphatidemia; Experimental Studies on Problem of Cerebral Origin of Lipidemia.] Cloth. Price, 4 rubles, 25 kopecks. Pp. 64, with 12 illustrations. Moscow & Leningrad: Narkomzdrav SSSR; Gosudarstvennoe Izdatelstvo Meditsinskoy Literatury "Medgiz," 1940.

This brief monograph by V. I. Glod, working in the First Moscow Medical Institute, has to do with the effect of splenectomy in dogs and in cats on the development of cholesterolemia and phosphatemia. The author had established in his experiments that both cholesterolemia and phosphatemia following the removal of the spleen have their origin in the brain. Hypercholesterolemia and phosphatemia observed in splenectomized animals for twenty-one months exhibited an alternating character, periods of increase of cholesterol and phosphorus blood levels being accompanied by a corresponding increase in these substances in the blood of the efferent vessels of the brain, and the reverse. Destructive changes in the brains of dogs and cats were observed as the result of removal of the spleen. The author regards hypercholesterolemia and phosphatemia following a splenectomy as a result of intoxication producing dystrophic changes in the brain corresponding to a reaction on the part of the neuroglia tissue. The correlation of the biochemical data with histologic studies of the grain in splenectomized dogs and cats support the concept of the active role of neuroglia in the cholesterol metabolism.

More Years for the Asking. By Peter J. Steincrohn, M.D. Cloth. Price \$2. Pp. 218. New York & London: D. Appleton-Century Company, Incorporated, 1940.

This book is intended for the lay reader concerned with problems of middle life. Except for the title, which promises too much, it is an acceptable book. More years are not to be had for the asking; they may in some instances be had in exchange for earnest effort, though in other circumstances more years may be denied even to those who bend all their energies toward attaining them. The book contains the conventional information about health and hygiene, dealing with periodic health examinations, heart disease, diseases of the blood, cancer, overweight and some of the more important diseases such as pneumonia, diabetes and diseases of the heart. The information given is sound and for the most part well selected for lay readers. While this cannot be considered an outstanding book, it should be a useful one.

Psychiatric Dictionary With Encyclopedic Treatment of Modern Terms. By Leland E. Hinkle, M.D., Professor of Psychiatry, College of Physicians and Surgeons, Columbia University, New York, and Jacob Shatzky, Ph.D., Research Librarian, New York State Psychiatric Institute and Hospital, New York. Cloth. Price, \$10.50. Pp. 559. New York, Toronto & London: Oxford University Press, 1940.

This is an attempt to include under one cover all important terms and concepts related to psychiatry since the time of Hippocrates. Words that are obsolete are so indicated, and those that are tending to disappear are marked obsolescent. The volume, which is the work of many collaborators, contains seven thousand, five hundred title entries, including some biographic references. The work is obviously fundamentally useful to every worker in the field that it concerns. Especially useful are the references to writings in which terms first became established.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

IODIZED SALT

To the Editor:—In our institution, where there are more than six hundred boys, we have been using iodized salt for the past several years. I have always been under the impression that the use of iodized salt can be overdone. Could you inform me as to whether or not it is good practice to continue using it year after year with growing boys aged 10 to 18 years? Furthermore, is there any chemical change whereby chlorine is liberated in the sacks of salt?

R. E. Gray, M.D., Eldora, Iowa.

ANSWER.—In any area where goiter is endemic it is good practice to use iodized salt throughout the year. Theoretically it might be desirable to give iodine intermittently, but intermittent administration is more difficult to control than daily administration. If there are any harmful effects from daily administration they are more than counterbalanced by its beneficial effects.

When an iodide is used to iodize the salt, as is usually the case, no chlorine would be liberated.

PROBABLE ACUTE LEUKEMIA

To the Editor:—A woman aged 21 first consulted me on Nov. 9, 1940 because of bleeding gums. The following day a right peritonsillar abscess developed which responded to sulfanilamide 40 grains (2.6 Gm.) daily and irrigations of the throat. Sulfanilamide (40 grains daily) was continued for three days and then reduced to 20 grains (1.3 Gm.) daily until November 18. Her throat cleared up entirely, and her general physical condition improved so that she returned to work on November 25. However, on this date she again consulted me. She was still bleeding slightly from the gums and had numerous subcutaneous ecchymoses. I placed her on a regimen of calcium, vitamin C and a liver-stomach concentrate with ferrous iron and vitamin B complex. I suspected purpura and advised a blood examination. The following day, November 26, she was again taken ill with fever, chills and sore throat. A left peritonsillar abscess developed, and I again administered sulfanilamide 40 grains daily. Bleeding from the gums was slight. Her condition became gradually worse, and on November 29 at 5 a. m. she suddenly lapsed into coma. She was admitted to the hospital, where she died five hours after admission. Lumbar puncture showed bloody spinal fluid under greatly increased pressure. Examination of the eyes disclosed massive hemorrhages in the vitreous bodies. The patient also had profuse hemorrhages from the left tonsillar area. Examination of the blood disclosed the following: The Wassermann reaction was negative; the hemoglobin content (Sahl) was 15 per cent; the erythrocyte count was 2,250,000; there was slight anisocytosis; poikilocytes and granular degeneration were present, and a few normoblasts; leukocytes numbered 9,600, small lymphocytes 20, lymphocytes 50, large mononuclears 6, polymorphonuclear neutrophils 14 and myelocytes 10. A Schilling hemogram showed 4 staff and 10 segmented forms. The level of sulfanilamide in the blood was 12.2 mg. and in the urine 20.2 mg. per hundred cubic centimeters. Do you think a diagnosis of granulocytopenia can be made from these observations? There is also the question of a hemorrhagic diathesis complicated by sulfanilamide.

M.D., New York.

ANSWER.—The data presented do not allow a definite diagnosis. The picture is essentially one of severe purpura in a young girl with fever, lesions of the pharynx and anemia.

Acute granulocytopenia with angina can be ruled out for several reasons, but chiefly because of the presence of granulocytes in the blood. Not only were granulocytes (polymorphonuclear series) present, but immature cells of this series were found. In acute granulocytopenia with angina there are few if any granulocytes, and those that are found are mature or hypermature cells. Furthermore, purpura is not a feature of this disease and anemia is rarely present.

The patient obviously had purpura but the real question is "What was the cause?" The platelet count was not noted. The bleeding was present before the administration of sulfanilamide, so that this drug could only have been an accessory factor. Idiopathic thrombocytopenic purpura is unlikely because of the pharyngeal lesions, the anemia and the white cell picture.

By far the most likely diagnosis is acute leukemia, probably myelogenous in type. Further study would probably have shown many of the cells recorded as large lymphocytes to be myeloblasts. This is a common error. Acute leukemia would explain the pharyngeal lesion, severe purpura, severe anemia, abnormal white cell picture and the rapid death.

VACCINATION FOR PNEUMONIA

To the Editor:—Your opinion on the present status of pneumonia vaccine would be appreciated.

Maxwell J. Antell, M.D., Fort Terry, N. Y.

ANSWER.—Intact killed pneumococcus cells give rise to a specific immunologic response on injection into various animals. Antibodies are formed which are type specific and are directed against the capsular material which surrounds the virulent, invasive pneumococcus cell as a protective covering. The capsule is largely composed of a complex polysaccharide which is chemically and immunologically distinct for each pneumococcus type. Antibodies directed against the capsular material of pneumococci of one type are unable to neutralize that of another type. The type specific immunity which develops protects the animal against infection with living pneumococci of the homologous type but not against infection due to organisms of other types. In man also the injection of pneumococcus vaccines, or even the isolated capsular polysaccharides themselves, gives rise to type specific immunity.

As pneumococci may be classified into some forty or more different types, at first glance it would appear that any general scheme of immunization would be difficult to carry out. However, since approximately 80 per cent of cases of pneumococcal pneumonia are caused by pneumococci of types I, II, III, V, VII and VIII, it is possible that immunization with these so-called epidemic types could be accomplished and that a prophylactic effect might be achieved.

Immunization experiments on a large scale have been carried out both in this country and elsewhere. The results obtained suggest that vaccination does have some effect in reducing the incidence of pneumonia due to pneumococci of the types used in the vaccine. However, a clearcut answer as to the value of antipneumococcus vaccination has not yet been obtained.

Specific immunization has also been used in an endeavor to check institutional epidemics of pneumonia due to one particular pneumococcus type. In at least one such instance the evidence indicates that immunization may have played a part in bringing the epidemic to an end.

Immunization has also been used for patients who have suffered repeated attacks of pneumonia in an attempt to reduce the individual's susceptibility. The usefulness of vaccination in these circumstances is extremely difficult to evaluate.

CONTRACEPTIVE METHODS

To the Editor:—Would you please give me the latest information on contraceptive measures? I am particularly anxious to know the merits and demerits of the rubber-covered device put out by some concerns which is introduced directly into the uterine canal with a cup over the cervix.

M.D., Oregon.

ANSWER.—Thus far no absolutely certain contraceptive method has been devised other than removal of the uterus or both ovaries. The types of contraception generally practiced are withdrawal, reliance on vaginal douches, observance of the "safe period" and the use of mechanical devices. Withdrawal is far from safe, and vaginal douches are likewise not trustworthy. While the "safe period" is based on animal physiology, it is not reliable for a large proportion of women. The chief mechanical devices are rubber or fishskin protective sheaths, vaginal rubber diaphragms, cervical caps of metal or hard rubber, jellies, foams, tablets, suppositories, sponges and combinations of some of these. All of these are safe as far as the patient's health is concerned, but not all are equally reliable when used as contraceptives. The method which is used most frequently at the present time is a combination of a rubber diaphragm and a jelly. There are numerous types of diaphragms and jellies available commercially, and most of them bring about the desired result in about 95 per cent of cases when used intelligently. The diaphragms are made in various sizes, and a patient must be given a diaphragm which is neither too large nor too small. Likewise, specific instructions must be given the patient about the insertion and removal of the diaphragm and the proper use of the jelly. A patient should be made to insert and remove the diaphragm in the physician's office in order to make certain that she knows how to use it properly.

Whereas all vaginal devices are harmless when properly used, the same cannot be said of intracervical or intra-uterine mechanical appliances. Regardless of what is placed in the cervix or within the uterine cavity and regardless of how well it is inserted, there is danger of producing an infection. There have been many infections and injuries and even deaths after the use of intracervical pessaries used to prevent conception. Therefore physicians should never use intracervical devices for purposes of contraception.

PREMENSTRUAL TENSION AND ANEMIA

To the Editor:—A white woman aged 32 complains of weakness and general malaise present mainly in the latter half of her menstrual cycle. They have existed almost two years. She has had two children, one abortion and a therapeutic dilation and curettage, which I performed ten months ago. She had chronic pyelitis, which cleared after tonsillectomy six months ago. After each child and the dilation and curettage she suffered mild cervicitis, which yielded to electrocoagulation. The hemoglobin content of her blood has been as high as 80 per cent and as low as 50 per cent. It varies directly with her vitality. The last blood study showed erythrocytes 3,840,000, leukocytes 4,600 (47 per cent lymphocytes) and nothing remarkable on the smear. The hemoglobin content at that time was 62 per cent. Her menses come at four week intervals, last four days and leave her feeling much better for two weeks. Then she gets a vaginal discharge and frequency of urination (both lasting three or four days) and her period of lassitude and weakness begins. Examination reveals no pus or blood in the discharge. The cervix is normal, as are the other pelvic organs except for relaxation of the uteropubic ligaments. The bladder shows slight trigonitis. Treatment has consisted of a neutral douche for the discharge; 4 units of liver extract given parenterally twice a week for the last three months; liver, iron, copper and vitamin B given by mouth for the same period; a potent vitamin B complex for ten days; occasional bladder lavages and two or three vaginal diathermy treatments for adnexal soreness after the dilation and curettage. Am I dealing with a latent endometritis, a deep cervicitis or some derangement of the estrogenic or luteinizing hormones? I lean to the latter theory in view of the normal genitourinary physical state but am at a loss to know what to do about it.

John L. Ingham, M.D., Easton, Pa.

ANSWER.—The signs and symptoms presented cannot be ascribed to a latent endometritis or deep cervicitis alone. The patient has distinct secondary anemia, which must be combated vigorously. If the blood cell count was taken recently, after the three months use of the preparations mentioned, more medication with the same or different products is surely indicated. However, not all of the patient's distressing symptoms can be due to the anemia. She apparently has a mild form of a syndrome known as premenstrual tension. This syndrome includes headache, emotional instability, irritability, depression, abdominal distention and sometimes nausea and vomiting, vulvar pruritus and edema. Robert Frank has suggested that this condition is due to an increased concentration of estrogenic substance in the blood stream. Progesterone has been recommended as an effective remedy. From 1 to 5 mg. of progesterone injected two or three times during the week or two preceding the anticipated menses has proved helpful in some cases. But this treatment is expensive.

The hypothesis has been advanced that premenstrual tension is due to an increase in the extracellular fluid of the various tissues such as the brain, gastrointestinal tract and skin. This edema gives rise to the symptoms which are typical of this condition. It has been recommended that the patients be given 0.6 Gm. of ammonium chloride three or four times a day beginning at the midmenstrual interval and continuing until the beginning of the menstrual flow in order to combat the increase in extracellular fluid. During the time the patient takes the ammonium chloride, she should avoid all table salt and sodium bicarbonate.

PUBERTY AND BONE HEALING—TESTS FOR
DELAYED PUBERTY

To the Editor:—1. Does delayed puberty exercise an influence over bone healing after fracture? 2. Are there reliable tests which can be carried out to prove the assumption of delayed puberty and, assuming that the condition exists, what is the best form of treatment?

H. A. Amesbury, M.D., Clinton, Iowa.

ANSWER.—1. No information on this subject has been found.

2. No laboratory tests are available at present which assist the physician in determining delay in pubescence. Serial examination of the subject with photographic records is desirable if the age lies between 14 and 17 to 18. Infantile testes and penis at 16, with absence of pubic hair, childish voice and no detectable prostatic tissue may be regarded as pathologic delay. Less severe retardation may be pathologic if serial study demonstrates no advance in signs of puberty during the sixteenth and seventeenth years. In the event of delay, gross pituitary lesions such as tumors must be excluded as far as possible by roentgenograms of the skull, measurement of the visual fields and neurologic examination. Gross inadequacies in diet should be sought for and corrected. Stimulation of the testes by chorionic gonadotropin (pregnancy urine preparations) should be attempted. Tolerance should be ascertained by graduated increments of the material, given intramuscularly. One thousand two hundred international units weekly, divided into three to six doses may constitute an adequate level for continued treatment, although twice this amount or more may be tolerated if it is necessary to increase the dose. If after six to nine months no effect is

detectable, substitution therapy with testosterone propionate, 25 mg. given intramuscularly three times a week, may be undertaken, it being kept in mind that no benefit to the testes themselves is to be expected. Clinical experiments with implantation of testosterone pellets and methyl testosterone orally are under way and may well offer practical advantages in the future. Caution is indicated to make quite sure that natural progress is insufficient before committing a patient to protracted expensive therapeutic programs.

ASPIRATION OF PULMONARY AIR CYST

To the Editor:—A white man aged 24, with congenital cystic malformation of the lungs since childhood, tried mountain climbing recently and felt something snap in his chest. Since then he has had more dyspnea than formerly. The left side of the chest is filled with air under pressure. What treatment if any is advisable under such circumstances? Would passing a needle into the distended air cells on the left side to allow some of the air to escape be advisable?

Charles T. Sharpe, M.D., New York.

ANSWER.—The other conditions which can produce a similar picture are spontaneous pneumothorax and emphysematous bleb with valvular bronchial communication. The fact that this lesion has been present since childhood suggests that it is a true lung cyst and is lined with bronchial epithelium. The sudden increase in dyspnea was probably caused by the development of a valvular fistula connecting the cyst to the air passages, permitting air to enter the cavity more easily than it could leave it. It is possible that the cyst broke into the pleural cavity and that the present condition is a spontaneous pneumothorax.

Aspiration of air from the cyst is a reasonable procedure. It entails the slight risk of the production of a pneumothorax. This would probably occur if there were no adhesions over the cyst. There is a report in the literature of a favorable result following repeated aspirations. The cyst is as large as it now is probably because there is a positive pressure within it. Aspiration could be of permanent benefit only if the bronchial communication has become closed. If the bronchial communication persists, one would anticipate reaccumulation of air under pressure.

Churchill has reported cure in cases of this kind by lobectomy. Cure is reported of an infected cyst after drainage and brief lavage (one and one-half minutes) with 25 per cent silver nitrate solution used for the purpose of destroying the epithelial lining. Drainage of an uninfected cyst is contraindicated. Lavage with silver nitrate is absolutely contraindicated unless drainage is present and one is sure that there is no bronchial connection.

Aspiration is not contraindicated if one is prepared to cope with a spontaneous tension pneumothorax.

HEMORRHAGIC NEPHRITIS IN YOUNG GIRL

To the Editor:—A girl aged 11 with a history of pyelitis in infancy and a successful tonsillectomy at 5 or 6 years of age had edema of the face in March 1940. The urine showed albumin 3 plus and many blood and pus cells. A diagnosis of hemorrhagic nephritis was made, and the patient was put to bed. Her blood pressure fell from 130 systolic and 80 diastolic to 115 systolic and 80 diastolic and remained there. Her urine improved slowly, but only recently did the albumin disappear, and it still occasionally contains some blood which can be seen microscopically. She has consistently had a temperature of 99 to 100 and even 101 F. A roentgenogram of her chest made by a good roentgenologist was normal. The sinuses were normal. Her throat has consistently given a positive culture for *Streptococcus haemolyticus*. She has had approved treatment of bed rest, liberal diet, cod liver oil, iron and, after the acute stage, sulfanilamide several times. An injection of autogenous vaccine from her throat has been given. Lately I have used a gargle of sulfathiazole and sulfathiazole given orally, also mercuriolate applied to the throat. Her urine is satisfactory as to function, she feels fairly well and her blood pressure is normal. I consider that her low grade temperature is from her throat and because of the persistently positive throat cultures I fear it will activate the nephritis again. She is staying in this winter; a change of climate is hardly possible. I am particularly interested in eradicating the throat trouble. Her throat outside of some redness at times looks normal.

M.D., Indiana.

ANSWER.—The case of hemorrhagic nephritis cited brings out an important point in the care of such patients; that is that fever is not a part of the clinical picture of nephritis. The patient will probably have no more trouble from her kidneys, as relapses of the ordinary acute type of nephritis are rare. It must be assumed that the fever comes from some other part of the body. The blame for it cannot be placed on a subacute nephritis which is not producing symptoms. It would be reasonable to try sulfathiazole or sulfanilamide but inadvisable to use sulfapyridine, as there is some evidence that this drug irritates the kidneys.

BURNING SENSATIONS IN MOUTH AND
OZONE MACHINE

To the Editor:—A patient has installed in her home an ozone-producing machine for the relief of sinusitis in her daughter. Almost instantaneously with its installation the patient, a woman aged 44, complained of a burning sensation affecting the tip of her tongue and lips, which she describes as similar to the sensation one would get from pepper. This has become more noticeable since its onset about six months ago, so that now the symptom is noticed all the time whether she is in the house or not. Physical examination shows her to be otherwise normal. Can this symptom be explained on the basis of a sensitivity to ozone? If not, what else might produce it?

Emil D. Rothman, M.D., Detroit.

ANSWER.—Ozone can produce the complaints described. It will not ordinarily do so until its concentration in the air has reached about one part in a million.

Ordinarily the inexpensive machines intended for home use cannot produce such a concentration. In fact, this concentration is seldom produced by the large machines used for refrigeration chambers.

Workmen in such rooms seldom, if ever, complain of ill effects from ozone. Since the type of apparatus used in the patient's home, in all likelihood, cannot produce enough ozone to cause irritating effects, one must assume that the complaints are either not due to ozone or that the patient is unusually sensitive to it.

Because the symptoms complained of are now noticed out of the house as well as in, the first step in making an accurate diagnosis would be a complete physical examination.

A number of other conditions should be considered as a possible cause of the symptoms, among them early pernicious anemia and oral galvanism, but a thorough investigation is called for.

ABSORPTION AND EXCRETION OF NITRATES,
AMMONIUM AND CHLORIDES

To the Editor:—What is the chemistry of the absorption and elimination of ammonium nitrate (NH_4NO_3), ammonium chloride (NH_4Cl) and potassium nitrate (KNO_3)?

M.D., Massachusetts.

ANSWER.—Ammonium nitrate, ammonium chloride and potassium nitrate are all easily absorbed from the digestive tract. The salts are ionized in the digestive fluids. The nitrate ion may be partly converted into nitrite and is finally eliminated in the urine as nitrate and nitrite. The potassium ion is also finally excreted in the urine and in the feces. However, the ammonium ion is in the main excreted as urea and as a result other bases, mainly sodium and potassium, are excreted with the nitrate and chloride ions of the ingested ammonium nitrate and chloride. The chloride ion is excreted largely in the urine and the ammonium ion also, either in that form or after conversion in the kidneys to urea. Ammonium chloride and ammonium nitrate are capable of producing acidosis. Potassium nitrate does not have any effect on the acid-base balance of the body, but it may have a pharmacologic effect, and it is irritating to the kidneys. In other words, the ammonium salts of the strong acids will tend to cause a decrease in reserve alkali in the body unless this is supplied at the same time in the form of alkali phosphate or alkali bicarbonate or other alkali salts of weak organic acids.

ANIMAL PARASITES, MEAT INSPECTION AND
UNCOOKED SAUSAGE

To the Editor:—Please inform me regarding the possibility of contracting trichinosis or beef tapeworm from the ingestion of Genoa style salami made with U. S. government inspected meats? Does the preparation of this salami destroy any of the parasites which may be present? What is the approximate accuracy of U. S. inspection of meat?

L. J. Arduino, M.D., Atlanta, Ga.

ANSWER.—There is no known practical method of inspection whereby the fresh muscle tissue of pork can be adequately examined for the presence of *Trichinella* larvae. However, as regards products containing pork muscle tissue customarily intended to be eaten without consumer cooking, the following statement has been made (Lewis, W. L.; Boller, Anna E.; Hoskins, H. P.; Merrillat, L. A., and Smith, H. R.: *Trichinosis and Nonclinical Infections with Trichinella Spiralis*, THE JOURNAL, Jan. 6, 1940, p. 35).

As for meat food products which have been processed in a manner prescribed by the United States Bureau of Animal Industry, such products are safe for consumption without subsequent cooking, provided the consumer has first hand knowledge that the products were actually prepared in an establishment operating under federal inspection or equally competent state or local inspection. The Bureau of Animal Industry of the U. S. Department of Agriculture prescribes definite processing conditions that make such meat and meat products safe. Pork products of this type originating in meat-packing establishments which do not have federal meat inspection or its equivalent or coming from farms should always be thoroughly cooked.

RELAPSE FROM SINGLE NARCOTIC DOSE AFTER
CURE OF ADDICTION

To the Editor:—It has come to my attention that, no matter for how long a period a narcotic addict has remained cured, once he takes even a small injection of the same drug he again becomes a habitué and that this occurs no matter how small the amount of the drug consumed. I should greatly appreciate a reply along these lines.

M.D., Washington.

ANSWER.—The statement made is true in at least one large experience. The desire for narcotics after a successful denarcotization treatment is only in the mind and is not based on any physical or chemical need. All addicts get comfort and pleasure from the narcotic drugs in addition to the anodyne effect. Even in the better types of addicts the judgment is defective and the will power reduced, and relapses occur because they think they can take an eighth or sixteenth grain dose without danger of relapse. While there will be no true withdrawal symptoms after the first dose, the fact remains that if they do not have the mental resistance to refuse the first dose they certainly cannot resist the second. They do not fear it as they should. But the experiment ends as with the alcoholic addict who deceives himself with the belief that he can take one drink and then leave it alone. The truth is that the first addiction invariably begets an increased susceptibility to the second, and an irresistible mental habit develops after the use of a few doses.

TONGUE WARTS

To the Editor:—Please give me information as to the cause and treatment of tongue warts.

M.D., Michigan.

ANSWER.—Warts, per se, are not a common occurrence on the tongue. It is essential to rule out syphilis as an underlying cause, which can readily be done by a blood serologic test, and also to rule out early cancer, which can be done by microscopic examination of one of the verrucous lesions. If the serologic reaction is positive, antisyphilitic treatment should be started in accordance with the routine of the Cooperative Clinical Group. If microscopic examination reveals cancer and the lesions are discrete and there is no regional adenopathy, each lesion should be carefully destroyed by electrodesiccation or treated with radium. Tongue warts, when present, are most probably due to local irritation, and it is essential that oral hygiene be kept up to par and any jagged or defective teeth be taken care of. If the microscopic examination shows the lesions to be simple verrucae, they can be treated with radium. Fulguration or the electric cautery may also be used, as desired.

USES OF ALMOND OIL

To the Editor:—I note that in your issue of Sept. 14, 1940, M.D. of California asks several questions regarding the use of almond oil in ancient times. In this part of the world, almond oil has been used for centuries and is still in daily use, chiefly as a laxative for children, for whom it is sometimes given alone in doses of from 4 to 20 cc. or sometimes mixed with castor oil, which is also a local product. I have been unable to find any record of its use in arthritis in this land either in ancient times or now, but it is used and has been used in the preparation of various ointments for external use.

In the ancient book called "The Therapeutics of Joseph," which was written in the year 917 A. H. (1511 A. D.) in Herat (then part of Iran) by "Joseph, the son of Muhammad, the son of Joseph the Doctor," in the chapter regarding "headaches" he discusses

"HEADACHE, which is from the Black Bile"

"Symptoms: a dark color of the face, and a disturbed mind."

"Your headache, if it cometh from Bile that is Black,
Of dodder of thyme sherbet, be sure there's no lack.
For food eat just meat, and good old pea stew,
Rub on ointment of almond and camomile too."

He then gives the directions for the preparation of the almond ointment:
"Blanched almonds, 30 miscals; white sugar, 5 miscals
(a miscal is 5 Gm.)

Grind and sprinkle several drops of warm water on top of these ingredients, and then place on the fire on a copper tray. Stir until the oil which it contains comes out."

He also recommends the use of ground kernels of skinned almonds in an ointment which also contains starch, peas, egg skins, burned oyster shell, litharge, turnip seeds, cucumber seeds and muskmelon seeds, as a nightly application for the treatment of freckles and moles.

In the same book he uses almond oil in the preparation of an enema (together with many other ingredients) to be used in the treatment of narcolepsy; and also almond oil (100 miscals) is mixed with 15 miscals of petals of fresh violets, to make an ointment to be rubbed on the head, in cases of insomnia.

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TUBERCULOSIS OF THE TRACHEA AND BRONCHUS

MERVIN C. MYERSON, M.D.

NEW YORK

Tuberculosis of the trachea and bronchus is the most discussed phase of diseases of the chest today. Numerous studies have appeared in recent years which have served to stimulate interest and encourage further effort. This condition had been recorded by pathologists long before the subject claimed the attention of the clinician. Carswell¹ and Louis² reported their autopsy results as long ago as 1838 and 1844 respectively. Prior to 1932 an occasional unanticipated bronchoscopic observation was reported. Since then bronchoscopy has been frequently performed on tuberculous patients. The writings of Krause,³ Schonwald,⁴ Andrews,⁵ Vinson,⁶ Eloesser,⁷ Van Allen,⁸ McConkey and Greenberg,⁹ Samson,¹⁰ Barnwell,¹¹ Bugher, Littig and Culp,¹² Ornstein and Epstein,¹³ Werner,¹⁴ Kernan,¹⁵ Ballon,¹⁶ Phelps¹⁷ and others have contributed a share toward a better understanding of this subject.

This paper is based on clinical observations and deductions made in a series of five hundred and seventy-two consecutive bronchoscopies of tuberculous patients at the Sea View Hospital. A specific lesion was found in the trachea or bronchus of 152 of the patients. The incidence of tuberculosis of the bronchus based on these studies is 4 per cent. Eight additional cases were encountered in private practice.

The same bronchial lesions are not seen by the pathologist and bronchoscopist. The bronchoscopist observes the entire life picture of a tuberculous lesion, whereas the pathologist sees only the last change which occurred. All bronchial tuberculosis, with the exception of that due to the penetration into the lumen of a disintegrating gland, originates from a small or large cavity in the lung, called by some a caseous pneumonic process. The pathologist of the Sea View Hospital, Dr. Oscar Auerbach, observed an involvement of the bronchioles immediately adjacent to tuberculous cavities in 90 per cent of cases. The infection progresses from the parenchyma by way of a bronchiole along the smaller bronchial branches until it reaches the main bronchus.

If the bronchoscopist is fortunate enough to see the lesion very early, he encounters a slightly stenosed branch bronchus which appears to have a concentric thickening of the mucous membrane. A similar picture is sometimes seen in the main bronchus. This is the first stage, consisting of a submucous infiltration which causes a slight elevation of the mucosa. Submucous infiltration is not frequently encountered by the bronchoscopist; it accounted for nine of the one hundred and sixty lesions observed. The submucous infiltration consists of an invasion of the submucous tissues by the elements of tuberculous inflammation (fig. 1). This process may remain in the submucosa, where it either resolves or progresses to involve other parts of the bronchial wall. In some cases it extends only to the surface. When this granulation tissue breaks through the intact mucosa an ulceration results. It does not remain so for long because the tuberculous elements extend above the surface to form a granuloma. The process just described is the second stage: the ulcerogranuloma. This type of lesion was seen one hundred and one times in my series.

The ulcerogranuloma is the most frequently observed tuberculous lesion of the bronchus; it represents the most active phase of the disease, filling the adjacent branch bronchus and causing an atelectasis of the disease-bearing area. It extends along the bronchial wall from the branch bronchus. This process may resolve at any time, leaving behind superficial fibrous tissular changes which may not be visible. In most instances, however, the granuloma eventually fills the main bronchus, so that atelectasis of the entire lung results. As long as the granuloma is nonobstructive, the sputum shows tubercle bacilli. As soon as it occludes the bronchus, however, the sputum ceases to show tubercle bacilli.

When a suppurative focus exists about the primary lesion in the lung, the exudate passing through the bronchus prevents complete occlusion by the granuloma. It is unusual for a suppurative focus to be shut off by a granulomatous or fibrotic lesion.

Frequently the superficial layers of the ulcerogranuloma undergo caseous degeneration. This is recog-

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16. Ballon, D. H.: *Bronchoscopy in the Diagnosis of Asthma Complicating Pulmonary Tuberculosis*, *J. Thoracic Surg.* **5**: 103 (Oct.) 1935.
17. Phelps, K. A.: *Bronchial Obstruction in Chronic Tuberculosis*, *Ann. Otol., Rhin. & Laryng.* **45**: 1133 (Dec.) 1936.

nized bronchoscopically as a white covering of creamy consistency when moisture is present or of flaky consistency when dry. The caseous material is heavily laden with tubercle bacilli. Accumulation of the flakes occasionally completely obstructs the bronchus. This form of the disease has been called caseous endobronchitis by Loeschke¹⁸ and caseous necrotic bronchitis by Ornstein and Epstein.¹² A better term would be ulcerogranuloma of the bronchus with caseation.

Ulcerogranulomas have a definite distribution. They originate from a lesion in the upper or lower lobe of a lung, from which source they may extend all the way up the trachea to the subglottic region or may stop at any point. Extension upward may proceed slowly, so that the lesion may require many months to reach the upper portion of the trachea; it can extend rapidly, reaching this region within a single month.

The bronchoscopist frequently sees thickened mucosa which is indicative of submucous infiltration in advance of the granuloma. This is evidence of the continuity of the tuberculous process beneath the mucosa.

The ulcerogranuloma is pale pink, corrugated and avascular. When healing or resolution takes place the

the diameter of which is rarely more than 2 mm. When a granuloma entirely filling the bronchus of an upper lobe undergoes such change complete closure is more likely to result. If a bronchial branch of a lower lobe

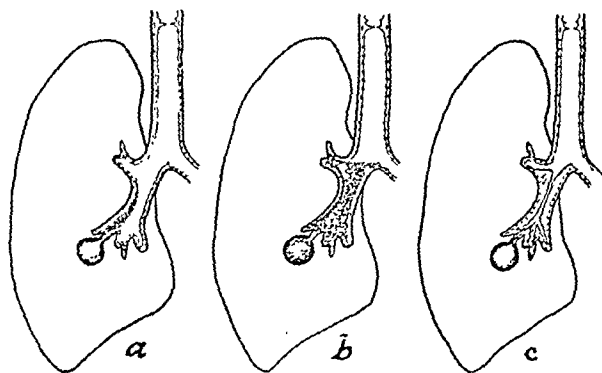


Fig. 2.—Various stages of tuberculosis of the bronchus: a, ulcerogranuloma of lateral bronchial wall originating from cavity in lower lobe of right lung; b, later stage, granuloma completely occluding bronchus; c, granuloma replaced by fibrous tissue.

is so involved fibrotic closure is the rule. The healing, therefore, of a lesion which has extended from a lower lobe branch to occlude the main bronchus results in the reestablishment of aeration of all the atelectatic lung except the original disease-bearing part.

The fibrotic changes encountered by the pathologist are not different from those seen by the endoscopist. In some instances the fibrosis involves the entire thickness of the bronchial wall. The ulcerogranuloma is never seen as such by the pathologist because this type of lesion undergoes caseous degeneration just before death. The entire bronchial wall or only part of it may be so involved. The pathologist frequently encounters multiple small superficial ulcerations of the tracheal mucous membrane at autopsy. Such ulcerations are not seen by the bronchoscopist and must be regarded as the result of antemortem changes.

The upper end of a lesion represents the limit of its extension from the primary focus in the lung. When the main bronchus is occluded the bronchoscopist must draw his conclusions as to the lesion's origin from previous observations or from the roentgen findings and physical signs. If the ulcerogranuloma is partly obstructive he may be able to trace it all the way to the bronchus of the upper lobe or branch of the lower lobe from which it originated. The granuloma is first seen to occlude the branch leading to the pulmonary lesion. From there it extends upward along the cor-

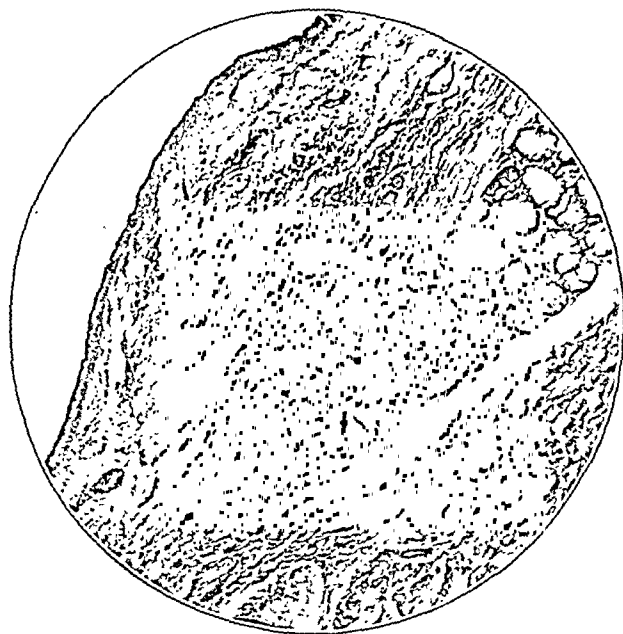


Fig. 1.—Section of mucosa of bronchus (low power magnification). There are Langhans' giant cells and numerous small lymphocytes in the center indicative of submucous infiltration.

irregular surface becomes flattened and assumes a velvety appearance. This appearance indicates the presence of the final stage—fibrosis. Fibrotic lesions were encountered thirty-seven times. A mixed lesion may occur in the same tracheal or bronchial wall. Occasionally one sees an advancing ulcerogranulomatous lesion at the upper limit of the wall and a fibrotic one below. In a few cases an apparently isolated ulcer was seen just above and beyond the granulomatous process; at a subsequent bronchoscopy the granuloma had progressed to include the ulcer.

Fibrosis is usually associated with some degree of stenosis. When the granuloma has invaded the entire endobronchial surface, so that the lumen is completely filled, the fibrous tissue replacement produces a passage

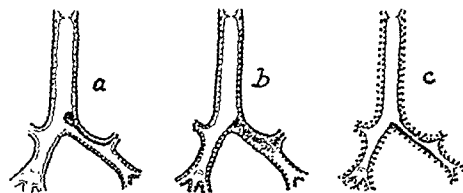


Fig. 3 (case 1).—Condition of left main bronchus: a, October 1938; b, February 1939; c, July 1939.

responding lateral, mesial, posterior or anterior wall into the main bronchus. Most frequently it is found to extend along the lateral wall and in some instances proceeds all the way up to the subglottic region. A granuloma which first comes through the bronchus of an upper lobe will travel along the superior bronchial wall, then along the tracheobronchial angle and up the lateral wall of the trachea. At any time in its progress

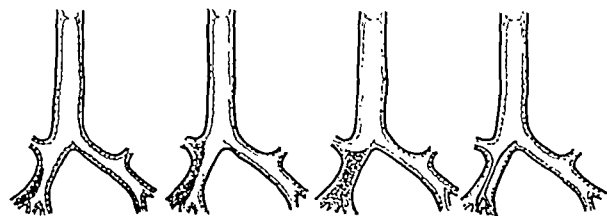
18. Loeschke, H.: Ueber Entwicklung Vernarbung und Reaktivierung der Lungentuberkulose Erwachsener. Beitr. z. Klin. d. Tuberk. 68: 251, 1928.

it may involve the entire endobronchial surface so as completely to obstruct the passage. It may stop at any point in its path upward, causing a degree of obstruction which is in direct proportion to the volume and extent of the granuloma. Ulcerogranulomatous and fibrotic lesions are traceable to primary caseous pneumonic processes in the upper lobes more frequently than in the lower; the ratio is approximately 3 to 2 (fig. 2).

An exception to the ulcerogranuloma which extends along a bronchial surface is the granulomatous process resulting from protrusion of a disintegrating mediastinal gland into the trachea or bronchus. This occurred three times in my series of cases. From these granulomas a fistula led through the carina into the region of the interbronchial glands.

The lesions which have been discussed thus far affect principally the endobronchial surface or the bronchial wall. Many endobronchial impressions among tuberculous patients, however, are dependent on changes in the mediastinal glands. These are usually enlarged because of tuberculous involvement, their enlargement causing pressure on a section of the wall of the bronchus or trachea.

I¹⁹ have previously reported that the evidence of glandular pressure is in three principal locations around the tracheal bifurcation—at each tracheobronchial angle and at the interbronchial carina. Occasionally, compression of the medial wall of the



Jan. '39 March '39 Jan. '40 May '40
Fig. 4 (case 2).—Conditions in right bronchus at the time of four bronchoscopies.

main bronchus is seen a short distance from the carina. Indentations by glands occur more frequently among children than among adults. Out of twenty-nine bronchoscopies performed on tuberculous children thirteen disclosed positive lesions, seven of which were due to glandular pressure. Such pressure on the trachea or bronchus accounts for about 1 per cent of all tuberculous bronchial lesions in adults.

The most frequent evidence of mediastinal glandular disease is an inward bulge of one of the bronchial walls which narrows the lumen. A much less frequent, in fact rare, result of pressure on the bronchial wall is its collapse because of absorption of the cartilaginous rings. The prolonged pressure on the bronchial wall accounts for this unusual change. The result is a falling in of the wall, so that the lumen presents a horizontal slit which does not resist the passage of the bronchoscope. Two cases of collapse of the bronchial wall through absorption of cartilaginous rings occurred in this study.

The signs and symptoms of tuberculosis of the trachea and bronchi are caused by varying degrees of obstruction. It is noteworthy that a specific lesion

of the trachea and bronchus may exist with little or no manifest disease in the lung. Partial stenosis of the trachea or main bronchus gives rise to a type of breathing which is described by the patient as noisy, rattling, gurgling or wheezing.

This symptom continues even after the patient has expectorated large quantities of sputum. The sound caused by the breathing is frequently heard by others. This type of breathing has been mistakenly considered asthmatic. As a result, patients are given numerous tests for allergy and special injections and inhalations. In a previous article it was emphasized that such breathing occurring in tuberculous patients could result from causes other than tuberculous bronchial lesions; it may be due to pressure on the trachea or bronchus or both by enlarged carcinomatous glands, by carcinoma or by adherent bronchial secretions.

Atelectasis may be confined to a relatively small segment of lung or to the entire lung of the involved side and may be the first sign of pulmonary tuberculosis. The physician in attendance suspects the presence of a foreign body or neoplasm in the bronchus when he encounters localized atelectasis; he is surprised to learn from the bronchoscopist that a tuberculous ulcerogranuloma or fibrostenosis is the cause. Complete stenosis may be due to a nonobstructive ulcerogranuloma which has become obstructive because of flaky caseous material superimposed on it.

That ulcerogranulomas may act in the same manner as foreign bodies has already been mentioned. They may cause incomplete obstruction or complete obstruction, or the obstruction may exist only during expiration, creating a check valve mechanism with obstructive emphysema. Such cases have been reported by Clerf,²⁰ Kernan,¹⁵ Ballou,¹⁶ Ornstein and Epstein¹³ and by me.²¹

The only thing to account for the presence of tubercle bacilli in the expectoration of many patients is the presence of an active tuberculous lesion in the tracheobronchial tree. These patients have been given the benefit of apparently successful collapse therapy in the form of artificial pneumothorax or thoracoplasty, yet the sputum continues to contain specific organisms. In such patients the bronchoscopist will likely find an ulcerogranuloma which is not completely obstructive, the surface of the lesion feeding organisms into the bronchial lumen. As soon as the tuberculous process becomes completely obstructive the sputum becomes free from tubercle bacilli. This favor-

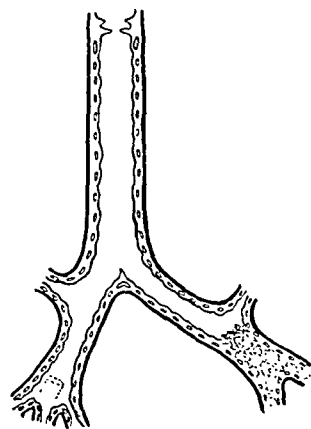


Fig. 5 (case 3).—Occlusion of bronchus of lower lobe of left lung by granuloma and caseous material.

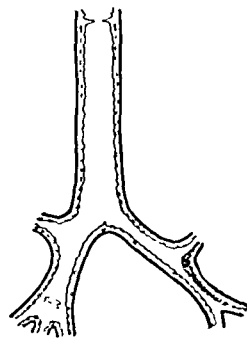


Fig. 6 (case 4).—Ulcerogranuloma of lateral wall of left main bronchus.

20. Clerf, Louis H.: Is Bronchoscopy Indicated in Tuberculosis? *J. A. M. A.* 97:67 (July 11) 1931.

21. Myerson, M. C.: The Value of Bronchoscopy in Pulmonary Tuberculosis, *Quart. Bull., Sea View Hosp.* 1:261 (April) 1936.

19. Myerson, M. C.: Bronchoscopic Observations of Enlarged Tuberculous Bronchial Glands, *Arch. Otolaryng.* 12:627 (Nov.) 1930.

able circumstance has been seen again and again. When fibrosis replaces the granuloma and a small lumen is restored, the sputum coming from the involved area continues uncontaminated. The source of contaminated sputum after a bronchial lesion has healed must be sought elsewhere.

Bronchoscopy is requested by clinicians to ascertain the presence of tuberculosis of the bronchial tree for the following reasons:

1. As a routine procedure before thoracoplasty.
 2. The presence of tubercle bacilli in the sputum associated with a pulmonary lesion which should have been controlled by the previously induced pneumothorax, or thoracoplasty.
 3. A spread of the disease to a healthy lung which was not expected on a basis of the existing pulmonary condition.
 4. A wheezing, coarse, noisy type of breathing.
 5. Unexplained atelectasis.
 6. The presence of tubercle bacilli in the sputum despite apparently negative roentgenographic findings.
- Examination with a bronchoscope never harms a patient or complicates a clinical picture if certain contraindications are kept in mind:

1. Active tuberculosis of the larynx should be respected. It is permissible to pass the bronchoscope through a healed larynx only if the laryngeal space is not narrowed. Bronchoscopy performed through the narrow airway of a healed larynx may reactivate tuberculosis or cause reaction necessitating tracheotomy. It should never be necessary if the larynx is carefully examined before bronchoscopy. In more than one thousand bronchoscopies of tuberculous persons not a single tracheotomy was required.

Recent hemoptysis or apparent debility are contraindications to use of a bronchoscope. Because the surface of the ulcerogranuloma is laden with bacilli the bronchoscope should not be forced through the partly obstructed bronchus. It is safer to use a smaller sized bronchoscope to prevent undue disturbance of the granuloma, especially if it has a superficial caseous coating. From such a surface tubercle bacilli may readily be disseminated to healthy areas of the lung. Further, a partly obstructive lesion may become completely so if a reaction results from undue manipulation.

The instillation of viscid material like iodized poppyseed oil for bronchography may completely block the small lumen of a fibrostenotic bronchus. Care should therefore be exercised in the selection of patients for this procedure.

What is the value of pneumothorax when tuberculous disease of the bronchus is present? If the tubercle bacilli which are found in the sputum no longer come from the cavity in the lung but come from the surface of the ulcerogranuloma, then pneumothorax is of no value. One can conclude that the pulmonary cavity is already blocked off from the bronchial tree when the ulcerogranuloma is seen in the branch bronchus or main bronchus. The tubercle bacilli are no longer coming from the original focus but from the ulcerogranuloma. As soon as a bronchial lesion is observed, pneumothorax becomes superfluous, as it collapses all the functioning tissue unnecessarily.

The atelectasis which remains after fibrous tissue replaces the granuloma is confined to the disease-bearing area in the lower lobe and to the entire upper lobe. The 2 mm. passage which remains in the main bronchus after fibrosis is complete is sufficient to supply air to the uninvolved lung.

The prognosis of these lesions appears to be very good. None of my patients have died because of the immediate effect of the bronchial lesions. Several patients have now been observed for five or more years. Their vital capacity is undoubtedly decreased; occasionally one is dyspneic on exertion. It must be borne in mind that occlusion of the main bronchus is a gradual process, affording the remaining lung, which fortunately often has little or no disease, ample opportunity to adjust itself to the increased demands made on it. The fact that the main bronchus does not remain

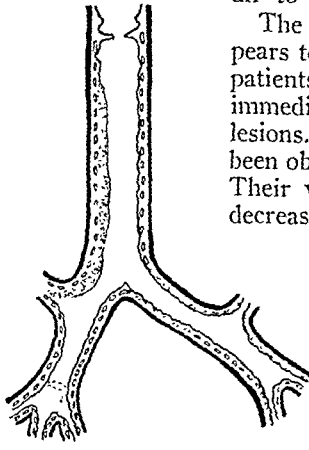


Fig. 8 (case 6).—Ulcerogranuloma extending from bronchus of upper lobe of right lung along tracheal wall to subglottic region.

occluded in a great majority of cases is important. Obstruction of the trachea sufficient to cause asphyxia and death, such as was reported by McConkey,²² must be extremely rare. I have seen many tracheal lesions, none of which has been sufficiently extensive to menace the life of the person afflicted.

In a previous paper²³ it was pointed out that treatment of tuberculous lesions of the trachea and bronchus is not well founded. Their nature and extent precludes the possibility of carrying out any special form of treatment. A localized granuloma which fills the lower portion of the trachea, threatening asphyxia, can be treated by cauterization. This will cause immediate shrinkage of the tumor and reestablishment of the airway. However, such a lesion is extremely rare. But a granuloma which fills the main bronchus from its introitus down to the branches leading into the lower lobe of a lung cannot be successfully treated by any means at the command of physicians. Only the upper limit of the lesion is accessible; the intermediate and lowermost parts cannot be visualized or reached. Those who advocate various forms of local application and cauterization do not seem to appreciate the fact that the lesions in patient after patient heal spontaneously. The processes which the bronchoscopist encounters are evidence of nature's attempt to cure the disease. May not local therapy and manipulation be interfering with this generally favorable outcome? Some believe that cauterization of the upper limit of an advancing granuloma will stop its progress. Unfortunately this is not so, for the granuloma spreads during the interval between bronchoscopies. If the lesion is no longer active treatment is not necessary, for the stage of fibrosis is at hand. Aspiration is of value for the removal of caseous material which occludes the bronchus.

REPORT OF CASES

CASE 1.—A 14 year old white girl was admitted to the hospital Aug. 7, 1938. During a routine school study two years

22. McConkey, Mack: Occlusion of the Trachea and Bronchi by a Tuberculous Process Complicating Pulmonary Tuberculosis, *Am. Rev. Tuberc.* 30: 307 (Sept.) 1934.
23. Myerson, M. C.: The Limitations of Bronchoscopy in the Treatment of Tracheobronchial Tuberculosis, *Ann. Otol., Rhin. & Laryng.* 47: 722 (Sept.) 1938.

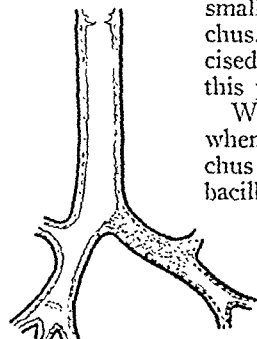


Fig. 7 (case 5).—Occlusion of left main bronchus by granuloma originating in upper lobe.

earlier she was found to have pulmonary tuberculosis. She was given the benefit of artificial pneumothorax for disease of the upper lobe of her left lung. Despite the apparently successful collapse of her lung her sputum continued to contain tubercle bacilli.

Bronchoscopy was first performed on October 2. An ulcerogranuloma was found extending from the bronchial orifice of the upper lobe of the left lung along the superior wall of the left main bronchus as far as the lower end of the trachea.

In January 1939 there was evidence of occlusion of the left main bronchus, with a shift of the mediastinum to the same side. Bronchoscopy at this time disclosed a superficial ulcerogranuloma extending downward along the left tracheal wall to merge with a similar process, completely occluding the left bronchus. The sputum then showed no tubercle bacilli.

The patient was discharged in July. At that time there was evidence of reexpansion of the left lung. Bronchoscopy would have demonstrated a stenosed bronchus with a small passage through it; unfortunately it was not performed (fig. 3).

CASE 2.—A nurse aged 28 was referred for bronchoscopy in January 1939. Her right lung had been diseased since November 1937. Artificial pneumothorax had been done. Despite the apparently successful collapse of her lung, her sputum continued to contain tubercle bacilli.

Bronchoscopy revealed an ulcerogranuloma occupying the lateral wall of the right main bronchus from the region of the orifice of the middle lobe down to the lateral branch of the bronchus of the lower lobe of the right lung.

A second bronchoscopy, performed in March 1939, revealed an extension of the lesion to a point about 1 inch (2.5 cm.) above the bifurcation of the trachea.

Bronchoscopy was again performed in January 1940. The tracheal lesion had disappeared, but the main bronchus was completely filled by the ulcerogranuloma.

A fourth bronchoscopy was performed in May 1940. The ulcerogranuloma was found to be undergoing replacement of fibrous tissue. The entrance of the right main bronchus presented a 2 mm. opening which represented the beginning of a passage down into the lower lobe (fig. 4).

CASE 3.—A 35 year old white woman was referred by a specialist in diseases of the chest because she had suffered four episodes of atelectasis of the lower lobe of her left lung during the preceding six months. Localized bronchopneumonia had occurred during two of these. She first became ill in June with what appeared to be bronchitis. Tubercle bacilli could not be found in her sputum. Her physician suspected the presence of a foreign body or neoplasm in the left main bronchus. Bronchoscopy revealed an occlusion of the left main bronchus beginning at a point below the branch leading into the upper lobe of the left lung and characterized by white, flaky material. The removal of this caseous matter uncovered an ulcerogranulomatous process. Smears made from the flakes reacted strongly to tests for tubercle bacilli (fig. 5).

CASE 4.—A white man aged 38 was admitted in September 1939 complaining of cough, expectoration and hemoptysis. A pneumothorax had been induced on the left side; the right lung appeared free from disease. Bronchoscopy was requested because of a persistently tubercle bacillus-laden sputum despite the apparently good collapse. An ulcerogranuloma was found extending from the lateral branch of the bronchus of the lower lobe of the left lung to a point just below the upper bronchial orifice (fig. 6).

CASE 5.—A 45 year old white woman was admitted in November 1938 complaining of cough, expectoration and weakness. Her pulmonary condition had begun in 1931 with cough and hemoptysis. Despite the absence of the cavity after a three stage thoracoplasty the sputum continued to contain tubercle bacilli.

Bronchoscopy revealed a complete occlusion of the left main bronchus by a granuloma which had originated from the area of the upper lobe of the left lung (fig. 7).

CASE 6.—A white woman 27 years of age was referred for bronchoscopy by her attending physician. She complained of a "snoring" type of breathing which had lasted about four years. She had been treated for asthma; many tests for allergy had been done, all of which gave negative results. A roent-

genogram revealed a small caseous pneumonic lesion of the upper lobe of the right lung. Recently the patient's sputum had shown tubercle bacilli. Bronchoscopy was requested because of the type of breathing noted.

The examination revealed an ulcerogranulomatous process extending from the subglottic region downward along the right lateral wall of the trachea and into the entrance of the bronchus of the upper lobe of the right lung (fig. 8).

SUMMARY AND CONCLUSIONS

The results of experiences gained from bronchoscopies performed on 580 tuberculous patients show that 160 had bronchoscopic evidence of tuberculosis. All but 12 had one of the three stages of endobronchial tuberculosis.

Except for the granuloma secondary to a perforating mediastinal gland, the bronchial lesion is always secondary to an ulcerous lesion in the lung parenchyma. Tuberculosis of the trachea and bronchus follows a definite course, the various stages of which are predictable.

Pneumothorax is superfluous once a bronchial lesion develops.

Treatment is of no value because of the nature and extent of the disease and because the bronchial lesions heal spontaneously.

136 East Sixty-Fourth Street.

ALCOHOLIC POLYNEURITIS

AN EVALUATION OF THE TREATMENT AT THE
BOSTON CITY HOSPITAL FROM 1920
THROUGH 1938

MADELAINE R. BROWN, M.D.
BOSTON

No subject today is possessed of more ramifications or is more colored by emotion than vitamins. Too many recent publications are based on a small, uncontrolled series of patients and a large amount of wishful thinking. In the evaluation which follows, no opinion is offered as to the part vitamins play either in the etiology or in the treatment of alcoholic polyneuritis. The question is not whether vitamins are necessary in the treatment of polyneuritis but how much of these substances regenerating neurons can utilize. Can they utilize more than are present in a diet adequate for a healthy person? In the hope of shedding light on this question, some figures on ward patients receiving the house diet are compared with those on patients receiving intensive vitamin therapy. It should be emphasized that the house diet is not deficient, that it is adequate in all vitamins and that it is a far better diet than that to which the majority of patients in the Boston City Hospital have been accustomed.

All the records bearing the diagnosis alcoholic polyneuritis at the Boston City Hospital during the years 1920 through 1938 were summarized with special attention to the objective evidences of damage to the peripheral nerve and the results of the various types of therapy given. The period from 1920 through 1938 was chosen because patients admitted in the first half of this period, that is 1920 to 1929, were given routine house diet with no additional vitamins, whereas the group admitted in the years 1930 to 1938 received exactly the same treatment as the first group with the

From the Neurological Unit, Boston City Hospital, and the Department of Neurology, Harvard Medical School.

Assistance in the preparation of this material was furnished by the personnel of the Works Progress Administration Official Project no. 17579.

exception that the house diet was supplemented by vitamins in the form of fruit juice, egg nog, salad, cod liver oil and vegex or brewers' yeast tablets. In addition, some of these patients were given parenteral injections of liver extract and thiamine, thus affording a comparison of the efficacy of the whole vitamin B group in the therapy of polyneuritis associated with chronic alcoholism.

The diagnosis of alcoholic polyneuritis was made six hundred and four times during the years 1920-1938. Of this number only two hundred and thirty-eight have been utilized for this study (tables 1, 2 and 3). The majority were excluded because the diagnosis could not be confirmed from a review of the record. A large number of the cases excluded were polyneuritis due to the ingestion of jamaica ginger, pressure neuritides of a single nerve and patients suffering with pain or neuritis as a complication of other diseases than chronic alcoholism. A few records were excluded because they did not contain sufficient information with regard to the condition of the patient on discharge. Patients with other complicating diseases were excluded as well as those who left the hospital against advice of the physician after a brief stay. Fifty-three patients died in the hospital and others were transferred immediately to mental hos-

TABLE 1.—Average Length of Stay in Hospital of Patients with Alcoholic Polyneuritis Who Were Discharged with the Polyneuritis Well, Improved or Relieved; Intensive Vitamin Therapy Compared to House Diet

Degree of Neuritis	House Diet		High Vitamin Regimen	
	Number of Admissions	Average Stay in Days	Number of Admissions	Average Stay in Days
Mild.....	51	17.9	34	21.2
Moderate.....	41	22.2	51	33.7
Severe.....	23	55.3	24	51.6
Very severe.....	3	181.3	9 *	97.7
Total.....	118		118	

* Five of these 9 patients transferred to hospitals for chronic diseases before recovery.

pitals. Outpatient records and social service records were included whenever available. The analysis, therefore, includes only patients with uncomplicated alcoholic polyneuritis discharged as improved or relieved. The length of stay in the hospital was considered the most significant factor in the evaluation of the various types of therapy.

Careful examination of the records showed that the patients could be subdivided according to the severity of the neuritis as follows: 1. Mild, patients suffering with pain and tenderness of the legs only. 2. Moderate, patients with pain and tenderness of the legs plus partial foot drop and some loss of sensation of the feet and lower legs, together with absent ankle jerks. 3. Severe, complete foot drop plus some weakness of hands and sensory loss (severe in legs, mild in hands) and absent knee and ankle jerks. 4. Very severe, advanced polyneuritis with pain, complete foot and wrist drop, glove and stocking anesthesia and loss of all deep reflexes. The length of stay in the hospital was calculated and a comparison was made of the group in the years 1920 through 1929 with those admitted in the years 1930 through 1938.

ANALYSIS OF DATA

There were 118 patients who received only the house diet as compared with the 118 who received the special vitamin therapy. Table 1 shows the average stay in

the hospital for these 236 patients. It can be seen from this table that there was no significant difference in the duration of the stay in the hospital of the two groups; that is, the vitamin treated and the not vitamin treated. In fact, the average length of stay in the

TABLE 2.—The Average Length of Stay in the Hospital of 44 Patients with Alcoholic Polyneuritis Who Received a High Vitamin Plus Liver Extract Parenterally as Compared with the 118 Patients Who Received Only the Routine House Diet

Degree of Neuritis	House Diet		Parenteral Liver	
	Number of Admissions	Average Stay in Days	Number of Admissions	Average Stay in Days
Mild.....	51	17.9	8	29.2
Moderate.....	41	22.2	22	37.2
Severe.....	23	55.3	9	53.5
Very severe.....	3	181.3	5 *	79.8
Total.....	118		44	

All patients were discharged with polyneuritis well, improved or relieved.

* Four of these 5 patients transferred to chronic hospitals before recovery.

hospital of the patients with a mild or moderate degree of neuritis was less for those who received no extra vitamins. Of the patients with a severe degree of neuritis the number was too small for an accurate comparison, although the figures given would indicate that those on a higher vitamin regimen stayed a shorter time in the hospital. This does not represent the actual facts, since 5 of the 9 patients receiving the high vitamin diet were discharged to hospitals for chronic diseases before recovery was complete.

In an attempt to answer some of the following questions, the cases were further subdivided: 1. Did the addition of parenteral liver to the vitamins by mouth produce any appreciable effect on the duration of stay in the hospital? 2. Did the addition of thiamine hydrochloride, plus liver extract parenterally, materially affect the length of stay in the hospital?

In table 2 is shown the result with 44 patients who received parenteral liver in addition to the high vitamin diet as compared to the 118 patients who received only the routine house diet. From this table it is clear that

TABLE 3.—Average Number of Days in Hospital of Patients Given Vitamin B Plus Intensive Vitamin Therapy Compared to Those Given House Diet

Degree of Neuritis	House Diet		Vitamin B	
	Average Stay in Days	No. of Patients	Average Stay in Days	
Mild.....	17.9	4	28.7	
Moderate.....	22.2	3 *	18.6	
Severe.....	55.3	3 †	37.6	
Very severe.....	181.3	3 ‡	49.5	

* One patient discharged unimproved.

† Two patients discharged with improvement in subjective symptoms only.

‡ Two patients transferred to chronic hospitals before recovery and 1 died in hospital.

the use of parenteral liver did not produce any shortening of the stay in the hospital of the patients with a mild, moderate or severe degree of neuritis. The apparent shortening of the stay of the five patients with very severe neuritis was due to the fact that, as already mentioned, 4 of these patients were transferred to hospitals for chronic diseases before complete recovery.

The average length of stay in the hospital of the 13 patients who received high vitamin diet plus liver extract and thiamine parenterally (including 1 patient who died) is shown in table 3, as compared to the group that received only the house diet. As can be seen from this table, the average stay in the hospital for these patients was not appreciably influenced by the administration of the thiamine parenterally. The apparently shorter stay in the hospital of the 6 patients with severe or very severe neuritis is due to the fact that 1 of the patients died, 2 were transferred to hospitals for chronic diseases and two were discharged with improvement only in the subjective symptoms.

The results with the 8 patients studied in the Thorndike Memorial Laboratory, which have been previously reported by Dr. Strauss,¹ are shown in table 4, in comparison to the group of patients that received only the house diet. These 8 patients were given from 1 to 2 pints of whisky daily plus a high vitamin diet which included yeast and intramuscular liver extract. The results with these 8 patients cannot be compared with the other groups, since the conditions of the experiment were perhaps an important factor in prolonging the stay in the hospital.

It is interesting to note that of the 14 patients who were discharged as unimproved (and not included in the analysis) in spite of an adequate period of treat-

difficulties mentioned have been surmounted in this study by discarding all records of patients with complicating diseases and by subdividing the patients according to the severity of their polyneuritis. As is stated, "regeneration of nerves occurs only slowly at best," and it is probable that, had these 236 patients been observed simultaneously, an accurate "yardstick" would have been difficult to find.

Jolliffe³ studied 28 patients, placing 7 on a basic diet, 8 on the basic diet plus twice the requirement of vegex and 13 on a high calory, high vitamin diet plus four times the requirement of vegex. The diets were given for twenty-one days. No patient in the first group improved, and in fact 4 were worse. All the patients in the last two groups improved rapidly. It was reported that seven out of ten pairs of lost knee jerks returned in twenty-one days. These cases were not grouped according to the severity of the neuritis, but all were fairly mild and would for the most part correspond with our mild or moderately severe cases. Three of the group of patients receiving basic diet had foot drop. Two in the next series and only one of those receiving the most intensive vitamin regimen had foot drop.

Strauss's patients, of whom the involvement was mainly mild or moderately severe, were treated an average of fifty-three days, and although there was improvement in walking they did not regain their reflexes. Improvement in walking signifies loss of pain and tenderness in the feet and legs and improvement in strength of the muscles. This, after all, is the only "yardstick" which can be used, for the return of deep reflexes is a matter of many months. The patient with a very severe neuritis who was given intensive vitamin therapy and has been observed by me for many years in the outpatient department had his knee jerks return in ten months, but the ankle jerks did not reappear until seven years after the attack of polyneuritis.

Ability to walk is the main criterion used by interns in discharging patients in this series as well, improved or relieved. A busy medical intern, responsible for the treatment of many acutely ill patients, will discharge an alcoholic patient as soon as he can walk. If it were possible to have all the patients with a mild or moderately severe neuritis in the hospital at one time and divide them into two groups, on one side of the ward the house diet given, on the other intensive vitamin therapy, I doubt very much that we should have any better "yardstick" of the effect of the therapy than the length of stay in the hospital required before the patient was able to leave on his own feet. The results obtained among patients with severe or very severe neuritis are of little value, regardless of the type of therapy, since severe nerve degeneration has taken place and regeneration is a matter of many months.

SUMMARY

Two hundred and thirty-six patients with uncomplicated alcoholic polyneuritis were treated. The average time spent in the hospital of 118 patients on the house diet was compared with that of 118 on intensive vitamin therapy, and no significant difference was found. These patients were further subdivided according to severity of their neuritis and the amount of special vitamin therapy given. Forty-four patients had parenteral liver therapy and 13 had thiamine hydrochloride in addition. These patients were not dis-

TABLE 4.—Average Number of Days in Hospital of Patients Given 1-2 Pints of Whisky per Day Plus Intensive Vitamin Therapy Compared to Those on House Diet

Degree of Neuritis	House Diet		High Vitamin Regimen
	Average Stay in Days	No. of Patients	Average Stay in Days
Mild.....	22.2	6	87.6
Moderate.....	53.3	2	113.0

ment in the hospital 8 had received special vitamin therapy. Also 29 of the 53 patients who died had received vitamin therapy.

COMMENT

In 1933 Minot, Strauss and Cobb² studied 57 patients treated by a diet rich in complete protein, minerals and vitamins. They said in their article:

It is our distinct impression that under this regimen recovery has been observed more uniformly and with greater rapidity than previously.

However, evaluation of therapeutic results in the absence of a "yardstick" to measure such results is notoriously difficult, and in a condition of as chronic a nature as polyneuritis where regeneration of nerve tissue occurs only slowly at best, it is hazardous to interpret what causes benefit. Since patients were admitted in all stages of the disease, and in all states of health, it was impossible to compare intelligently and statistically the results of treatment with special diets and those obtained in other ways. Furthermore, dietary treatment has been employed routinely in recent years so that comparisons could be made only with cases treated by other individuals, and there appears to be no published data for proper statistical comparison; while hospital records do not furnish us with satisfactory information for such a purpose.

It is true that hospital records do not furnish us with all the information we should like, but the other

1. Strauss, M. B.: Etiology of Alcoholic Neuritis, *Am. J. M. Sc.* 189: 378 (March) 1935.

2. Minot, G. R.; Strauss, M. B., and Cobb, Stanley: "Alcoholic" Polyneuritis: Dietary Deficiency as a Factor in Its Production, *New England J. Med.* 205: 1244 (June 15) 1933.

3. Jolliffe, Norman, and Colbert, C. N.: The Etiology of Polyneuritis in the Alcohol Addict, *J. A. M. A.* 107: 642 (Aug. 29) 1936.

charged as relieved or improved in less time than those on oral vitamin therapy or than those on the house diet. The 8 patients receiving from 1 to 2 pints of whisky in addition to intensive vitamin therapy, including parenteral liver, stayed a longer time in the hospital than those on the house diet and no whisky.

CONCLUSION

The average time spent in the hospital by patients suffering from alcoholic polyneuritis who were discharged as well, improved or relieved was the same regardless of whether the routine house diet or intensive vitamin therapy in addition was prescribed. The economic aspect of this conclusion is apparent.

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ELECTRIC ARC WELDING

THE EFFECTS OF WELDING GASES AND FUMES

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AND

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DETROIT

In the fabrication of heavier metal products, welding already has extensively replaced bolts and rivets. Automobiles, trucks, ships, tanks, refrigerators, bridges and road machinery are representative of products now manufactured with welding as the chief means for uniting metallic parts. Although scores of special terms designate particular varieties of welding, nearly all may be grouped under three categories, namely resistance (spot) welding, gas welding (chiefly oxyacetylene) and arc welding.

Electric resistance welding briefly may be described as instantaneous electric spot heating and fusing under pressure. This form of welding is almost entirely free from prospective injury to workmen from any produced gases or rays. Minor injury from flying sparks is a possibility, and occasionally cutaneous irritants are present in or are produced by oil that previously may have been coating the metal parts subjected to spot welding.

Gas welding is a more dangerous procedure, particularly when carried out in unvented, small, confined spaces. Numerous fatalities have been attributed to the presence of carbon monoxide, nitrous gases, impurities in the oxyacetylene mixture, such as phosphine or arsine, and to oxygen deficiency. In addition, the brazing wires and welding fluxes may introduce exposures of the worker in this form of welding, notably zinc, in brazing wires containing it as an extensive constituent, which may lead to metal fume fever. The composition of the metal on which gas welding is performed may provide further opportunity for injury of the worker, such, for example, as in welding on galvanized surfaces. The quality of ultraviolet emanations from gas welding is not such as to introduce more than casual dangers from this source.

In the third category of welding procedures, namely arc welding, exposures of the worker are of more serious nature and of greater diversification. This leads to the consideration of this industrial operation in greater detail.

ARC WELDING

In arc welding, use may be made of ferrous electrodes or electrodes made of an alloy, either of which may be coated. Before we enter on a consideration of the exposures associated with any of these electrodes, it is desirable to mention and dispose of ultraviolet emanations and high temperatures common to the use of all these electrodes. It is not our object in this presentation adequately to discuss the extent or nature of ultraviolet or thermal exposures. It is here recognized that production of ultraviolet rays calls for extensive protection of eyes and skin and that the high temperatures involved introduce thermal exposures, particularly when welding is carried out in small work rooms. Reverting to the nature of the welding electrode, it may be shown that the bare steel welding rod, which ordinarily ranges in size from $\frac{3}{32}$ to $\frac{3}{8}$ inch in diameter, consists of approximately 99 per cent ferrous material, with a minor content of such constituents as manganese (e. g. 0.72 per cent) and carbon (e. g. 0.07 per cent). These mild steel electrodes customarily are dipped or washed in a lime and/or salt solution, which may thus introduce traces of calcium, chlorine in combination and other elements. In the case of the rod made of an alloy minerals other than iron may be present in quantities to cause concern because of the fumes created in welding which enter the atmosphere breathed by the welder. When manganese is present in such a percentage as 12, which is not usual, or chromium, up to 30, it becomes pertinent to inquire what ill effects may arise from the breathing of the welding fumes. Other metals, such as nickel, copper, zinc, magnesium, aluminum and possibly lead may enter the alloy used for welding electrodes, and their fumes may enter the atmosphere inhaled by welders. In general, it is good practice to use electrodes of a composition similar to that of the metal parts subjected to welding.

At the present time there is a trend toward the use of coated rods. The prime function of the coating is to provide a gaseous shield about the arc to the exclusion of the atmosphere and to create a slag for the protection of the weld prior to cooling. The presence of a gaseous shield about the arc is believed to lessen the quantity of nitrous gases produced from the bare rod arc, other circumstances such as voltage and amperage being equal. Coatings, which may be applied either to ferrous or to alloy rods, may represent secret formulas, but it is known that among other coating materials the following have been used: fluorides, silicates including asbestos, silica, titanium, borates, calcium carbonate, calcium hydroxide, barium carbonate, aluminum compounds, rubber, varnish, casein, gum arabic, bitumens and various cellulose materials, such as wood flour or jute. The high temperature of the arc may transform silicates to more harmful free silica, although no known cases of silicosis have been attributed to this source.

From this recital, so far, it appears that sources of exposure either potential or practical for arc welders are (1) the arc itself—ultraviolet emanations, heat, ozone, nitrous gases; (2) metallic electrodes—manganese, chromium, nickel, zinc, magnesium and other elements; (3) coating materials for electrodes—fluorides, silica, silicates, bitumens and other materials, and (4) oxygen deficiency—if the welding is carried out in unvented, confined spaces. Obviously these exposures, if and when they arise, are likely to be multiple.

From the Chrysler Industrial Hygiene Laboratories (Drs. Meek and Harrold) and the Industrial Health Conservancy Laboratories (Dr. McCord).

THE WELDING ELECTRIC ARC

The occurrence of oxides of nitrogen, ozone and ultraviolet rays about the electric arc is brought about by mechanisms similar to those of the initial stage of atmospheric nitrogen fixation by the electric arc process. It is not known that these products are essential to

TABLE 1.—Average Quantities of Nitrous Gases with Voltage Used

Volts	Average, Parts per Million	High Average, Parts per Million
27	29	32
31	33	42
33	40	47
44	70	84

welding, and they are regarded as extraneous. Obviously, high temperature (around 6,500 F., 3,593 C.) is the prime requirement in connection with arc welding. No less, the welding arc may give rise to ozone immediately in and near the arc and to various oxides of nitrogen, but chiefly nitric oxide and nitrogen dioxide. Because of reversibility and instability between these gases, laboratory reference is chiefly to nitrogen dioxide, the most stable of the harmful varieties but in itself not the most harmful.

Traditionally, 39 parts of nitrous gases per million parts of atmosphere has been accepted as the threshold of prospective damage to welders. This is based on remote and inconclusive work.¹ More recently² it has

TABLE 2.—Duration of Exposure of Experimental Animals to Various Concentrations of Nitrogen Dioxide

	Number of Animals	Weight Change	E	Time	NO ₂	E	
					P.P.M. S.T.P.	Hrs.	Min.
E. 1—voltage 27	27 rabbits	+11.04 oz.	High	1	21	11	08
	24 rats....	+12.29 Gm.		2	32	50	40
			Gen. Av.	1	20	38	00
				2	29	190	00
E. 2—voltage 33	11 rabbits	+ 1.20 oz.	High	1	32	9	20
	24 rats....	—19.16 Gm.		2	47	45	28
			Gen. Av.	1	27	35	00
				2	40	170	00
E. 3—voltage 44	11 rabbits	+ 5.95 oz.	High	1	69	6	40
	20 rats....	+ 6.9 Gm.		2	84	33	20
			Gen. Av.	1	51	25	00
				2	70	125	00
E. 4—voltage 31	12 rabbits	+ 3.245 oz.	High	1	29	5	20
	9 rats....	+ 8.37 Gm.		2	42	26	40
			Gen. Av.	1	22	20	00
				2	33	100	00
Controls							
Exposure 1.....	12 rabbits	+ 8.25 oz.					
	11 rats....	+ 8.5 Gm.					
Exposure 2.....	12 rabbits	+ 5.29 oz.					
	11 rats....	+ 0.91 Gm.					
Exposure 3....	12 rabbits	+ 4.52 oz.					
	12 rats....	+ 5.4 Gm.					
Exposure 4....	4 rabbits	+ 9.75 oz.					
	7 rats....	+47.57 Gm.					

E = Exposure. Time— 1 = 8:30 a. m.-9:30 a. m.; 2 = 9:30 a. m.-2:30 p. m.

been claimed that as little as 10 parts per million of nitrogen dioxide may be the source of headache, fatigue and other trivial manifestations of impairment. It is believable that headache among arc welders exposed only to trivial quantities of nitrous gases is more likely

to be caused by the wearing of heavy and tight-fitting shields necessary for protection against ultraviolet rays, or by injuries to the eyes from electric flashes or fatigue from hampered vision through colored eyeshields.

EXPERIMENTAL ARC WELDING

At the present time there prevails some apprehension that unusual dangers frequently may attend arc welding operations because of nitrous gases produced from the surrounding atmosphere and because of a rapidly increasing number of substances being introduced into the alloy of electrodes and electrode coatings. Especially there prevails uncertainty as to safe limits of exposure. The figures just cited of 39 and 10 parts

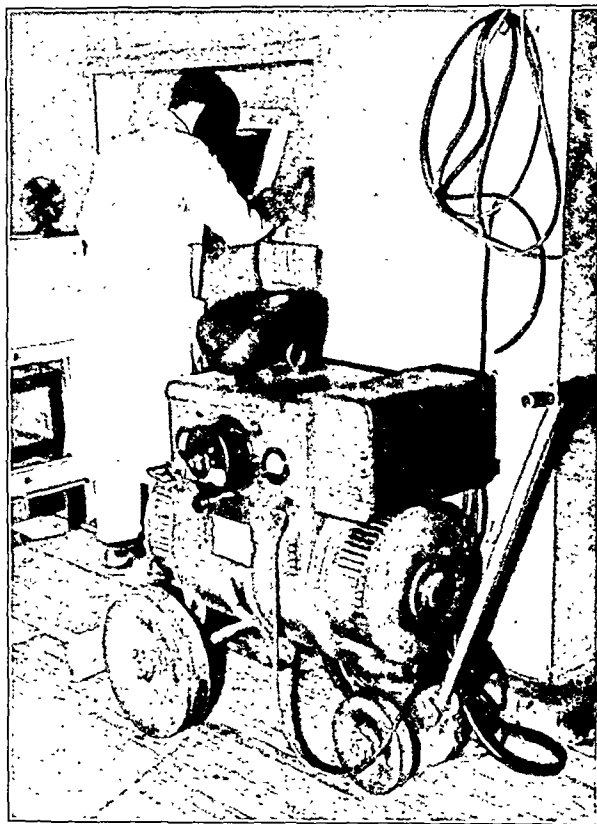


Fig. 1.—Corner of exterior of experimental welding chamber showing arc welding machine and arrangement for welding through portholes in chamber wall.

per million for nitrous gases are regarded with suspicion.

Recognizing the complexity of theoretical arc welding exposures and the inadequacy of investigative work related to conservation of workers' health, a study has been made of the simplest form of arc welding, namely welding with ferrous uncoated electrodes. A more extensive report has been published.³ In the absence of opportunity here to present any background of the literature, reference is made to a noncritical review by Britton and Walsh.⁴

For the purposes of this study there was provided a gas-tight chamber of 1,000 cubic feet capacity with its air exhaust system so damped as to provide only one

1. Lehmann, K. B., and Hasegawa: Arch. f. Hyg. 77: 323, 1913.
2. Occupational Diseases Cause Human Waste: Causes and Prevention of Nitrous Fumes Poisoning, Industrial Health Series, 14, United States Department of Labor, Division of Labor Standards, 1939.

3. Harrold, G. C.; Meek, S. F., and McCord, C. P.: Chemical and Physiological Investigation of Electric Arc Welding, J. Indust. Hyg. & Toxicol. 22: 347 (Oct.) 1940.

4. Britton, J. A., and Wal-h, E. G.: J. Indust. Hyg. & Toxicol. 22: 125 (April) 1940.

change of atmosphere hourly. In this chamber, arc welding was carried out with the operator on the outside manipulating the welding material through arm ports (fig. 1).

In order to control the high temperatures that are induced by welding, an air-cooling system was introduced. At all times suitable baffles were interposed between sources of ultraviolet irradiation and experimental subjects. In this chamber, numerous groups of animals (253 rabbits and rats, including 87 controls) were exposed five days a week, six hours a day, for long periods later specified, represented by weeks rather than by a few hours. A limited number of exposures was extended to men who entered the gassing chamber. Suitable analyses were made to rule out the occurrence of injury from such causes as oxygen deficiency, carbon dioxide, carbon monoxide, chlorine from the rod washings and excessive humidity. Chief concern centered about the relative quantities of nitrous gases produced by increasing electric voltage and amperage across the arc, although such electric states were comparatively constant for any one experiment. Equal significance was attached to the action of these nitrous gases on laboratory animals. Lesser import was attached to the quantity and action of the metallic fumes arising in the welding operations and the quantity of ozone present about the arc.

Since practical arc welding on thin steel in certain industries ordinarily utilizes a voltage near 30, the experimental voltages chosen were in this general zone, beginning with 27 and continuing through 31 and 33, with a maximum of 44 volts. The corresponding amperage was 180 to 200, 200 to 250 and 300 to 350.

Readily it became apparent that with every increase in the voltage across the arc the quantity of nitrous gases also increased. The respective average quantities of nitrous gases (computed as nitrogen dioxide, NO_2) are given in table 1. The high average mentioned in table 2 refers to the average concentration exclusive of the first hour of animal exposure during which the gaseous level is being built up. The figures shown in figure 2 represent averages but fail to indicate the maximum peaks. Thus in the experiment with 44 volts a high average concentration of 84 parts per million was attained, but in this experiment, an overall maximum of 135 parts per million was attained, and in many tests made immediately at the end of the welding operation the concentration was in excess of 100 parts per million. In the aggregate, more than twenty-four hundred analyses of gas and fumes were made, giving rise to these figures mentioned only casually and to others not here included.

Prior analysis of the iron electrode indicated that the percentage of iron present approximated 99, with a content of manganese of 0.72 and of carbon of 0.072. In the welding process, much iron was introduced into the atmosphere as a metallic fume. The quantity ranged from 35 mg. to 398 mg. per cubic meter of air. However, the quantity of metallic fumes increased only irregularly with a rising voltage and on occasion was lower with a higher voltage. The determination of the quantity of metallic fumes present constitutes no index of the nitrous gases simultaneously present. The maximum quantity of manganese encountered was 3.3 mg. per cubic meter of air.

In the investigation a welding cycle was provided in which for twelve minutes in each half hour of the six hour day as many rods were consumed as was possible with a specific voltage. For the four voltages utilized, the respective consumption of $\frac{5}{32}$ inch rods was as follows: with 27 volts, 7 pounds; with 31 volts, 10 pounds; with 33 volts, 11 pounds, and with 44 volts, 19 pounds. During the remaining eighteen minutes of the one-half hour welding cycle, samples of gas for analyses were collected respectively immediately after the cessation of welding, four minutes later, ten minutes later and sixteen minutes later, at which time a new welding cycle began.

In view of the large quantities of nitrous gases produced, which were much in excess of that quantity heretofore regarded as capable of inducing pulmonary edema, it was anticipated that exposed animals promptly would evince signs of pulmonary injury. In experiment 1 (27 volts) 41 animals were exposed for a period of thirty-eight days, with an elapsed time of fifty-two days. In experiment 2 (33 volts) 35 animals were exposed for thirty-five days, with an elapsed time of fifty-six days. In experiment 3 (44 volts) 36 animals were exposed for twenty-five days, with an elapsed time of forty days. In experiment 4 (31 volts) 23 animals were exposed for twenty days, with an elapsed time of twenty-six days (table 2). In no single animal did there appear any macroscopic pulmonary edema or edema at any point along the respiratory tract. In one experiment no animal in the group died, and in other experiments the few deaths that arose could not be associated with any action of welding products; nor were these infrequent deaths at any higher rate than among the control groups. Some animals were killed for autopsy purposes during the experimental periods, some were killed for examination immediately at the termination of the experiment, some at intervals thereafter and some animals have been retained for periods greater than one year after exposure. At no time has there appeared any indication of ill effects from this prolonged gassing and exposure to fumes except the regular presence and migration of iron pigmentation within the lungs and other portions of the pulmonary system, including the various glandular groups, and low percentages of methemoglobin.

Since ozone is a gas of known highly irritant properties, and since its occurrence as a result of the electric arc has been both claimed and denied, appropriate analyses were made. It was found on the average that within the arc itself or as near it as samples of gas might be collected the quantity of ozone present was at 44 volts 1 inch from the arc 10 to 30 parts per million, 4 inches from the arc, 1 to 4 parts per million and at the center of the chamber 0.25 to 1 part per million, all

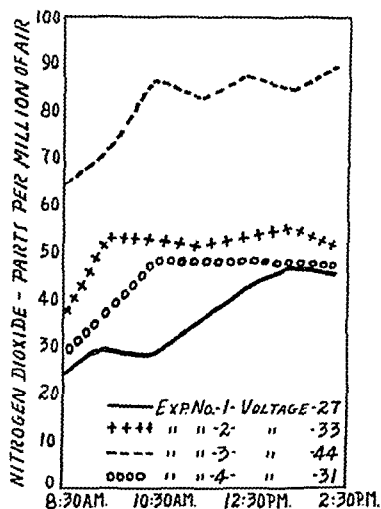


Fig. 2.—Average concentration of nitrogen dioxide in parts per million of air on hourly basis for four experiments with increasing voltage.

samples being collected during welding. It is believed that the ozone produced in the arc enters into the formation of nitrous oxides produced and is thus largely consumed. The threshold of injurious action of ozone is not well established. Such quantities as 0.04⁵ and 1⁶ part per million of air have been proposed as threshold limits, but the true maximum tolerable concentration may be higher. In any event, there has arisen no reason for the belief that the animals in this series of experiments have been exposed to ozone in harm-producing quantities.

For one period only, of three hours, two laboratory workers were present in the gassing chamber at a time when the nitrogen dioxide content peaked at 103 parts per million for five minutes, with a high average of 93 parts per million for forty minutes and a general average of 84 parts per million for the entire period. At this time, the temperature of the chamber was 97 F. (36.1 C.), and the ozone content was approximately 0.4 part per million. These observers were unprotected except for coverings of gauze to ward off the particulate iron fumes. No ill effects whatever were experienced by these observers with the exception, in one, of trivial irritation of the skin of the face, which possibly may be attributed to thorough scrubbing after exposure.

COMMENT AND SUMMARY

In this abridged presentation, descriptive of a twenty-one months investigation of arc welding in which bare ferrous electrodes were used, sufficient evidence has been introduced to throw some doubt on the reliability of those figures now widely accepted as representing the threshold of prospective injury from nitrous gases created in industrial welding. So far as conclusions may be reached from animal experimentation, it appears that the zone of beginning danger from nitrous gases lies above 70 parts per million of air and not in the zone of 10 to 40 parts per million. The animals utilized are known to be highly responsive to the action of pulmonary irritants. The entire absence of edema of the respiratory tract from quantities of nitrous gases in excess of those likely to arise from welding with 44 volts and 300 to 350 amperes augurs against the prospect of any widespread injury to welders operating under the milder conditions of practical welding and apart from confined spaces. Although large quantities of iron fumes were produced along with measurable quantities of manganese fumes from the welding rods, no result has indicated that these fumes are specifically harmful even though discomforting. Ozone, a known irritant, apparently enters into formation of nitrous gases but is not present in the surrounding atmosphere in sufficient concentration to cause harm. While the actuality of deaths and direful injury in practical arc welding operations may be granted, such injuries should not axiomatically be associated with nitrous gases as the sole possible causative agent. Increasing consideration should be extended to the roles that may be played by oxygen deficiency, manganese, fluorides, zinc, possibly chromium and some other minerals and metals now gaining in application in arc welding operations.

10 Peterboro Street.

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6. Bowditch, Manfred; Drinker, C. K.; Drinker, Philip; Haggard, H. H., and Hamilton, Alice: Code for Safe Concentrations of Certain Common Toxic Substances Used in Industry, J. Indust. Hyg. & Toxicol. **22**: 251 (June) 1940.

SERUM AND TISSUE PHOSPHATASE DETERMINATIONS

AS AN AID IN EVALUATING THE RADIATION THERAPY OF BONE TUMORS

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Radiation therapy may be employed for its palliative or curative effect as the only method of treatment of some bone tumors, especially metastatic disease of bone, or it may be used preoperatively as a preliminary to amputation either as an elective measure or while the physician awaits consent for surgical intervention. The latter procedure is frequently followed in the management of certain types of osteogenic sarcoma.

The effect of irradiation may be measured by the degree of symptomatic relief, by variations in the size of the tumor, by the roentgenographic appearance or by microscopic examination of the tissue. In the clinical study of a large number of patients in whom estimations of serum and tissue phosphatase were done, we were impressed by the close correlation of the phosphatase values with the clinical features. The results of the study thus prompted are herewith submitted.

METHODS

The alkaline phosphatase of the serum was determined by the method of Bodansky¹ as modified by one of us.² Normal values are from 1.5 to 5 units per hundred cubic centimeters for adults and from 5 to 13 units for children according to the rate of growth. The acid phosphatase of the serum was determined at pH 6.4 in an unbuffered sodium glycerophosphate substrate. Normal values for acid phosphatase do not exceed 10 per cent of the alkaline phosphatase of the same serum and are usually less than 5 per cent of the alkaline value.

Tissue phosphatase was determined by our modification³ of the method of Franseen.⁴ An attempt was made to obtain material which was representative of the tumor as a whole by using a slice 3 to 5 mm. thick made with a motor saw through the entire mass. This included portions of both the center and the periphery. When the tissue was too soft to be sawed, samples were cut with a knife from different parts and were then combined for extraction.

Most of the tissue radiation doses were calculated by Dr. Edith Quimby of this hospital.

Previous work by us as well as by others makes it evident that the excess phosphatase which appears in the serum of many patients with bone tumors originates in the tumors and that the decrease in serum phosphatase following radiation therapy or surgical extirpation is due to inactivation or removal of the tumor. In order that there should be no doubt on this question, we have determined the tissue phosphatase on a series

From the Bone Tumor Department, service of Dr. Bradley L. Coley, and the Chemistry Department, Memorial Hospital.

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2. Woodard, Helen Q.; Twombly, G. H., and Coley, B. L.: A Study of the Serum Phosphatase in Bone Disease, J. Clin. Investigation **15**: 193 (March) 1936.

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4. Franseen, C. C., and McLean, Regina: The Phosphatase Activity of Tissues and Plasma in Tumors of Bone, Am. J. Cancer **24**: 299 (June) 1935.

of benign and malignant bone tumors which had not been irradiated and compared the results with those for osteogenic sarcomatous tissue which had been irradiated prior to amputation. The observations on nonirradiated tumors are summarized in table 1. In this table, the tissue phosphatase is correlated with the

of the tumor. In two of the semimalignant tumors (in cases 3 and 8) the tissue phosphatase was low, while in one (case 9) it was definitely elevated. On one frankly malignant giant cell tumor (case 10) a tissue phosphatase level of 0.79 unit per gram was associated with an elevated serum phosphatase which failed to fall

TABLE 1.—Serum and Tissue Phosphatase in Patients with Nonirradiated Tumors

Case	Name	Age	Sex	Diagnosis	Volume of Tumor, Cc.	Tissue Phosphatase, Units per Gm.	Serum Phosphatase, Units per 100 Cc.	
							Before Operation	After Operation
1	F. B.	38	♀	Osteochondroma, left femur.....	520	0.10	2.5	...
2	S. K.	30	♂	Osteochondroma, left femur.....	265	0.34	4.4	5.0
3	L. B.	28	♂	Semimalignant osteochondroma, left femur.....	13	0.41	5.3	3.4
4	M. T.	17	♀	Fibrosing giant cell tumor, left femur.....	65	0.23	3.5	...
5	A. K.	46	♂	Giant cell tumor, right femur, recurrent, no unusually aggressive features.....	500	0.23	5.4	4.4
6	M. W.	50	♀	Benign giant cell tumor, right femur, possibly potentially malignant.....	63	0.10	4.3	...
7	A. G.	21	♂	Benign giant cell tumor, right tibia, atypical with malignant possibilities, recurrent.....	150	0.50	4.6	3.4
8	M. B.	42	♂	Giant cell tumor, right femur, recurrent.....	65	0.10	5.1	4.4
9	F. W.	30	♀	Giant cell tumor, right tibia, atypical with malignant possibilities, recurrent.....	113	0.75	3.8	2.3
10	L. S.	35	♂	Giant cell tumor transitional to telangiectatic osteogenic sarcoma, left femur.....	200	0.79	6.8	7.0
11	M. A.	47	♀	Malignant giant cell tumor, left patella.....	88	0.10	3.1	2.7
12	J. L.	60	♂	Osteogenic fibromyxosarcoma, left femur.....	640	0	3.6	4.2
13	M. R.	51	♂	Medullary spindle cell osteogenic sarcoma, left femur.....	266	0.05	3.7	3.0
14	J. N.	26	♂	Large spindle cell osteogenic sarcoma, right femur.....	420	0.47	3.5	...
15	L. B.	13	♀	Spindle cell chondrosarcoma, low malignancy, right ilium.....	1,800	...	9.8	...
				Ossifying portion.....	...	0.57	...	...
				Nonossifying portion.....	...	1.7	...	...
16	L. B.	30	♂	Chondrosarcoma, right femur.....	630	1.8	3.0	3.5
17	S. S.	16	♀	Osteogenic sarcoma, large.....	27	3.0	5.8	5.1
18	C. H.	39	♂	Osteogenic tumor of bone.....	267	3.0	15.9	5.0
19	W. R.	25	♂	Small spindle cell osteogenic sarcoma.....	910	3.0	4.4	...
20	C. B.	58	♀	some chondrosarcomatous parts, left femur.....	2,130	6.2	5.6	11.6
21	F. P.	17	♀	Osteogenic sarcoma, right femur.....	930	17.5	21.1	4.1
22	S. D.	13	♂	Osteogenic sarcoma, right femur.....	524	18.4	7.2	...
23	D. S.	15	♂	Osteogenic sarcoma, right femur.....	113	22.0	11.7	5.2
24	F. R.	20	♂	Osteogenic sarcoma, left humerus.....	575	...	7.0	5.4
				Active spindle cell portion.....	...	30.0	...	...
				Slow-growing hyaline portion.....	...	20.0	...	...

TABLE 2.—Serum and Tissue Phosphatase in Patients with Irradiated Tumors

Case	Name	Age	Sex	Diagnosis	Tumor Dose, Tissue Roentgens	Tissue Phosphatase, Units per Gm.	Serum Phosphatase, Units per 100 Cc.	
							Before Irradiation	After Irradiation
1	S. L.	44	♀	Osteogenic sarcoma, left femur, sclerosing type.....	1,350	16.0	38.3	...
2	L. H.	20	♂	Osteogenic sarcoma, right femur, telangiectatic and osteoplastic.....	1,360	2.8	24.0	...
3	A. C.	19	♀	Medullary spindle cell sarcoma, right femur, type somewhat unusual.....	1,600	0.13	14.0	...
4	L. H.	18	♂	Telangiectatic osteogenic sarcoma, left femur.....	2,100	2.1	...	17.2
5	H. G.	13	♂	Osteogenic sarcoma, left femur; no visible radiation changes.....	3,300	...	16.5	10.3
				Periphery of tumor.....	...	0.82	...	...
				Center of tumor.....	...	0.34	...	...
6	B. H.	17	♂	Osteogenic sarcoma, right femur; marked radiation changes.....	3,775	0.18	19.5	6.4
7	M. R.	15	♂	Periosteal and medullary osteogenic sarcoma, right femur; largely acellular from.....	4,000	0.27	12.6	...
8	S. G.	16	♂	Osteogenic sarcoma, right femur; large, partly small spindle cell sarcoma; no conspicuous radiation changes.....	4,100	0.15	27.3	16.5
9	G. D.	11	♀	Osteogenic sarcoma, right femur; extreme radiation changes.....	4,300	0.05	11.3	7.7
10	G. S.	16	♂	Osteogenic sarcoma, right femur, fully viable; possibly slight radiation changes.....	4,600	10.8	9.2	9.6
11	S. S.	16	♀	Osteogenic sarcoma, left humerus, almost totally necrotic from irradiation.....	6,800	0.15	12.2	3.5
12	W. K.	12	♂	Osteogenic sarcoma, right femur.....	8,000	0.08	11.4	5.8
13	A. M.	7	♀	Osteogenic sarcoma, right femur.....	9,000	0.22	83.5	13.5
14	D. C.	15	♂	Large polyhedral cell osteogenic sarcoma, right humerus.....	2,700	...	9.0	4.5
				Tissue not available for examination.....	...	...	...	...
15	J. S.	12	♂	Telangiectatic osteogenic sarcoma, left femur.....	3,000	...	17.9	13.4
				Tissue not available.....	...	...	...	...
16	D. L.	7	♀	Osteogenic sarcoma, right femur (diagnosis by biopsy).....	4,000	...	15.8	8.8
				Tissue not available.....	...	...	...	...
17	W. K.	28	♂	Cellular osteogenic sarcoma with good deal of calcific material, right tibia (diagnosis by biopsy).....	4,750	...	13.2	5.5
				Tissue not available.....	...	...	...	...
18	D. C.	17	♀	Osteogenic sarcoma, right femur.....	5,200	...	21.4	2.8
				Tissue not available.....	...	...	...	...

serum phosphatase before and after removal of the tumor. Since a large tumor will obviously have more effect on the serum than a small one, a rough approximation of the volume of the tumor is also given.

The tissue phosphatase of the benign osteochondromas and giant cell tumors ranged from 0.10 to 0.50 unit per gram, or about the same as normal adult bone. The serum phosphatase was usually in the upper range of normal and showed little change after removal

after operation because of prompt recurrence and metastasis. In the other malignant giant cell tumor (case 11), the tissue phosphatase was low and the serum phosphatase was normal.

In the group of osteogenic sarcomas a wide range of both tissue and serum phosphatase was found. The initial serum readings in cases 15, 17 and 22 are within the normal range for the ages of the patients. The absence of close correlation between serum phosphatase,

tissue phosphatase and the size of tumors is too obvious to require detailed consideration. It is not clear, for example, why patient 18, with a moderate-sized tumor containing 3 units of phosphatase per gram, had 15.9 units of phosphatase per hundred cubic centimeters of serum, while patient 19, with a rather large tumor which also contained 3 units per gram, had a normal level of serum phosphatase. Patient 19 showed some unusual features which are discussed in detail later.

Although some patients with tumors containing large amounts of phosphatase had normal serum values, yet no patient with a tumor containing less than 0.5 unit of phosphatase per gram had a serum phosphatase level which was conspicuously elevated or one which dropped significantly after removal of the tumor. Similarly, all the patients with high serum phosphatase values (patients 10, 18, 21, 23 and 24) had tumors containing relatively large amounts of phosphatase. Three of these patients (18, 21 and 23) showed a prompt drop in serum readings after amputation. In 2 (10 and 24), the failure of the serum phosphatase to fall to normal was due to the presence of residual and metastatic disease. Thus, while there is no explanation at present of why the presence of a tumor containing large amounts of phosphatase sometimes fails to raise the serum level, it is evident that a high serum phosphatase level indicates the presence of a tumor of high content of phosphatase.

Phosphatase readings on irradiated osteogenic sarcomatous tissue are summarized in table 2. All the cases listed showed elevated serum phosphatase readings before the beginning of radiation therapy. As explained in the previous paragraph, one may therefore assume that the phosphatase content of the tumor was originally high. Some of these cases are considered in detail later. It is seen that in 6 of the 7 tumors which received a tissue dose of 4,000 roentgens or more the level of phosphatase was less than 0.3 unit per gram, or about the same as normal bone. In 4 cases (9, 11, 12 and 13) the serum phosphatase showed a marked decrease after irradiation and before amputation. In case 8 a satisfactory drop in serum phosphatase was not obtained because there was disease outside the irradiated field, and in case 7 a postirradiation determination of serum phosphatase was not done. In contrast to these heavily irradiated tumors, 4 of the 6 which received a tissue dose of 1,350 to 3,775 roentgens contained significant amounts of phosphatase. A serum phosphatase reading was not obtained on one of these (case 4) until the close of the radiation cycle, but since

the value found was high it served to confirm the presence of enzyme in the tissue. In cases 3 and 6, tissue doses of 1,600 and 3,775 roentgens respectively were sufficient to inactivate the phosphatase-forming mechanism of the tumors. In case 6 this inactivation was reflected in a marked drop in serum phosphatase, while in case 3 a postirradiation reading of serum was not obtained.

The observations on 1 case not included in the table are of special interest:

A. B., a woman aged 35, had a chondrosarcoma of the left humerus which had been irradiated at another hospital. The treatment was said to have consisted of 1,500 roentgens to each of two fields, but the factors were not known sufficiently accurately to permit of calculation of the tissue dose. The skin was tanned so that the area of irradiation was clearly outlined. The serum phosphatase was normal. Interscapulothoracic amputation was performed, and it was found that the tumor extended beyond the irradiated area. The irradiated tumor contained 0.33 unit of phosphatase per gram and the unirradiated tumor 33 units per gram, or one hundred times as much.

The data just presented afford direct evidence that when a patient with a primary bone tumor has an elevated serum phosphatase level the excess phosphatase in the serum comes from the tumor. When irradiation of the tumor is followed by a fall in the serum phosphatase, the fall is due to inactivation of the phosphatase-forming mechanism of the tumor.

In 5 additional cases, the serum phosphatase was determined before and after irradiation, but the tissue was not available for examination. These are also summarized in table 2. In cases 14, 16, 17 and 18, administration of tissue doses of 2,700, 4,000, 4,750 and 5,200 roentgens to the tumors was followed by a fall in the serum phosphatase to values which were nearly or quite normal for the ages of the patients. In case 15, the irradiated tumor undoubtedly contained residual phosphatase activity as the serum phosphatase level fell to 4.6 units per hundred cubic centimeters after amputation at a later date.

One may combine the two series by considering the attainment of normal phosphatase values either in the tumorous tissue or in the serum as a criterion of the inactivation of the tumor by irradiation. One thus finds that only three of the eight tumors receiving less than a 4,000 roentgen tissue dose were inactivated, while nine of the ten tumors receiving 4,000 to 9,000 roentgens were inactivated. From these figures, it appears that a tissue

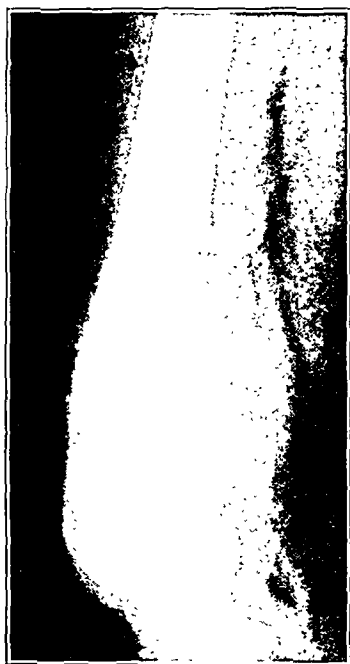


Fig. 1 (case 1).—Osteogenic sarcoma of left femur, untreated. Serum phosphatase 83.5 units per hundred cubic centimeters.

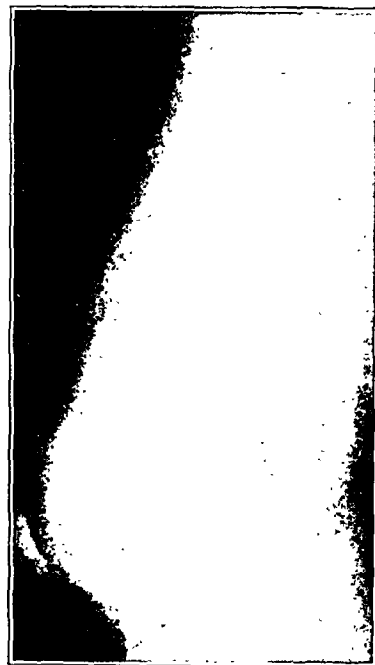


Fig. 2 (case 1).—Condition at the completion of roentgen therapy, showing that the size and degree of calcification of the tumor increased during treatment.

dose of 4,000 roentgens or more is required to cause inactivation of the majority of phosphatase-producing osteogenic sarcomas. While there were some exceptions, in general the chemical and histologic signs of inactivation corresponded rather closely.

The details of the changes produced by irradiation are best illustrated by consideration of individual cases:

CASE 1.—(case 13 in table 2).—A. M., a girl aged 7 years, had an osteogenic sarcoma of the lower part of the left femur. The tumor showed only a small amount of formation of new bone (fig. 1), but the serum phosphatase level was high at 83.5 units per hundred cubic centimeters. Preoperative roentgen therapy totaling 9,000 roentgens to the center of the tumor was given over a period of four weeks, each treatment being preceded by diathermy. At the close of the

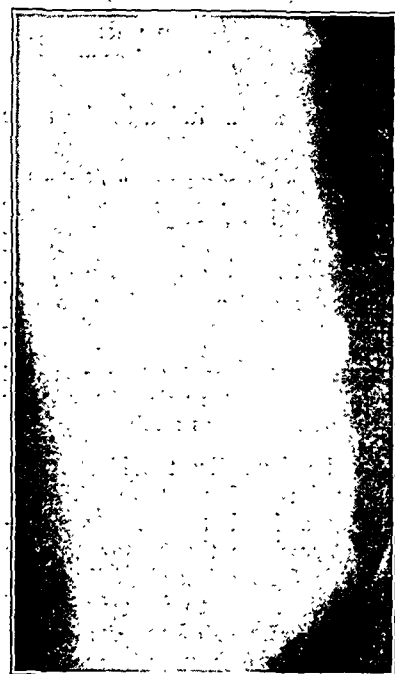


Fig. 3 (case 1).—Condition two weeks after the completion of roentgen therapy, showing that growth had ceased but that calcification was continuing. Serum phosphatase 13.5 units per hundred cubic centimeters.

cycle of irradiation a roentgenogram showed that both the size of the tumor and its degree of calcification had increased somewhat (fig. 2). Two weeks later there was no further increase in size and a slight further increase in calcification (fig. 3). At this time, the serum phosphatase level was 13.5 units, somewhat above normal for a rather sick child of 7 but 70 units lower than the initial value. At amputation three days later the tumor appeared almost wholly necrotic to gross examination, but careful microscopic study disclosed fully viable areas. The tissue phosphatase level was low at 0.22 unit per gram. There was a drop in serum phosphatase ten days after amputation to a normal value of 8.5 units. Three months later, the serum reading had risen to 30 units and pulmonary metastases were found which soon caused death.

While the slight drop in serum phosphatase which was observed after amputation showed that some areas of the tumor must have contained more phosphatase than the specimen taken for chemical analysis, yet it is evident that radiation therapy resulted in an enormous inactivation of the phosphatase-producing mechanism of the tumor as a whole. Despite this, there was a definite increase in the degree of mineralization of the tumor. In a previous publication, we expressed the opinion that when a high serum phosphatase level is found associated with a tumor showing little formation of new bone the rate of growth has outstripped the rate of deposition of calcium phosphate. As more material of this type has become available, we have found by measurement of roentgenograms that while radiation therapy is usually followed by both cessation of growth and increase in the formation of bone the increase in mineralization usually begins before growth has ceased. When serum phosphatase determinations have been made during treatment as well as before and after, it has been found that the drop is rapid. One thus has the situation that mineralization begins before growth

stops but after the phosphatase-producing mechanism has been inhibited. We are therefore led to modify our previous opinion that the untreated tumors have simply not had time to calcify and to conclude that there is something in the metabolism of the rapidly growing tumor which is unfavorable to the deposition of calcium phosphate. No suggestion as to the nature of this factor can be made at present, but it is evident that it is inhibited more completely by radiation therapy than is the mechanism of mineralization since calcification can take place in the irradiated tumor even after the supply of phosphatase is much reduced.

TABLE 3.—Phosphatase Content and Radioactivity of Tumor

Tissue	Phosphatase, Units per Gm.	Radioactivity, Percentage of Total Dose per Kg. of Tissue
A. Center of main tumor of femur.....	0.34	3.7
B. Periphery of main tumor.....	0.82	13.0
C. Extension in shaft.....	0.68	6.5
D. Control—normal fibula shaft.....	0.20	2.8

While these differences in the rates at which the various types of inhibition caused by radiation appear are of considerable theoretical interest, they may in general be disregarded in practice. The changes in serum phosphatase usually correspond so closely to the subsequent clinical course that they may be taken as a reliable indication of the effectiveness of treatment. In most of our patients in whom an osteogenic sarcoma which had been controlled temporarily by irradiation later showed renewed activity, the chemical signs of reactivation preceded rather than followed the clinical signs.

CASE 2 (case 16 in table 2).—D. L., a girl aged 7 years, had an osteogenic sarcoma of the lower part of the right femur.

This was pronounced on aspiration biopsy to be of a bad type. There was a moderate degree of osteoplasia (fig. 4). The serum phosphatase level, while definitely elevated at 15.8 units, was not extremely high. The family refused permission for amputation, and the patient was given a course of roentgen therapy totaling 4,000 roentgens to the tumor. This resulted in a drop in serum phosphatase to 8.8 units, a value within the normal range for a child of 7. Symptoms were relieved, the growth of the tumor ceased and there was some calcification at the center though not at the periphery. The patient was lost sight of for nine months, after which interval she reappeared with an osteoplastic tumor 17 cm. in diameter and a serum phosphatase level of 24.9 units (fig. 5). Permission for amputation was finally obtained and, although the child appeared almost moribund, she made a good recovery from the operation. The serum phosphatase level was 4.8 units per hundred cubic centimeters two weeks after amputation and rose to 9.5 units in another two months, probably because the general health had improved and bodily growth had been resumed. The tissue phosphatase level of the tumor was 4.2 units per gram.



Fig. 4 (case 2).—Osteogenic sarcoma of the right femur at the completion of roentgen therapy. Serum phosphatase 8.8 units per hundred cubic centimeters.

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Most of the huge mass of this tumor was formed after the close of radiation therapy, but because of the possibility that some residual effect of irradiation may have been present, the material is not included in the list of untreated tissues. The case illustrates the effectiveness of a dose of 4,000 roentgens in inactivating a phosphatase-producing tumor and the clinical and chemical reactivation which followed a quiescent period. Serial determinations of serum phosphatase during treatment may be of value even when the initial readings are normal. This is well illustrated by the next case:

CASE 3 (case 19 in table 1).—W. R., a man aged 25, presented himself with a lesion of the lower part of the left femur resembling a benign giant cell tumor. The serum phosphatase level was normal at 3.7 units per hundred cubic centimeters. He received three courses of roentgen therapy over a period of eight months before he was seen in the Bone Tumor Department. The tissue doses were 2,700, 1,000 and 340 roentgens. Despite this, the serum phosphatase level rose irregularly to 6.6 units per hundred cubic centimeters, and clinical signs of activity led to amputation. The tumor was found to be an osteogenic sarcoma of the large spindle cell and giant cell type, with production of osteoid and cartilaginous tissue. It contained 2.1 units of phosphatase per gram. The serum phosphatase level fell to normal and showed no subsequent rise, but thirteen months after amputation a large, ill defined recurrence developed in the stump which necessitated disarticulation of the hip joint. The recurrent tumor was found to be of a histologic type similar to the original tumor and to contain 3 units of phosphatase per gram. This tissue had not been irradiated and so is listed in table 1. The patient is well three years after the second amputation.

This tumor was apparently one of those which forms moderate amounts of phosphatase but does not allow the enzyme to escape into the circulation until late in the course of the disease.

That there is no sharp line of demarcation between the tumors which allow phosphatase to enter the blood and those which do not is shown also by the following case:

CASE 4 (case 10 in table 2).—G. S., a youth aged 16, had a large bone-forming osteogenic sarcoma of the right femur (fig. 6). He received preoperative radiation totaling 4,600 roentgens tissue dose. His serum phosphatase level, which had been 9.2 units per hundred cubic centimeters initially, was essentially unchanged at 9.6 units at the close of treatment. These figures are considerably above the normal average for a youth of 16, but the patient, although over 6 feet tall, was immature in appearance, and his femoral epiphyses were still open. It therefore seemed possible that his general bodily growth might still be rapid enough to account for all the phosphatase in the serum. After amputation, however, the level of serum phosphatase dropped to 5 units per hundred cubic centimeters in ten days and to 3.2 units in two months. The level of phosphatase in the tumor was found to be high at 10.8 units per gram. It was evident that the excess phosphatase in the serum came from the tumor but that the amount reaching the circulation was small if one considered the large volume and high enzyme content of the tumorous tissue. The mineralization mechanism of the tumor appeared stable, being inactivated incompletely or not at all by a heavy dose of roentgen radiation, and this stability was reflected in the serum readings.

The next case is of especial interest because we were able to study the activity of various portions of the tumor by the use of radioactive phosphorus. This material⁵ was present in solution as sodium phosphate. It has been shown by Lawrence and Scott,⁶ Cook,

Scott and Abelson⁷ and others that such solutions are readily absorbed when given by mouth and that the phosphorus is deposited selectively in the bone.

CASE 5 (case 5 in table 2).—H. G., a boy aged 13 years, who was growing rapidly but was poorly nourished, had an osteogenic sarcoma originating in the lower part of the left

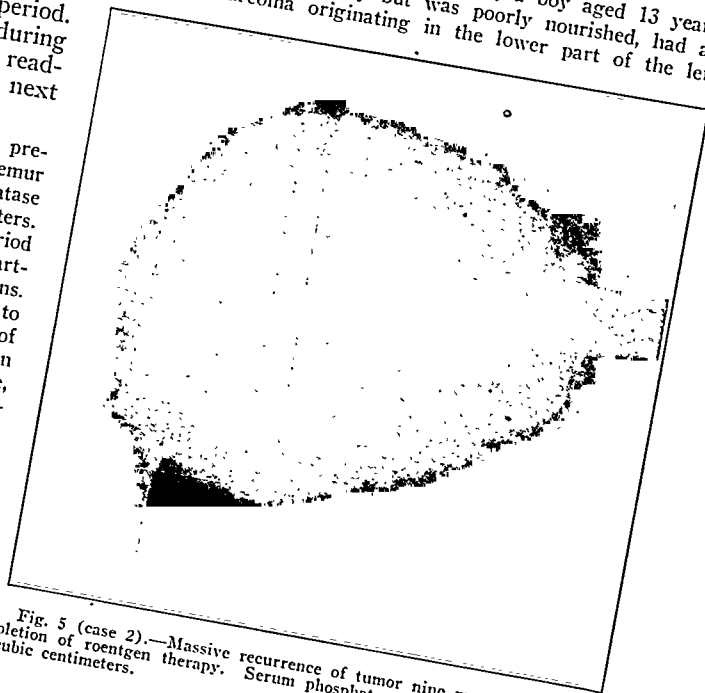


Fig. 5 (case 2).—Massive recurrence of tumor nine months after completion of roentgen therapy. Serum phosphatase 24.9 units per hundred cubic centimeters.

femur and extending up the shaft. There was only a moderate amount of formation of new bone. The serum phosphatase level on admission was 16.5 units per hundred cubic centimeters, a moderately elevated reading for a boy of 13. Preoperative roentgen irradiation was given over a period of twenty-five days to two fields which together included the lower 20 cm. of the femur. The tissue dose at the center of the main tumor was 3,275 roentgens, and because of cross firing the dose at the periphery was approximately the same as at the center. The dose at the center of the upper portion of the femur was 4,100 roentgens. The serum phosphatase level fell during treatment to 7.2 units per hundred cubic centimeters, a normal value for an adolescent, but rose slightly to 10.3 units two weeks later. At this time a nodule suggestive of metastasis appeared in the lungs, but despite this a palliative amputation was decided on. The patient was given a tracer dose of 0.5 Gm. of radioactive phosphorus, and six days later disarticulation of the hip joint was performed. A week later the serum phosphatase was normal at 6.1 units per hundred cubic centimeters, showing that the elevated preoperative value was due to residual activity in the primary tumor rather than to the metastatic area in the lung.

Determinations of phosphatase content and of radioactivity were made on different portions of the amputated specimen. The results are summarized in table 3.

It is seen that there is a close correspondence between the phosphatase and the radioactive phosphorus content of the different tissues. Both the theoretical and the practical implications of this relation are interesting. The phosphatase content of the tissue is an indication of its capacity to form bone; the amount of radioactive phosphorus deposited is a measure of the amount of bone actually laid down since the tagged phosphorus was available. In the present case, the two are closely proportional. It is to be expected that

5. This material was obtained through E. O. Lawrence, Ph.D., of the University of California.
6. Lawrence, J. H., and Scott, K. G.: Comparative Metabolism of Phosphorus in Normal and Lymphomatous Animals, *Proc. Soc. Exper. Biol. & Med.* 40: 694 (April) 1939.

7. Cook, S. F.; Scott, K. G., and Abelson, P.: The Deposition of Radiophosphorus in Tissues of Growing Chicks, *Proc. Nat. Acad. Sci.* 23: 528 (Sept.) 1937.

cases will be found in which the mineralization mechanism is active but in which, because of the presence of an inhibitor or other unfavorable condition, deposition of phosphorus does not take place. This possibility was discussed in relation to case 13. It is hoped



Fig. 6 (case 4).—Osteogenic sarcoma of left femur showing pronounced osteoplasia. Serum phosphatase 9.2 units per hundred cubic centimeters.

that further work may clarify these relations. We have observed a fairly close correlation between the phosphatase and radioactive phosphorus contents of specimens of normal and pathologic bone from 3 other patients. Details will be published at a later date.

At first thought, radioactive phosphorus appears to offer little promise as a sole therapeutic agent in the treatment of a tumor as radioresistant as osteogenic sarcoma. Mr. Leo Marinelli of this hospital has made calculations which show that the most active portion of the tissue reported on here was receiving radiations from the isotope amounting to only 0.0015 equivalent roentgen per minute. We do not know the rate of

deposition of the phosphorus, but if we assume that it is approximately the same as the rate of decay of radioactivity we find that in two weeks the tumor would have received a total dose of about 30 equivalent roentgens. Ten times as much radioactive phosphorus as was given to this patient may be administered safely, and many osteogenic sarcomas have a mineralization mechanism five times as active as this one was at the time of examination. Hence it is theoretically possible to obtain a total dose from radioactive phosphorus of the order of magnitude of at least 1,000 equivalent roentgens. This could probably not be relied on to inactivate the primary tumor, although it might be a useful adjuvant to external radiation therapy. More important is the probability that radioactive phosphorus may be effective in preventing metastases. There is much evidence to show that tumorous emboli before they are well established are more sensitive to all types of deleterious agents than are the primary tumors. No type of cancer metastasizes indiscriminately to all parts of the body, and some types show a marked predilection for a single organ, as osteogenic sarcoma does for the lung. It is difficult to escape the conclusion that the majority of tumorous emboli which enter the circulation die rather promptly, and only those which lodge in a favorable environment survive and grow. If this is so, and if the emboli from an osteogenic sarcoma show the same selective uptake of radioactive phosphorus

that the primary tumor does, it is possible that presence of radioactive material in the malignant cells might weaken them enough to prevent their becoming established. We therefore plan to give prophylactic doses of radioactive phosphorus to patients with osteogenic sarcoma in an attempt to prevent metastases.

METASTATIC DISEASE OF BONE

As we have shown in table 1, the excess phosphatase in the serum of patients with primary bone tumors comes from the tumor, and when the source is removed or inactivated the serum phosphatase level falls to normal within one or two weeks. The situation is quite different when cancer originating in a soft part metastasizes to bone. In this condition phosphatase is ordinarily produced not by the invading tumor but as part of a defense or healing reaction in the adjacent bone. Invasion by some tumors, as carcinoma of the breast or thyroid, ordinarily elicits little defense in bone, causes slight changes in the serum phosphatase and produces osteolytic lesions. On the other hand, invasion by other types of malignant tissue, as carcinoma of the prostate, commonly causes an intense osteoplastic reaction with pronounced elevation of the serum phosphatase level.³ The problem of why the response of the bone to invasion by different tissues varies so greatly in intensity is of importance in the understanding of the mechanism of metastasis and one which needs further study. It is evident, however, that irradiation of a metastatic lesion of bone may effect production of phosphatase directly by inactivating the defense mechanism or indirectly by inactivating the tumor which is eliciting the defense reaction. We have not observed changes indicating that irradiation ever stimulates the defense mechanism. When the tumor is inactivated by radiation therapy and the defense mechanism is relatively unaffected, the serum phosphatase level remains high until repair is well advanced. Therefore, serum phosphatase determinations are a reliable indication of the results of roentgen therapy of metastases to bone only when sufficient time has elapsed for healing to take place. In practice we find that if a patient with metastatic disease of the bone

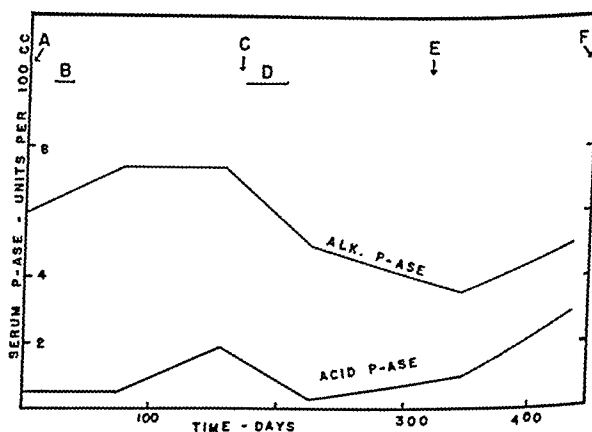


Fig. 7.—Changes brought about by roentgen therapy in the acid and the alkaline phosphatase of the serum of a patient with carcinoma of the prostate metastatic to bone.

accompanied by a high serum phosphatase level is treated and the serum phosphatase level fails to fall to normal within three months either the treatment has been inadequate or new lesions are developing.

In one type of metastatic disease, carcinoma of the prostate with involvement of bone, it is possible to

follow the activity of both the metastatic tumor and the surrounding bone by means of serum phosphatase determinations. The phosphatase of the bone has its maximum activity in alkaline solutions. Both normal and cancerous prostatic tissue contain a phosphatase which is active in acid solutions but almost completely inactive in the alkaline range. It has been shown by the Gutmans⁸ and confirmed by one of us⁹ that osseous tissue invaded by prostatic metastases contains both acid and alkaline phosphatases and that both enzymes escape readily into the circulation. The acid phosphatase from normal or from cancerous prostates which have not metastasized does not appear in the blood in significant amounts.

Case 6 illustrates the usefulness of determinations of both acid and alkaline phosphatase of the serum in the presence of carcinoma of the prostate metastatic to bone. The history is shown schematically in figure 7, in which the acid and the alkaline phosphatase of the serum are plotted against time and observation.

CASE 6.—W. S., a man aged 67, presented himself with a lesion of the ischium of mixed osteolytic and osteoplastic type. On aspiration biopsy at *A* (fig. 7), this was found to be metastatic carcinoma of undetermined origin. There was a history of a prostatectomy for benign hypertrophy at another hospital fifteen years previously, but there was no palpable disease in the prostate when the patient was first seen by us, and other systems presented no primary tumors. The alkaline serum phosphatase was slightly elevated at 6 units per hundred cubic centimeters, and the acid phosphatase was at the upper limit of normal at 0.56 unit. At *B*, the patient received roentgen therapy consisting of 1,800 roentgens (air) to each of two pelvic fields, with some symptomatic relief. There was no immediate change in blood chemistry, but four months later the level of the alkaline phosphatase of the serum had risen to 7.4 units and the acid phosphatase level to 1.9 units per hundred cubic centimeters, a definitely abnormal value. At about this time, a palpable nodule was discovered in the prostate. At *C*, this nodule was aspirated and carcinoma was obtained. At *D*, the patient received further treatment consisting of gold seeds in the prostate and a roentgen cycle totaling 2,250 roentgens (air) to each of six lateral pelvic fields and 1,750 roentgens to one perineal field. All symptoms were relieved, and one month after the close of treatment the alkaline phosphatase of the serum was found to have dropped to 5 units per hundred cubic centimeters and the acid phosphatase to 0.34 unit, both values being high normals. Unfortunately, no roentgenogram was made before the second cycle of irradiation, but a film made at *E* showed the lesion to be larger and more osteoplastic than at *A*. There is, of course, no way of knowing how much of this change took place before the therapy at *D*, but the drop in serum phosphatase makes it unlikely that the disease was active immediately after treatment. The alkaline phosphatase of the serum remained in the high range of normal for seven months, but the acid phosphatase soon showed a marked rise to four times the upper limit of normal. A film obtained at *F* showed that the disease was more widespread than at *E* and that in the new areas the pathologic process was predominantly osteolytic.

It appears from these figures that the first roentgen ray cycle had little effect on the activity of either the metastatic tumor or the defense reaction. The second cycle inactivated both processes markedly, but the effect on the defense reaction was more lasting than that on the tumor. This was shown both by the lag in the rise of the alkaline phosphatase of the serum behind that of the acid phosphatase and by the lack of conspicuous formation of bone in the new areas of involvement.

SUMMARY

1. Examination of tissue from untreated neoplasms of bone shows that (a) benign osteochondromas and giant cell tumors produce little phosphatase; (b) some osteogenic sarcomas produce little phosphatase; (c) some osteogenic sarcomas produce abundant phosphatase which does not enter the circulation readily, and (d) some osteogenic sarcomas produce phosphatase which enters the circulation and can be measured in the serum. The phosphatase-producing mechanism of most of these tumors is inactivated by radiation therapy when the tissue dose equals or exceeds 4,000 roentgens. Smaller doses cause only irregular or incomplete inactivation.

2. In patients with osteogenic sarcoma having elevated serum phosphatase values, the changes in phosphatase afford a prompt indication of the effect of radiation therapy.

3. Radioactive phosphorus given by mouth localizes in the portions of tissue of osteogenic sarcoma which contain the most phosphatase.

4. Serum phosphatase determinations indicate the effectiveness of radiation therapy of metastatic tumors of bone only after sufficient time has elapsed for some healing to take place.

5. Determinations of the acid and alkaline phosphatase in the serum of patients with carcinoma of the prostate metastatic to bone make it possible to follow the activity of both the metastatic tumor and the regeneration of bone.

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CLINICAL TETANUS

TREATMENT IN 100 CONSECUTIVE CASES WITH A
NET MORTALITY RATE OF 19 PER CENT

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The death rate cited by various authors in cases of tetanus has usually varied from 50 to 70 per cent, or occasionally even higher. In a previous report¹ our experience indicated that regardless of age, sex, incubation period, site or type of injury and provided that each patient received an initial therapeutic dose of 100,000 units of antitoxin and a total dose under 200,000 units the death rate remained approximately 50 per cent. Paterson² reported a death rate of 27 per cent among 26 patients, all children, and the net mortality rate reported by Yodh,³ whose method of therapy is similar to ours, was 29.4 per cent in a series of 438 patients. Net rates are those which are determined from the group of patients who survive for a period longer than twenty-four hours after first being seen by the therapist.

Therefore, any method of management which achieves a lower mortality rate may be worth reporting. No

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1. Vener, H. I.; Bower, A. G., and McKillop, J. E.: *Clinical Tetanus. A Study of One Hundred and Thirty-One Cases*, California & West. Med. 39: 6 (Dec.) 1933.

2. Paterson, A. E.: *Tetanus: Its Diagnosis and Treatment*, with Summary of Twenty-Six Consecutive Cases, M. J. Australia 1: 832 (June 28) 1930.

3. Yodh, B. B.: *Observations on the Treatment of Tetanus*, Brit. M. J. 2: 589 (Sept. 24) 1932; *ibid.* 1: 855 (April 24) 1937.

8. Gutman, A. B., and Gutman, Ethel B.: An "Acid" Phosphatase Occurring in the Serum of Patients with Metastasizing Carcinoma of the Prostate Gland, J. Clin. Investigation 17: 473 (July) 1938.

9. Harringer, B. S., and Woodward, Helen Q.: Prostatic Carcinoma with Extensive Intraprostatic Calcification, Tr. Am. A. Genito-Urin. Surgeons 31: 363, 1938.

hard and fast rules may be applied to management, but we believe that the general principles previously reported⁴ and further exemplified in this report are of practical value. In our series of 100 patients, 29 deaths occurred, a gross fatality rate of 29 per cent. Twelve

(none receiving more than 230,000) only 7 deaths occurred, the mortality rate being 9.7 per cent (table 3). After this dose no additional large doses of serum are administered unless they are absolutely indicated or the case is exceptional.

Approximately 50 per cent of the patients were admitted with a history of symptoms for three days or longer and frequently in severe convulsions.

TABLE 1.—*Tetanus: Mortality Rates by Age Groups and Sex*

Age Groups	Males			Females			Totals		
	Cases	Deaths	Case Fatal-ity Rate, Percentage	Cases	Deaths	Case Fatal-ity Rate, Percentage	Cases	Deaths	Case Fatal-ity Rate, Percentage
Under 1.....	1	1	100.0	0	0	.....	1	1	100.0
1-4.....	7	2	28.5	7	5	71.4	14	7	50.0
5-9.....	21	3	14.3	8	1	12.5	29	4	13.8
10-14.....	15	1	6.6	1	0	.....	16	1	6.2
15-19.....	10	3	30.0	1	1	100.0	11	4	36.3
20-24.....	3	0	.....	0	0	.....	3	0	.....
25-29.....	3	2	66.6	2	1	50.0	5	3	60.0
30-34.....	2	0	.....	1	1	100.0	3	1	33.3
35-39.....	1	0	.....	1	0	.....	2	0	.....
40-44.....	1	1	100.0	1	1	100.0	2	2	100.0
45-49.....	2	0	.....	0	0	.....	2	0	.....
50-54.....	4	1	25.0	1	1	100.0	5	2	40.0
55-59.....	2	1	50.0	0	0	.....	2	1	50.0
60.....	3	1	33.3	2	2	100.0	5	3	60.0
Totals.....	75	16	21.3	25	13	52.0	100	29	29.0

patients died within the first twenty-four hours of hospitalization, leaving 88 patients who survived longer than twenty-four hours. In the latter group 17 deaths occurred, a net mortality rate of 19.3 per cent.

FACTORS IN PROGNOSIS

Sex.—The total group comprised 75 males and 25 females. Among the males 16 deaths occurred, a mortality rate of 21.3 per cent; among the females 13 deaths occurred, a mortality rate of 52 per cent. Apparently some factors still have to be solved concerning the cause for this high rate among females. However, until the number of females treated is greater the results cannot be fairly interpreted.

Age.—The mortality rate for the various age groups is shown in table 1. The best results were obtained in the group of patients aged 10 to 14 years, with a mortality rate of 6.2 per cent, and the next best in the group of patients aged 5 to 9 years, with a rate of 13.8 per cent. No material change has been achieved in the mortality rates of children under 5 years and adults over 40. It is the exception to have a patient over the age of 60 survive.

Incubation Period.—This factor plays an important part in the prognosis. Under our method of management a patient with an incubation period of six days or longer has approximately a 75 to 80 per cent chance of recovery (table 2), in contrast to a 23 per cent chance when the period is under six days. It is likely that if data on some of the cases grouped under "unknown" could be obtained the foregoing rates would be altered.

Dose of Antitoxin.—The prime object in the management of tetanus is to administer a minimum dose of 200,000 units of antitoxin in a definite period of twenty-four to thirty-six hours. Thereafter we refrain from disturbing the patient for a period of ten days to two weeks, except for giving 1,500 units every four days in order to maintain desensitization until complete recovery or death ensues. In 72 instances in which patients received 200,000 or more units of antitoxin

ACTIVE MANAGEMENT

Each patient with tetanus represents a surgical emergency. Regardless of the mildness of symptoms, immediate action is taken. For the sake of brevity and to avoid confusion we choose a hypothetical case and follow its schematic management during the first thirty-six to forty-eight hours of hospitalization. Unless otherwise specified, the time intervals are usually the ones followed, but the naming of the hours is for clarity only.

1. **Preliminary Procedures.**—Patient is admitted to diagnostic ward, at 9 a. m. The history is obtained, a physical examination is performed with a minimum of disturbance to the patient, the focus of infection is found, if possible, and a serum test is done on the skin for sensitivity.

2. **Sedation.**—At 9:30 a. m. chloral hydrate, 10 to 30 grains (0.65 to 2 Gm.), depending on the size and age of the patient, is given orally. If the patient is unable to swallow, the drug is given in combination with the same amount of calcium bromide by retention enema. Deep narcosis must be avoided, as it frequently results in various adverse metabolic changes. Occasionally the dose cited may have to be repeated, or else supplemented with 3 to 5 grains (0.2 to 0.32 Gm.) of soluble phenobarbital given intravenously. If possible, about one hour should elapse before other treatment is begun.

3. **Local Treatment of Wound.**—At 11 a. m. 20,000 units of antitoxin is injected completely around the lesion. Frequently, if the location of the wound permits, the dose of antitoxin is preceded by local infiltration

TABLE 2.—*Tetanus: Mortality Rates by Sex and Incubation Periods*

Incubation Period, Days	Males			Females			Totals		
	Cases	Deaths	Case Fatal-ity Rate, Percentage	Cases	Deaths	Case Fatal-ity Rate, Percentage	Cases	Deaths	Case Fatal-ity Rate, Percentage
Less than 3.....	0	0	.....	0	0	.....	0	0	.....
3.....	2	1	50.0	0	0	.....	2	1	50.0
4.....	0	0	.....	2	2	100.0	2	2	100.0
5.....	5	4	80.0	4	3	75.0	9	7	77.7
6.....	8	1	12.5	2	2	100.0	10	3	30.0
7.....	7	1	14.2	4	1	25.0	11	2	18.1
8.....	4	1	25.0	1	0	.....	5	1	20.0
9.....	5	1	20.0	0	0	.....	5	1	20.0
10.....	7	3	42.8	1	0	.....	8	3	37.5
11.....	3	1	33.3	1	0	.....	4	1	25.0
12.....	2	0	.....	1	0	.....	3	0	.....
13.....	0	0	.....	0	0	.....	0	0	.....
14.....	2	0	.....	0	0	.....	2	0	.....
15.....	6	0	.....	2	0	.....	8	0	.....
Unknown.....	24	3	12.5	7	5	71.4	31	8	25.8
Totals.....	75	16	21.3	25	13	52.0	100	29	29.0

with procaine hydrochloride. After a pause of forty-five to sixty minutes the focus is incised widely or excised thoroughly, whichever procedure is applicable. Care is used to keep the excision within the area encircled by the antitoxin. All foreign material must be eradicated, regardless of how innocent the lesion may appear. The area is treated subsequently as though infected, and hot compresses of potassium permanganate are

4. Vener, H. I.: Treatment of Tetanus: Preliminary Report, California & West. Med. 4S:3 (March) 1938.

applied. In some instances, if a finger or toe is involved in the focus, the digit is amputated. Here individual judgment applies.

4. *Medication.*—Intramuscular Injection of Antitoxin: Before any surgical intervention 60,000 units of antitoxin is injected deep intramuscularly, girdling the extremity of the part involved; when possible, the injection is made at the junction of the upper and middle thirds of the infected part's proximal portion. This procedure may serve as a possible barrier to the progress of toxin along the course of the nerve trunks.

Cisternal Therapy: At 2 p. m., if sedation is sufficient, cisternal therapy presents no difficulty in our experience; if it is insufficient, further sedation may be given by methods previously indicated. The occipital area is shaved, and under aseptic technic cisternal puncture is done; about 10 cc. of fluid is removed and 20,000 units of antitoxin previously warmed to body temperature is injected slowly by gravity. Following this, the rectal temperature may become elevated to 102 to 106 F. within a few hours, but this usually subsides within eight to ten hours. Hourly readings are made, and when the rectal temperature has receded to about 102 F., the next step is performed.

Initial Intravenous Injection of Antitoxin: At 10 p. m. 40,000 units of antitoxin diluted in 300 to 500 cc. of physiologic solution of sodium chloride is administered, regardless of the age or size of the patient. The flow is by gravity and is slow, at least one hour being allowed for completion. Precautions against anaphylactic shock are observed. Five to six minutes preceding this intravenous injection 5 minims (0.31 cc.) of epinephrine is given hypodermically, the dose to be repeated midway in and at the completion of the procedure. An additional precaution against serum sensitivity is the blood pressure test. The blood pressure is taken, and 0.1 cc. of the serum diluted with 9.9 cc. of physiologic solution of sodium chloride is administered intravenously. Blood pressure readings are recorded at five minute intervals, and if the systolic pressure has not dropped more than 20 points at the end of twenty minutes the patient is not particularly sensitive. Experience has demonstrated that serum reactions occur less frequently if the antitoxin is kept at room temperature for twenty-four hours prior to its use and warmed in a lukewarm water bath for twenty to thirty minutes immediately before use.

Methenamine Given Intravenously: At 1 a. m., two hours after the intravenous injection of antitoxin, 15 grains (1 Gm.) of methenamine is given intravenously. This drug constitutes an integral part of the management. Among the theoretical reasons for the use of methenamine are the following: (a) alteration of the choroid plexus, allowing greater permeability to the antitoxin; (b) antiseptics by the liberation of formic acid in the blood stream; (c) phylaxis by altering the colloids in the nerve cells and (d) some unexplained direct action on the tetanus toxin. We believe that the first possibility is the most probable.

Second Intravenous Injection of Antitoxin: At 2 a. m., one hour after the injection of methenamine, if no reaction has ensued from the first intravenous use of antitoxin, 20,000 additional units is administered by vein in 300 to 500 cc. of physiologic solution of sodium chloride (as in procedure 6), all the precautions previously described being observed. If a febrile reaction follows the first intravenous dose of antitoxin, the second intravenous dose is held in temporary abeyance.

If anaphylaxis, a severe chill or any other untoward reaction occurs the second intravenous dose of antitoxin is not given.

Intramuscular Injection of Antitoxin: Approximately twelve hours after the second intravenous dose

TABLE 3.—Tetanus: Dosage and Deaths, Showing Distribution by Sex

Dosage, Units in Thousands	Males			Females			Totals		
	Cases	Deaths	Case Fatal- ity Rate, Percentage	Cases	Deaths	Case Fatal- ity Rate, Percentage	Cases	Deaths	Case Fatal- ity Rate, Percentage
20.....	2	2	100.0	0	0	.....	2	2	100.0
40.....	1	1	100.0	0	0	.....	1	1	100.0
60.....	0	0	.....	1	1	100.0	1	1	100.0
80.....	0	0	.....	1	1	100.0	1	1	100.0
100.....	2	2	100.0	2	2	100.0	4	4	100.0
120.....	1	1	100.0	0	0	.....	1	1	100.0
140.....	2	2	100.0	1	1	100.0	3	3	100.0
160.....	6	2	33.3	2	2	100.0	8	4	50.0
180.....	4	3	75.0	3	2	66.6	7	5	71.4
200.....	39	2	5.1	11	3	27.2	50	5	10.0
220.....	12	1	8.3	2	0	.....	14	1	7.1
230.....	6	0	0	2	1	50.0	8	1	12.5
Totals.....	75	16	21.3	25	13	52.0	100	29	29.0

the final 40,000 units of antitoxin is injected deep intramuscularly (as described under Intramuscular Injection of Antitoxin) just proximal to the previous site of injection. When for any reason the second intravenous dose of antitoxin is omitted the final intramuscular dose is increased to 60,000 units.

Methenamine: Fifteen grains (1 Gm.) of the drug is given intravenously as before, ten to twelve hours after each intramuscular injection of antitoxin.

Subsequent Antitoxin: A total dose of 200,000 units of antitoxin has now been administered within thirty to thirty-six hours after admission. Additional large doses are not given unless the patient has a relapse. (No patient in our series received more than 230,000 units.) The progress of the patient is observed and general bedside nursing care continued. The ordinary prophylactic dose of 1,500 units of antitoxin is given subcutaneously at four or five day intervals for four doses, to keep the patient desensitized. If the possibility of future orthopedic or other surgical measures exist these desensitizing doses are continued for a period of two weeks after the surgical intervention. If this precaution is not observed relapses do occur.

If a patient is especially sensitive to horse serum or subject to some type of allergy, or previously has received prophylactic antitoxin followed by a subsequent serum reaction and tetanus, the cisternal and intravenous procedures are omitted. In this event all antitoxin is divided into two intramuscular injections of 100,000 units each, given at twelve to eighteen hour intervals and followed by methenamine as previously described.

SUMMARY OF ACTIVE THERAPY

Active therapy consists of (1) preliminary procedures; (2) sedation, of adequate nature; (3) local treatment of wound; (4) antitoxin therapy: (a) locally 20,000 units, (b) intramuscularly 60,000 units, (c) cisternally 20,000 units, (d) intravenously 40,000 units in physiologic solution of sodium chloride; dose is repeated in three hours with 20,000 units if no reaction has ensued, (e) intramuscularly 40,000 units proximal to previous site of injection, to make a total dose of 200,000 units given within a period of thirty to thirty-six hours after hospitalization, and (5) methen-

amine, 15 grains (1 Gm.), given intravenously two hours after the first intravenous dose of 40,000 units of serum and ten to twelve hours after each of the large intramuscular doses of antitoxin.

GENERAL BEDSIDE MANAGEMENT

Fluids.—The patient is given all the fluids orally that can be tolerated without causing severe convulsions. If he is unable to swallow, dextrose, saline solution or a combination of dextrose and saline may be given intravenously. Hypodermoclysis is not well tolerated and causes restlessness. In the average case a maximum of 1,500 cc. daily suffices. Excessive use of fluids may induce pulmonary edema, hypostatic pneumonia or cardiac dilatation. After the first few days, with some assistance the average patient is able to swallow fluids.

Oral Hygiene.—Strict asepsis must be observed; otherwise aspiration pneumonia may result. Proper oral hygiene may be maintained by gentle suction or frequent gentle cleansing of the mouth and nasal passages.

Posture.—To avoid pulmonary complications, frequent changes in position are essential. The dorsal posture must be avoided as much as possible, but resting on either side or on the abdomen results in adequate rest for the patient.

Sinusitis.—Excessive sedation and poor oral and nasal hygiene associated with rapid shallow respirations tend to produce sinusitis and secondary aspiration pneumonia. These may be avoided by postural drainage (by moderate elevation of the foot of the bed) and by adequate shrinkage of the mucous membrane of the nose at frequent intervals.

Pneumonia.—This is the most frequent complication and when it occurs usually terminates in death. Typing for pneumococcus and the use of sulfanilamide or its derivatives have been of help on a few occasions.

Serum Sickness and Urticaria.—These occur frequently between the fifth and tenth days. Drugs used for these complications have been ephedrine, acetylsalicylic acid, calcium bromide, calcium gluconate and compound calamine lotion. Tincture of apis, 5 to 15 minims (0.3 to 0.9 cc.) four times daily, has frequently been of distinct value. We have had no experience with histaminase. Despite the advancement made in recent years in refining antitoxin, serum sickness developed in approximately 39 per cent of these patients. Within the past year, however, samples of serum furnished by several biologic firms for clinical trial have produced relatively little serum reaction or sickness.

Sedation.—In the average case, chloral hydrate, singly or in combination with sodium or calcium bromide (10 to 40 grains [0.65 to 2.6 Gm.] of each, depending on the age and size of the patient) is administered by retention enemas at two to four hour intervals. If major convulsions continue, soluble phenobarbital may be given intravenously in addition. Wild seizures or spasms are not an indication for excessive sedation. Opiates are distinctly avoided, excepting occasionally for pain after major surgical intervention. If convulsions continue to occur, paraldehyde by retention enema may be given. General inhalation anesthesia is not advised for patients with convulsions. If convulsions continue in spite of apparently adequate control measures, the prognosis is unfavorable. For general anesthesia, when amputation of digits or short surgical procedures are

to be done, pentothal sodium is given intravenously under the guidance of a competent anesthetist. For any major surgical intervention inhalation anesthesia is used.

Spasticity.—Following the total amount of antitoxin given the patient within the first thirty-six hours of hospitalization, the trismus and the muscular rigidity of the muscles of the neck, back and abdomen persist for some time. The general condition, however, remains good. The average hospital stay of a patient with uncomplicated tetanus is about three weeks.

The Heart.—Death in tetanus is not due to cardiac complication but usually to respiratory failure during a convulsion. The last 15 patients who had electrocardiographic tracings taken within a few days after hospitalization revealed only axis deviation, sinus arrhythmia and tachycardia.

Compression Fractures of the Vertebrae.—In the last 9 cases in our study, two instances of fracture of the dorsal vertebrae were observed. One patient had a compression fracture of the sixth vertebra, and the other had involvement of the fourth, fifth, sixth, seventh and eighth; both patients made uneventful recoveries. Roentgenograms of the dorsal vertebrae are now taken of all patients prior to dismissal from the hospital.

Other Complications.—Encountered at times are abscesses, generalized furunculosis, mastoiditis with lateral sinus thrombosis, hemorrhagic nephritis, septicemia, uremia, pulmonary edema and lung abscess.

Diet.—Liquids usually suffice during the first week of management. The fluid diet is generally changed gradually to a semisoft or soft diet by the end of the second week.

Quiet.—The patient should be kept in a quiet, semi-dark room. A special effort should be made to avoid squeaky beds and doors, noisy elevators, bedside conversations, unnecessary examinations and hospital repairs in the vicinity of the patient's room. These annoyances cause convulsions, are extremely harmful and must be reduced to a minimum. Cotton or plastic antinoise ear stoppers fitted into the auditory canals are of distinct value in decreasing extrinsic noises.

Nursing Management.—Next in importance to antitoxin is good general nursing care. Common sense and a knowledge of the difficulties to be encountered must be appreciated by all nurses on the case. All unnecessary fussing with the patient must be avoided. Any hospital admitting many patients with tetanus during the year would do well to have nurses who have been trained in the management of the disease available for duty when the occasion demands it. Cessation of respiration is not an indication for signing a patient's death certificate, for with competent medical and nursing management and immediate measures for resuscitation patients have revived and completely recovered.

CONCLUSIONS

1. The treatment of 100 consecutive patients with tetanus in an identical manner resulted in a reduction of our gross mortality rate of 56.5 per cent in past years to a current rate of 29 per cent. If the patients dying during the first twenty-four hours of hospitalization are excluded, the series presents a net mortality rate of 19.3 per cent among 88 patients.

2. Despite the reduction in the mortality rate in the entire group, no material alteration was obtained among the 25 females, their rate remaining approximately 50 per cent, in contrast to the 21.3 per cent among the 75 males.

3. Our best results were obtained among children between the ages of 10 and 14 years, with a mortality rate of 6.2 per cent; the next best results were achieved among children between 5 and 9 years, with a rate of 13.8 per cent. The general mortality rate of 50 per cent was not materially affected in patients under the age of 4 years or over the age of 40.

4. A patient with an incubation period of six days or longer under this method of management has a 75 to 80 per cent chance of recovery, in contrast to the 50 per cent chance of those patients having a shorter incubation period.

5. The objective to be attained in management is to administer 200,000 units of antitoxin by various routes within thirty to thirty-six hours after hospitalization, regardless of all other factors, as in the hypothetical case of tetanus described.

6. Next to antitoxin therapy, practical bedside management of the disease and its commoner complications, under proper medical and nursing direction, is most important, and preferably nurses skilled in the care of patients with tetanus should be employed.

7. The results herein cited in our opinion warrant further trial to ascertain the ultimate value of the plan. Further studies are being conducted in additional groups of patients and will furnish a supplemental report.

GIARDIA LAMBLIA INFECTION IN MAN

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Leeuwenhoek in 1675, in examining his own stool, saw and described the protozoan now known as *Giardia lamblia*.¹ In 1859 Lambl described it under the name *Cercomonas intestinalis*. Stiles in 1915 placed it in the genus *Giardia*, calling it *Giardia lamblia*.

The incidence of infection with *Giardia lamblia* varies markedly with the geographic location. It is much more frequently encountered in tropical and subtropical climates than in the temperate zone. Incidence in the United States has been found by Hegner, Root, Augustine and Huff² to average 12 per cent. In examinations of the stools of 1,539 selected patients and food handlers in the University of Chicago Clinics, this parasite was found in twenty-three instances (1.5 per cent). This incidence is considerably lower than that usually found in the North Temperate Zone. A probable explanation of this finding may be found in the fact that a higher income level with the concomitant better hygienic living conditions prevails in the group studied. Of the 23 subjects 16 were men and 7 women. A predominance of the disease in men has been observed by other workers. The parasite was encountered more frequently in younger persons. Ages varied from 20 to 56 years, with an average of 30 and a median of 26. There was no opportunity to include children, in

whom Véghelyi³ has found the infection to be attended by more severe symptoms, because the lower age limit of the clinic is 15 years. Six patients harbored other parasites besides *Giardia*, as is shown in table 1.

Salmonella paratyphi (*Bacillus paratyphosus* A) was present in the stools of 1 patient. No other significant organisms were found in routine bacterial culture of the stools of the remaining patients, and the serum titer of agglutinins against the intestinal pathogens was within normal range. The length of time that the patients were known to have harbored *Giardia lamblia* varied from five years to a few weeks.

Opportunity was afforded us to study 14 of the patients in detail. It was impossible to follow 9 in the manner we desired, although 5 of these, who were treated with atabrine, were known to have improved clinically and the organisms disappeared from their stools.

The pathogenicity of *lamblia* has been the center of considerable controversy for some time. One of the difficulties in evaluating the pathologic significance of this parasite lay in the fact that there was no certain means of eradicating it, as has been noted by Miles and Culbertson.⁴ With the introduction of atabrine therapy for giardiasis by Galli-Valerio⁵ this difficulty was overcome. Numerous European workers have been able to confirm the efficacy of this drug as a lamblicide. In the United States, Morrison and Swalm⁶ have reported good results in 9 out of 10 cases.

A careful study of the 14 patients before and after the administration of atabrine dihydrochloride was made for the purpose of evaluating the efficacy of the drug and the pathogenicity of the organism. In addition to a detailed history of the onset and course of the patient's illness, the usual physical examination and laboratory analyses were made. Studies of the duodenal content removed by duodenal drainage were carried out in each case, and gastroscopic examinations were made in 10 cases. After the course of atabrine therapy had been completed, each patient was interviewed and stools were examined at intervals for at least eight weeks and in some instances as long as five months.

The symptoms or complaints of patients infected with *Giardia* were, in order of frequency, diarrhea, fatigue and weakness, abdominal pain with flatus, blood in the stools, insomnia, dizziness, nervousness and loss of weight.

The blood of all the patients was found to be normal except for 1 patient with pernicious anemia. This person, as well as one other with unexplained splenomegaly, had achlorhydria proved by a histamine test. Routine examination of the urine showed nothing abnormal. Blood was found in the stools of 4 patients by the benzidine technic but could be explained by coexisting disorders such as hemorrhoids and regional enteritis. Wenyon⁷ found that "blood never occurs in pure *Giardia* infections." Although some authors, notably MacPhee and Walker⁸ have expressed the

3. Véghelyi, Peter: Giardiasis in Children, *Am. J. Dis. Child.* **56**: 1231-1241 (Dec.) 1938; Celiac Disease Imitated by Giardiasis, *ibid.* **57**: 894-899 (April) 1939; Giardiasis, *ibid.* **59**: 793-804 (April) 1940.

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7. Wenyon, C. M.: Protozoology, New York, William Wood & Company, 1926, p. 704.

8. MacPhee, Lee, and Walker, B. S.: Intestinal Giardiasis in New England, *Am. J. Digest. Dis. & Nutrition* **1**: 768-772 (Jan.) 1935.

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1. Dobell, Clifford: The Discovery of the Intestinal Protozoa of Man, *Proc. Roy. Soc. Med.* **13**: 1-15 (Dec. 17) 1920.

2. Hegner, Robert; Root, F. M.; Augustine, D. L., and Huff, C. G.: Para-Intology, New York, D. Appleton-Century Company, Inc., 1928.

belief that severe biliary symptoms are associated with giardiasis, gallbladder disease did not seem to play a

TABLE 1.—Incidence of Parasites Other Than *Giardia Lamblia* in Six Patients

Cysts of <i>Endamoeba histolytica</i> , <i>Endamoeba coli</i> , <i>Endolimax nana</i> , and <i>Trichomonas hominis</i>	1
Cysts of <i>Endamoeba coli</i>	2
Cysts of <i>Endamoeba histolytica</i>	2
<i>Trichomonas hominis</i>	1
	6

part in any of our cases. Cholecystograms were not taken as a routine, but visualization of the gallbladder of patients who were examined with roentgen rays was normal.

tions to the drug, although some patients complained of more frequent stools during the first day or two of medication.

The important change after therapy was cessation of the diarrhea. In some instances there was an increased feeling of well-being.

Atabrine therapy was effective in freeing all patients treated of their infection. A second course of treatment was required in only 1 case. In 4 cases, in which daily stools were examined during the course of treatment, the *Giardia* cysts had disappeared by the third day. Patients found infected with other parasites besides *Giardia* were not freed of them with the atabrine dihydrochloride.

COMMENT

There seems to us little reason to doubt that *Giardia lamblia* can cause diarrhea. However, in those cases

TABLE 2.—Effectiveness of Atabrine Therapy and Pathogenicity of *Giardia Lamblia* in Fourteen Patients

Patient	Age	Sex	Period Observed	Symptoms	Free Hydrochloric Acid	Gastroscopic Examination	Stools		Duodenal Drainage	
							Before	After	Before	After
S. H.*	31	♀	1935-1940	Diarrhea intermittent (pernicious anemia)	0	Atrophic gastritis of entire stomach	Positive	Negative	Positive	Not done
D. W.	25	♀	1930-1940	Alternating diarrhea, weight loss and weakness	117	Normal	Positive	Negative	Positive	Negative
J. K.	20	♂	1939-1940	Diarrhea; insomnia, weakness	142	Normal	Positive	Negative	Positive	Not done
L. R.	28	♂	1939-1940	Loose stools, gastric distress and fatigue	73	Normal	Positive	Negative	Positive	Negative
V. B.	38	♂	1938-1940	Loss of weight, diarrhea, fatigue, dizziness	95	Mild hypertrophic gastritis	Positive	Negative	Negative	Not done
J. B.	21	♂	1939-1940	Diarrhea alternating with constipation, rumbling and gurgling	100	Normal	Negative†	Negative	Negative	Not done
J. P.	52	♂	1938-1940	Pain in left side; dull gastric pains	114	Normal	Positive	Negative	Positive	Not done
G. N.	36	♂	3/22/40-4/16/40	Alternating diarrhea with constipation	117	Small area of hypertrophic gastritis	Positive	Negative	Positive	Negative
G. S.‡	22	♂	12/9/39-2/1/40	Diarrhea with hemorrhage from bowel	Not done	Not done	Positive	Negative	Positive	Not done
A. G.	35	♂	1938-1940	Diarrhea with gas and bloating	88	Normal	Positive	Negative	Positive	Not done
M. T.	56	♀	1939-1940	Diarrhea, weakness, jaundice (splenomegaly)	0	Hypertrophic gastritis	Positive	Negative	Positive	Not done
H. H.	26	♂	1940	Diarrhea, weight loss, abdominal cramps	74	Not done	Positive	Negative	Positive	Not done
L. P.	25	♂	1940	Abdominal cramps; sudden onset of diarrhea 3 yr. ago	(Ewald) 4	Not done	Positive	Negative	Positive	Negative
J. R.	25	♀	1940	Nervousness	Not done	Not done	Positive	Negative	Positive	Not done

* Second course of atabrine therapy was required to obtain negative stools.

† Stools became negative for *Giardia* before atabrine dihydrochloride was given and diarrhea stopped.

‡ Patient had exploratory laparotomy which revealed possible regional enteritis.

Duodenal drainage was done by the Lyon technic and the tip of the tube checked by fluoroscopy for its whereabouts in the small intestine. Samples were taken at various levels and showed the vegetative forms of *Giardia* in all but 2 cases. The parasite was usually found in the ascending limb of the duodenum. In the cases in which the vegetative forms could not be found after repeated drainage, the parasites were probably harbored elsewhere in the intestine. The microscopic appearance of the contents of the duodenum was normal in most instances, although occasionally there was excessive exfoliation of mucosal cells. Duodenal drainage after the administration of atabrine dihydrochloride did not reveal the vegetative form in a single case. Schindler⁹ described the presence of gastritis associated with giardiasis. Only 4 of 10 patients showed gastritis, 1 atrophic (pernicious anemia) and 3 hypertrophic.

The treatment consisted of administering 0.1 Gm. (1½ grains) of atabrine dihydrochloride orally three times a day for five days. There were no severe reac-

in which the infection was known to have been of long duration the diarrhea was intermittent and not persistent. Atabrine dihydrochloride is highly effective in eradicating the parasite. The toxic effect of the drug is slight. Consequently the routine treatment of giardiasis with atabrine dihydrochloride is in order. However, there is no evidence that *Giardia lamblia* is able to invade tissue. In some cases, vague abdominal symptoms persist after therapy, thus suggesting that the initial symptoms may not have been due to the infection with *Giardia lamblia*.

CONCLUSIONS

1. Infection with *Giardia lamblia* is often encountered in patients with moderate or intermittent diarrhea, with mild digestive symptoms and without the presence of occult blood in the feces.

2. The symptoms often, but not invariably, disappear after the eradication of the parasite. In our limited experience, the diarrhea invariably disappeared.

3. Atabrine dihydrochloride is a highly satisfactory drug for the treatment of giardiasis.

9. Schindler, Rudolph: *Gastroscopy*, Chicago, University of Chicago Press, 1937, p. 189.

TORULA MENINGOENCEPHALITIS

REPORT OF A CASE; OBSERVATION OF THE
CEREBROSPINAL FLUID

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Instances of proved torulosis are rare. In Johns and Attaway's summary,¹ published in 1933, 46 cases of torulosis were described of which only 31 had occurred in the United States. In discussing Cabot's case² Mallory stated in 1934 that he had seen an unpublished manuscript in which approximately 80 cases of torulosis were mentioned. Since then about 15 additional cases have been reported. The diagnosis was established before death in only about half of these cases, but the disease was not even suspected in a considerable number until an examination of microscopic sections had revealed the true nature of the condition.

The case which is the subject of our report was somewhat unusual because of the fact that the etiologic agent was demonstrated early in the course of illness and because of the relative acuteness of the disease. Only three other reported instances of torulosis have been of less than a month's duration.³

REPORT OF CASE

History.—W. E., a man aged 63, a manufacturer of leather goods, complained of fatigue on Oct. 3, 1938. Two days later, headache and anorexia confined him to bed. On October 6 icterus was noted; the temperature rose to 100 F. (37.8 C.) and vomiting ensued. Because these symptoms became more severe, the patient was admitted to the Syracuse Memorial Hospital on October 8.

Prior to the present illness the patient had been in good health. An appendectomy had been performed during 1935, and an atypical attack of pneumonia had occurred during January 1938. Weight had been about stationary at 160 pounds (73 Kg.). In 1936 a medical study had brought no abnormalities to light. About ten days before the onset of the present illness the patient had been caught in a hurricane and had undergone great physical exertion.

Examination.—On admission to the hospital the patient was well developed and well nourished, weak and apprehensive but mentally alert and cooperative. The temperature was 101 F. (38.3 C.) and the pulse rate was 64 beats a minute. The blood pressure was 136 mm. of mercury systolic and 70 mm. diastolic. The skin and scleras were icteric. The pupils were round, regular, equal and active to light and during accommodation. There were no ocular palsies. The margins of the disks were slightly blurred. The breath was foul and the tongue was dry and coated. The neck was supple. The heart sounds were rather faint but were not otherwise abnormal. The liver, which was palpable at the costal margin, was smooth and not tender. The reflexes were equal and normally active. The examination of the blood showed 4,600,000 erythrocytes per cubic millimeter and a content of hemoglobin which was 75 per cent of normal by the Sahli method. The count of leukocytes showed 14,400 per cubic millimeter, of which 88 per cent were polymorphonuclear leukocytes. The icterus index was 15 units.

The blood Wassermann reaction was negative. The urine contained a little albumin and occasional coarsely granular casts but no bile.

The most probable diagnosis seemed to be obstructive jaundice.

Clinical Course.—After rest in bed the patient was able to take fair amounts of fluid and some food by mouth, the vomiting stopped and the jaundice lessened. Although the patient was definitely improved, he was greatly depressed and seemed to be slightly confused. Some rigidity of the neck was noted at times; on other occasions this finding was absent. The level of the temperature rose slowly, but the pulse rate remained between 60 and 80. Because of these clinical developments and the history of the patient's having been caught in a hurricane, typhoid was considered. However, consistently negative cultures of the blood, urine and feces, negative reactions to the Widal agglutination test and subsequent observations ruled out this consideration.

Although the general condition had changed but little, lethargy was definite by October 14. While headache and photophobia had decreased, nuchal rigidity had increased. There was still no involvement of the cranial nerves, but the abdominal reflexes could no longer be elicited. The right knee jerk was sluggish; the left was not obtained. Kernig's sign was questionably present in each leg, but there was no ankle clonus. Babinski's reflex was not present. The results of additional laboratory studies were as follows: icterus index 7 units, red blood cells 4,300,000, hemoglobin 85 per cent and white blood cells 9,300, of which 78 per cent were polymorphonuclear leukocytes. The blood sugar and nonprotein nitrogen per hundred cubic centimeters of blood were respectively 125 mg. and 29 mg. A streptococcus of the gamma type and *Bacillus proteus* were cultured from the urine. The condition now suggested encephalitis and a lumbar puncture was done revealing an increased pressure in the cerebrospinal fluid. The fluid was clear, with a normal content of protein and sugar, but there was a slight pleocytosis.

Almost daily lumbar punctures were performed during the remaining two weeks of the patient's life. The cerebrospinal fluid was clear except for the final sample. The pressure was 450 mm. of water at first, but later it fell to 25 mm. as a result of the repeated drainage. There were between 18 and 68 cells per cubic millimeter, except for the final sample, in which the number was 192. The cells were all lymphocytes except in the last sample, in which 39 per cent were polymorphonuclear cells. Five determinations of sugar yielded values which varied between 43 and 59 mg. per hundred cubic centimeters. Two determinations of globulin fell within normal limits, and a single determination of chloride was 745 mg. per hundred cubic centimeters. The Wassermann reaction of the cerebrospinal fluid was negative; the gold curve was 0001000000. Cultures of the cerebrospinal fluid yielded a yeastlike organism which was identified as *Torula histolytica*. Numerous organisms were seen microscopically in the last three specimens of spinal fluid. Reexamination of earlier smears of the fluid also showed occasional organisms. These had been mistakenly identified as lymphocytes. Reexamination of the blood cultures, furthermore, also showed a sparse growth of *Torula histolytica* on a single blood agar plate.

The further course was characterized by a continuously elevated temperature, which ranged between 100 and 102 F. (37.8 and 38.9 C.), and a pulse rate which varied between 90 and 100. Lethargy continued, but at times the patient could be aroused sufficiently to talk to his attendants and to take an interest in his surroundings. On October 15 a twitching of the upper lip was noted; three days later difficulty in swallowing began. It became necessary to feed the patient by means of a tube. By October 21 he could neither speak nor swallow. Flaccidity and weakness of the left arm were noted, as were hyperactivity of the left ankle jerk, a positive Babinski reflex and ankle clonus. Frequent lumbar punctures gave only temporary relief. On October 26 a sudden redness and swelling of the left eye developed. Motion was promptly lost, and the eyeball became abnormally prominent. The fundus was edematous and the veins were engorged. On October 28 as a

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1. Johns, F. M., and Attaway, C. L.: *Torula Meningitis: Report of Cases and Summary of Literature*, *Am. J. Clin. Path.* 3: 459 (Nov.) 1933.

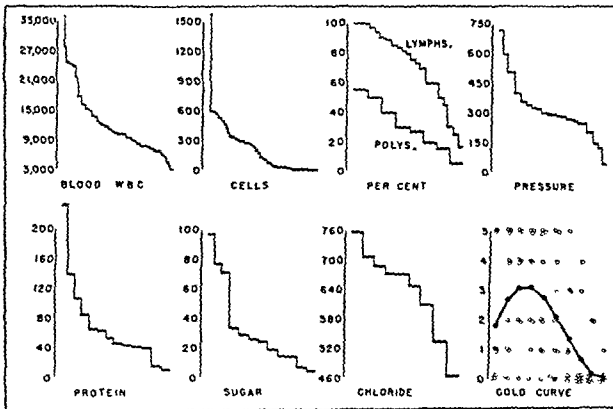
2. *Torula Meningitis: Lymphoblastoma, Hodgkin's Type* [Cabot Case 20241], *New England J. Med.* 210: 1291 (June 14) 1934.

3. Levin, E. A.: *Torula Infection of the Central Nervous System*, *Arch. Int. Med.* 59: 667 (April) 1937.

last resort, sulfanilamide was administered. Two doses of 0.16 Gm. were given intraspinally at twenty-four hour intervals, and 6 Gm. was given once subcutaneously. *Torula histolytica* was still present in the last sample of spinal fluid, which was obtained about five hours before death. Death occurred on the twenty-fifth day after the appearance of symptoms. The temperature rose terminally to 105.2 F. (40.7 C.), and the pulse rate reached 144.

Postmortem Examination.—A necropsy was performed six hours after death. The left eye was red and swollen. The gallbladder was moderately distended and contained several concretions. A few old fibrous adhesions were seen over the left upper lobe and scattered areas of fibrinous exudate over the surfaces of both left lobes. There were scattered, small abscesses in both lungs which were thought to be of several weeks' duration.

When the calvarium was removed, numerous prominent areas of arachnoidal granulation were noted. The superior sagittal sinus was filled with a fairly fresh blood clot, but there was no evidence of antemortem thrombosis. A thin, grayish exudate was present over the pia-arachnoid, especially on the left side in the frontotemporal region. When the brain was removed, a speckled, hemorrhagic area of the dura was seen which was adherent to the inner cranial surface of the frontal bone and to the wall of the orbit on the left side. The cavernous sinuses were filled with a reddish gray clot which resembled an infected thrombus. The gross examination was not otherwise remarkable.



Observations made on the spinal fluid and counts of leukocytes in the blood, from cases of torulosis reported in the literature.

The positive observations on microscopic examination were as follows: The lungs showed acute bronchitis and bronchopneumonia, with small abscesses. A hemorrhagic area, possibly an infarction, was present. No yeastlike organisms were found. In the liver a few areas of acute inflammation, usually about the portal veins, were seen. The kidneys showed a mild degree of tubular degeneration but no inflammatory reaction. The adrenals were focally infiltrated with lymphocytes, plasma cells and a few eosinophils. The aorta showed some arteriosclerosis, with areas of calcification. The most interesting changes concerned the central nervous system. There was extensive acute meningitis. Sections from the cortex and midbrain, including the basal ganglions, showed definite perivascular inflammation, with edema and thrombosis of some of the small vessels. There were areas of degeneration in the midbrain, with a considerable infiltration of large mononuclear phagocytes. Numerous small yeastlike organisms were identified in the meninges and brain. One large vessel in the brain, as well as several in the meninges, contained bacterial colonies apparently composed of coccus forms. In the walls of the cavernous sinus were areas of acute inflammation.

ETIOLOGIC AGENT

The strain of *Torula histolytica* isolated from our patient was similar to other strains identified as this organism. The yeastlike cells were generally spherical

and about the size of erythrocytes. Young cells examined by the hanging drop method appeared doubly contoured and highly refractile. Budding was evident, but more than a single bud per cell was rarely seen. The cytoplasm of the cell was finely granular. No mycelium was observed. The cells found in old cultures were thick walled, the prominent outer shell being of varying thickness. Some of the shells appeared to be in the process of being shed. Numerous smaller cells surrounded by a thin membrane were also present. The contents of some of the larger cells were coarsely granular and were arranged in globular fashion. These observations are consistent with those of Todd and Herrmann,⁴ who proposed that the various forms noted represent stages in a life cycle.

Growth of the organisms occurred on plain agar, rabbit's blood agar and Sabouraud's agar, pinpoint colonies appearing on the enriched medium during the third day of incubation at 37 C. Multiplication of the cells took place in the cerebrospinal fluid, which was kept at room temperature. It also occurred in nutrient broth. Colonies on the solid mediums were creamy white and droplet shaped. On aging, the colonies became darker, approximating a tan shade. The growth on agar slants seemed to flow downward during the several weeks of observation. Nutrient broths, containing 1 per cent of dextrose, levulose, mannose, galactose and sucrose, supported the growth of the organism. Each of these sugars was fermented in from four to six days without the formation of gas. Maltose, lactose, xylose, mannitol and sorbitol were not fermented.

Our strain of *Torula histolytica* was found to be pathogenic for mice. Of 30 adult white mice in which 1 cc. amounts of a moderately dense suspension of the culture were injected intraperitoneally, 26 died within a period of five to twenty-four days. (The average was about ten days.) The organisms were recovered from the animal tissues in pure culture, but no gross lesions were noted. The intracranial injection of smaller amounts of the culture was uniformly fatal for 20 mice, the survival period being from two to twenty-two days. (The average was about seven days.) Two rabbits and 2 guinea pigs in which 5 cc. amounts of the culture were injected intraperitoneally survived. One rabbit that was inoculated through the scarified cornea died; a pure culture was obtained from its brain.

RECORDED CHANGES IN THE CEREBROSPINAL FLUID

The reports of most of the cases to which reference is made in the extensive bibliographies of Levin⁵ and of Crone, DeGroat and Wahlin⁶ have been examined for the data presented on the cerebrospinal fluid. These data, plus the recorded counts of leukocytes in the blood, have been plotted in the accompanying chart. The data for our patient are not included. The values indicated in the various graphs have been distributed irrespectively of the phase of the disease.

The changes in the cerebrospinal fluid may be summarized as follows: The total number of cells was less than 600 in every instance except one, the majority being lymphocytes. The percentage of polymorphonuclear cells occasionally reached 55. (The number of leukocytes in the blood was, as a rule, slightly

4. Todd, Ramona L., and Herrmann, W. W.: The Life Cycle of the Organism Causing Yeast Meningitis, *J. Bact.* 32: 89 (July) 1936.
5. Crone, J. T.; DeGroat, A. F., and Wahlin, J. G.: *Torula* Infection, *Am. J. Path.* 13: 863 (Sept.) 1937.

increased.) The pressure was increased in most instances, but only exceptionally was it above 450 mm. of water. Values for protein were usually over 40 mg. per hundred cubic centimeters of cerebrospinal fluid. The majority of the sugar determinations were under 40 mg. per hundred cubic centimeters. Values for chloride ranged between 460 and 760 mg. per hundred cubic centimeters. A composite gold curve approached 2333321100, although the individual curves varied considerably.

The various microscopic and chemical determinations in the cerebrospinal fluid of our patient resembled those reported in other cases of torulosis. The five determinations of sugar, with values ranging between 43 and 59 mg. per hundred cubic centimeters, were somewhat higher than the average, but this finding may possibly be explained as due to the administration of large amounts of sugar.

SUMMARY

A fatal case of torulosis, occurring in a man, a manufacturer of leather, aged 63, was somewhat unusual because of the acuteness of the disease and because of the fact that the etiologic agent was demonstrated early in the course of illness.

Clinical Notes, Suggestions and New Instruments

PAROXYSMAL FLUTTER OF THE DIAPHRAGM SIMULATING CORONARY OCCLUSION:

FURTHER OBSERVATIONS ON AN EXTRAORDINARY CASE CONTROLLED
BY REFRIGERATION OF THE PHRENIC NERVE

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An extraordinary instance of paroxysmal flutter of the diaphragm with symptoms of angina pectoris was reported in 1936 by Porter¹ of Richmond, Va. Recently, Whitehead and Burnett of Denver and Lagen of San Francisco in a joint report² described interesting experiences with the same patient. The man appears to be a peripatetic transient, now about 60 years of age, who is admitted periodically to hospitals in various parts of the country seeking relief from attacks of acute precordial pain which are associated with and probably due to a remarkably rapid rhythmic fluttering movement of the diaphragm. It has been difficult to obtain a reliable medical history. The man is a pathologic liar and has greeted each of his medical examiners in recent years with fantastic life stories which agree only in their incredibility. He has been traced to a number of hospitals in different states under different names and has given widely dissimilar versions of his personal and medical history. Clinical features of his malady have, however, remained quite uniform. Previous observers have successfully controlled temporarily the paroxysms of pain and diaphragmatic flutter by injection of the phrenic nerves with procaine hydrochloride, and more lasting results were obtained by surgical procedures on the nerves. The episodes described in the present report on this patient are of interest because they represent painful attacks of flutter of the right leaf of the diaphragm, which were at first mistaken for coronary thrombosis and which were promptly controlled by chilling the skin overlying the right phrenic nerve with an ethyl chloride spray. The present study

is amplified by simultaneous electrocardiographic and phonocardiographic records which illustrate the immediate effect of the chilling procedure on the unusual flutter phenomenon.

SUMMARY OF PREVIOUS REPORTS

When first seen by Porter in 1935 the patient was suffering from acute precordial pain and collapse. He stated that he was a deep sea diver who had been inadequately decompressed and it was thought that he was suffering from caisson disease. An easily visible rapid tremor in the epigastrium was noted. This pulsation was synchronous with curious rhythmic adventitious sounds which were audible over the precordium at a rate of more than 300 a minute. The phenomenon was found to be due to a rapid rhythmic flutter of the diaphragm. An area of extreme hyperesthesia over the precordium and extending down the inner aspect of the left arm is illustrated in the report. The blocking of the left phrenic nerve with procaine hydrochloride resulted in prompt cessation of the flutter, immediate relief of pain, and paralysis of the left leaf of the diaphragm. These results were, however, only temporary, and when pain and flutter recurred several hours later relief was again obtained by procaine infiltration of the right phrenic nerve, complete palsy of the right side of the diaphragm resulting. A complete clinical study of the patient failed to reveal any demonstrable cause for the unusual phenomenon. The patient disappeared from observation but was traced to other hospitals in Eastern states.

The report by Whitehead and Burnett describes the patient's admission to the Colorado General Hospital on May 20, 1936. At that time he gave a different name and stated that he had been a miner and trapper all his life. He was suffering from severe precordial pain which radiated into the left arm. The clinical picture corresponded closely to that described by Porter, with definite precordial hyperesthesia, an essentially normal cardiac mechanism and rapid adventitious precordial sounds which were found to be due to fluttering movements of the diaphragm. Attempts to control the severe pain with opiates and with inhalations of oxygen and carbon dioxide mixtures were unsuccessful. Infiltration of the left phrenic nerve with procaine hydrochloride gave relief from the pain and flutter stopped for more than two days, after which time transient recurrences of both pain and flutter were noted. A left phrenicotomy was performed, June 3, 1936, and symptoms and flutter ceased promptly. The following day the body temperature rose to 112 F. This was apparently rechecked by a number of observers and no evidence of malingering could be detected. It was suggested by these observers that both the flutter phenomenon and the hyperpyrexia may have had hysteria as a basis. Three days after the phrenicotomy flutter recurred once more. The right phrenic nerve was then exposed and crushed, resulting in relief for another three days. Once more the pain recurred, but the uncooperative behavior of the patient made it difficult to verify the presence of transient flutter of the diaphragm at that time.

Dr. Lagen's postscript to the report of Whitehead and Burnett records the study of the patient when he was admitted to the University of California Hospital under the sixth traceable name. This time he stated that he was a Texas deputy sheriff who was stricken with his first attack of pain while chasing bandits. Lagen's observations were similar to those previously recorded. The patient suffered from precordial pain and hyperesthesia and showed evidence of rapid flutter of the diaphragm with audible swishing precordial sounds. It was concluded that recurrence of the flutter phenomenon, in spite of previous section of the phrenic nerve, suggested the presence of an accessory phrenic nerve on the left or of activity of the lower intercostal muscles. The left phrenic nerve was now avulsed in an attempt to stop the attacks, and both pain and flutter stopped promptly on the operating table when a faradic current was applied to the nerve prior to its excision. Complete relief of pain and cessation of the abnormal diaphragmatic movements followed removal of the nerve. Postoperative temperature rises as high as 107 F. were thought by the California observers to be due

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1. Porter, W. B.: Diaphragmatic Flutter with Symptoms of Angina Pectoris. *J. A. M. A.* 106:992 (March 21) 1936.

2. Whitehead, R. W.; Burnett, C. T., and Lagen, J. B.: Diaphragmatic Flutter with Symptoms Suggesting Angina Pectoris. *J. A. M. A.* 112:1237 (April 1) 1939.

to malingering. On his twelfth postoperative day he presented the picture of left-sided hemiplegia which was identified as hysterical in origin and which cleared promptly. On the thirteenth postoperative day, flutter of the right leaf of the diaphragm recurred and was associated once more with pain in the chest. Temporary relief was obtained with faradic stimulation through the skin of the right phrenic nerve and by

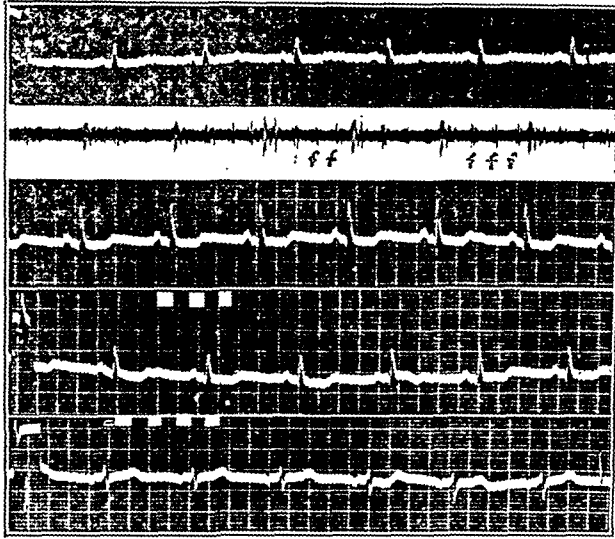


Fig. 1.—Electrocardiogram and stethogram taken at height of paroxysm. The stethogram, with a microphone over the apex of the heart, is synchronized with lead 2 of the electrocardiograph. Sounds due to a fluttering diaphragm (f, f, f, f, f) may be seen to be independent of the heart tones, which they almost obscure, and of the complexes of simultaneously recorded lead 2, which underlies the stethogram.

avertin with amylene hydrate anesthesia. The right phrenic nerve was finally exposed and the fibers which were not destroyed in the previous crushing operation were severed. No further evidence of flutter was noted. He was known to have been admitted the following month to another hospital in California with a recurrence of the flutter, and after signing his release returned the next day with hysterical hemiplegia.

REPORT OF PRESENT STUDY

The present report deals with observations on this patient beginning June 13, 1940. He was brought to the hospital at noon that day and stated that he had collapsed on the highway a short while before while walking in the hot sun. He complained bitterly of intense precordial pain, which, he said, began with such suddenness and severity that he was thrown to the pavement. The impression on admission was that he was suffering from acute coronary occlusion, and though he was given full doses of morphine he obtained only slight relief. When I first saw him five hours after his admission it was obvious that he was in severe distress. He was lying on his right side

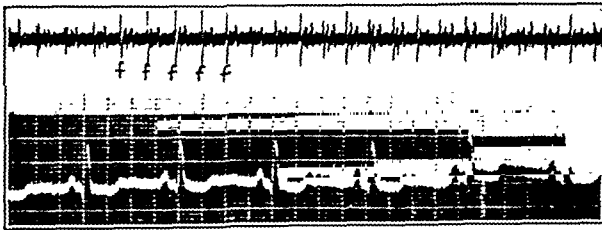


Fig. 2.—In lead 2 the electrocardiograph was synchronized with the phonocardiograph; a microphone was placed at level of the eighth rib in the anterior axillary line; f, f, f, f, f indicate flutter sounds.

grunting audibly with each breath. Periodically he winced with pain and clutched at his left breast as though lightning-like exacerbations of his pain had suddenly struck him. In spite of his apparent great distress he was able to give a fairly detailed account of his heroic exploits as a deep sea diver. However, he was garrulously evasive of the details of his recent

medical history. He did state that his case had been written up in *THE JOURNAL*, and he recalled the date of the report by Dr. Porter. The article was promptly consulted and the rather puzzling clinical phenomena were immediately explained.

His temperature was 98.4 F., the blood pressure was 110 systolic and 70 diastolic, and the radial pulse rate was 75 a minute, normal in rhythm and volume and equal on the two sides. The fundi showed moderate sclerosis of the larger retinal arteries but no appreciable arteriosclerosis. The mouth was edentulous; the tongue and pharynx were not remarkable. There was a deep linear scar extending downward from the middle of his lower lip due to an old injury, the story of which varied greatly each time it was told. Nothing of interest was noted in the neck save scars of the previous operations on the phrenic nerve. The scars themselves were somewhat tender to light touch. He was considerably under his normal weight and stated that he had lost much weight during the foregoing year while spending most of his time under water in a submarine. The thorax seemed to expand somewhat jerkily but equally on the two sides.

The percussion note as far as could be determined was everywhere resonant, though it was impossible properly to percuss the definitely hyperesthetic precordial area. It was likewise difficult accurately to outline the cardiac borders, though the impression was obtained that the heart was of normal contour and not significantly enlarged. Over the entire chest could be heard a rapid tapping, somewhat shuffling sound, regular in rhythm, the rate of which was around 300 a minute. It was found that by counting every other beat the rate could be fairly accurately determined. The sound was most distinctly heard over the base of the right lung and low in the right axilla. The sound seemed synchronous with a rapid pulsation which was visible in the intercostal spaces of the right lower part of the chest and in the epigastrium.

The abdominal examination revealed nothing abnormal. The genitalia and extremities were essentially normal. Neurologic examination was negative except for miosis due to morphine.



Fig. 3.—Simultaneous electrocardiogram (lead 2) and stethogram (microphone placed in posterior axillary line on right at level of ninth rib): (1) sounds due to flutter of diaphragm, rate about 300 per minute (arrow indicates beginning of spraying with ethyl chloride over phrenic nerve); (2) sound produced by deep breath; (3) electrocardiographic beam leaves film—patient moved arm; (4) ten seconds after the onset of the chilling maneuver—flutter sounds absent.

Fluoroscopic examination of the chest revealed an extraordinary picture. The heart was normal in size and contour. The left leaf of the diaphragm was high and immobile and overlaid an air-distended stomach. Paradoxical movement of this portion of the diaphragm was clearly evident. The right leaf of the diaphragm presented a most striking phenomenon of motility. Somewhat jerky but otherwise normal excursions of this structure could be seen which were synchronous with thoracic respirations. Superimposed on these movements were remarkably rapid oscillations, regularly rhythmic at a rate of about 300 a minute. The excursions of these smaller pulsations were about 1 cm., and the entire right leaf of the diaphragm was involved. Transmitted pulsations were visible along the border of the right side of the heart, superimposed on the normal cardiac contractions. Inhalation of 100 per cent oxygen gave considerable relief from the pain but did not affect the flutter.

In view of the respiratory distress and the already paralyzed left diaphragm it was with hesitation that interference with the phrenic nerve on the right side was attempted. It was suggested by Dr. James Conant that refrigeration of the right phrenic nerve be attempted. This was carried out with the patient in front of the fluoroscope so that the diaphragmatic movements could be directly observed. With the attachments of the electrocardiograph and the phonocardiograph in place, ethyl chloride was sprayed on the skin directly over the scar of the operation on the right phrenic nerve in the neck. Within ten seconds after the spraying of the refrigerant was begun the flutter sounds

were no longer audible on the microphone of the phonocardiograph, and the film subsequently confirmed the cessation of the flutter at this time. Within twenty seconds after the onset of the experiment the right diaphragm was seen to be high and completely immobile. It moved not at all with ordinary respiration, and the flutter was no longer visible. Within thirty seconds after the beginning of the spraying procedure the

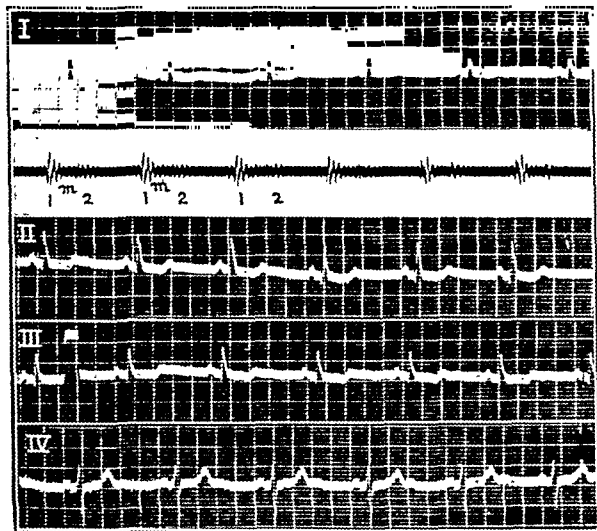


Fig. 4.—Electrocardiogram and simultaneous stethogram taken ten minutes after cessation of flutter. A microphone was placed at the apex and synchronized with lead 2. Systolic murmur (m) apparent; tones otherwise normal.

patient volunteered that the pain had suddenly ceased completely. Within a few moments after this, however, he complained of difficulty in breathing and soon became quite as frightened as did his medical observers. He became slightly cyanotic and breathed irregularly with gasping inspirations for the next two minutes. At the end of this time (approximately three minutes after the onset of the experiment) normal diaphragmatic descension was once more visible on the right and within five minutes of the beginning of the refrigeration maneuver the patient was lying quietly and breathing comfortably. He was now completely free from pain for the first time in thirty-six hours.

The cardiac mechanism was at this time clinically and electrocardiographically essentially normal. The heart tones, previously completely obscured by the flutter sounds and the respiratory grunts, were distinctly heard for the first time and were not unusual except for a short rough systolic murmur. The blood pressure was 108 systolic and 70 diastolic in the left arm; the apical and radial pulses were synchronous and the rate was 64. The precordial hyperesthesia persisted for many hours after the disappearance of the pain but became gradually less evident.

After his relief from pain, the patient's countenance changed completely; he seemed profoundly grateful and chatted comfortably about his experience. He asked for and ate his first food in two days. He remained free from pain for twenty-three hours, when he again suffered sudden onset of pain and respi-

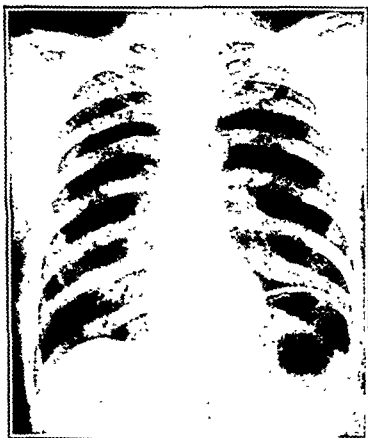


Fig. 5.—View of chest showing high paralyzed left leaf of the diaphragm.

ratory distress. Clinically the picture was identical with that of his initial attack. Flutter was once more loudly audible and distinctly visible. Ethyl chloride was again sprayed over the right phrenic nerve in the neck and the patient was told to signal when the pain was relieved. He gave the signal ten seconds after the spray was started, and at this moment both audible and visible evidence of the flutter phenomenon abruptly ceased. Four hours later he again complained of pain. He was not examined at this time but was given morphine, with little relief. The pain stopped abruptly four hours later.

A final attack occurred on the afternoon of his third day in the hospital and for the first time the uncooperative and belligerent demeanor noted by previous observers became evident. The flutter waves were not so distinct as they had previously been and seemed somewhat slower and irregular. The flutter sounds were only feebly audible and phonocardiographic records confirmed the less distinct, slower and irregular character of the oscillations. Though the patient stated that he was in pain, he seemed much more comfortable than during his previous attacks. He was much more talkative and delivered himself of vituperative attacks on the medical profession and society in general, amplified with fantastic tales of his own exploits. Morphine was prescribed in small doses; the patient fell asleep and awakened in the morning completely free from pain and quite docile. He left the hospital eight hours later at his own request and in perfect comfort.

COMMENT

The curious personality of the patient has made difficult the accurate evaluation of certain aspects of his clinical picture. His appearance in hospitals in various parts of the country with a painful malady requiring opiates has suggested to at least one observer that the patient is a morphine addict who utilizes his unusual illness as a means of obtaining the drug. It was the definite impression of Porter that this was not the case. The present study likewise led rather decidedly to the conclusion that the man was not a drug addict. Morphine in generous doses afforded only moderate relief when flutter was present. When the phenomenon disappeared the patient remained in perfect comfort for an entire day with no medication whatever.

Instances of abnormal diaphragmatic motility are infrequent but not rare. During both the acute and the chronic stage of epidemic encephalitis such disturbances occur. They have been classified by Marie³ into (1) abnormalities of the respiration proper such as tachypnea and bradypnea, (2) spasmodic cough and (3) respiratory tics. Recorded in the literature are cases of postencephalitic diaphragmatic tic which were more or less permanently relieved by interrupting the phrenic nerve by injection of procaine hydrochloride or alcohol or by sectioning, crushing or removing the nerve. Dowman⁴ and Gamble, Pepper and Muller⁵ have reported cases of tic of the diaphragm which were controlled by surgically exposing the phrenic nerve and freezing it directly with ethyl chloride. A feature of special interest in the present case is the successful control of the tic by the simple procedure of chilling the nerve by spraying the overlying skin in the neck with a refrigerant. Though the complete diaphragmatic palsy lasted for only four minutes, the disappearance of the tic for more than twenty-three hours during the first experiment suggests the use of this maneuver for the temporary control at least of such disturbances of diaphragmatic motility including possibly intractable hiccup. It is likely that in the present instance the absence of subcutaneous fat facilitated the chilling of the nerve through the intact skin. The scar of the previous operation on the phrenic nerve furthermore offered an excellent landmark for the refrigeration procedure.

In general, neither the disorders of respiration associated with encephalitis lethargica nor the respiratory tics are associated with any degree of thoracic discomfort. The association of such intense pain with the diaphragmatic disturbance in the present case is unusual. Porter, in his original report on this patient, discussed the subject of so-called "diaphragmatic angina" and

3. Marie, P.; Binet, L., and Lévy, G.: Bull. et mém. Soc. méd. d. hôp. de Paris 46:1075 (July 7) 1922.

4. Dowman, C. E.: Relief of Diaphragmatic Tic Following Encephalitis by Section of Phrenic Nerve, J. A. M. A. 88:95 (Jan. 8) 1927.

5. Gamble, C. J.; Pepper, O. H. P., and Muller, G. P.: Post-encephalitic Tic of the Diaphragm: Pulmonary Overventilation and Relief by Blockade of the Phrenic Nerve, J. A. M. A. 85:1485 (Nov. 7) 1925.

the cardiaphragmatic syndrome and concluded that this case could be classed with what he feels is a definite clinical picture which closely simulates angina pectoris and which is directly related to a functional disturbance of the diaphragm. He suggests that abnormalities of diaphragmatic motility are more frequent than has been realized and that its symptoms may be mistaken for malingering or, as was the case in the present study, for coronary thrombosis.

The medical itinerary of this man is in all probability not complete. He will undoubtedly appear in other hospitals with a recurrence of his malady. Because his right phrenic nerve regenerated promptly after both crushing and section of its fibers, it is likely that complete relief from attacks of diaphragmatic flutter will in this case be afforded only by avulsion of the nerve.

SUMMARY

1. In supplementary observations on an extraordinary case of diaphragmatic flutter the tic was associated with severe precordial pain, which led to the erroneous diagnosis of coronary thrombosis.

2. Spraying the intact skin overlying the phrenic nerve in the neck on the involved side with ethyl chloride promptly controlled both the pain and the flutter.

3. This simple procedure may be of value in controlling other forms of disturbance of diaphragmatic motility, including intractable hiccup.

Medical Arts Building.

Special Article

GLANDULAR PHYSIOLOGY AND THERAPY

PHYSIOLOGY OF THE TESTIS

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CHICAGO

This special article is published under the auspices of the Council on Pharmacy and Chemistry. It is one of a series which will be published in book form as the second edition of "Glandular Physiology and Therapy." The opinions expressed in this article are those of the author and do not necessarily represent the views of the Council.—Ed.

The testicle performs two principal functions that make it the specific and primary organ of reproduction. The basic one is the formation of mature spermatozoa capable of fertilizing the egg: this is, of course, essential for the perpetuation of the race. The second function—the secretion of hormones—must be regarded as one supplementary to the formation of germ cells, since it contributes toward insuring delivery of mature spermatozoa in the proximity of mature eggs where fertilization can occur. Two concrete essentials are involved here: (1) the induction of behavioristic reactions, sometimes designated as sex drive or mating instincts, and (2) the provision of a vehicle of transportation for spermatozoa and of control of the ejaculate—either its discharge into the aquatic medium surrounding the egg in the case of lower vertebrates or its introduction into female passages by an organ of intromission. Just so far as either the formation of germ cells or the mating inclinations are defective the animal becomes deficient in its reproductive capacity; and whereas the two functions obviously cooperate and supplement each other toward the final goal, there appears to be an advantage in discussing them as though they were entirely separate.

I. SPERMATOGENIC ACTIVITY

Animals pass through variable periods in a juvenile state prior to attaining a stage of sexual maturity. Whereas at birth most systems assume their normal function, the production of germ cells is one of the last to be attained. Spermatozoa are produced during the second year of life in perhaps the majority of vertebrates, but in some they are produced both earlier and later. Thus, in the rat they make their appearance in the seminiferous tubules about thirty-five to forty days after birth; they are seen in the epididymis at approximately the fiftieth day, and the animal may successfully inseminate females by about the seventieth to the eightieth day. In the guinea pig spermatozoa are found in the testis by about the fiftieth to the seventieth post-natal day and are first discharged in ejaculations, induced by electric stimulation on the head, from the fifty-fourth to the one hundred and sixteenth day.¹ In contrast to such early production of spermatozoa, in man mature germ cells do not occur until about the twelfth to the fifteenth year.

A great deal of variability occurs among vertebrates with regard to continuity in germ cell production. In probably the largest number of species spermatozoa are developed but once during the year and are present for relatively short periods; such animals are seasonal breeders. Others, including the rat, rabbit, guinea pig and man, which are continuous breeders, produce spermatozoa continuously.

Seasonal production of spermatozoa is quite regular throughout the classes of vertebrates; hence it must be considered the basic plan. A number of the lower vertebrates enter actively on spermatozoan differentiation in the late winter and early spring months in preparation for the usual spring breeding activity, but some produce spermatozoa in the fall months and carry them over the winter for use in the following spring. A notable exception to the ordinary course for birds is exhibited by the chicken which has been selectively cultivated for reproductive activity: Whereas in most birds the strictly seasonal activity of the testis rules, the cock, as well as the hen, manufactures mature gametes throughout the year.

Among mammals, the wild rodent of the Midwest (*Citellus tridecemlineatus*) has been rather carefully investigated by Wells.² This ground squirrel as observed in the Chicago area enters its subterranean burrow for a period of semihibernation usually in October and emerges above ground in April. Spermatogenic activity becomes evident during January, and on emergence most males have quantities of spermatozoa in the epididymis. Subsequent to the breeding season in April-May, testicular involution begins, and frequently by June-July spermatozoa are absent and the testis is receding. Spermatozoa are, therefore, usually absent from about late June until March; during the low period the testicle may be one-twentieth the weight of the fully active organ.

The predominant characteristic among males of the vertebrate group as well as among the invertebrates is thus a periodic testicular activity, quite restricted to definite seasons and therefore controlled to some extent at least by environmental agencies. Definite cyclic periods, on the part of the females at least, still rule

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2. Wells, L. J.: Seasonal Sexual Rhythm and Its Experimental Modification in the Male of the Thirteen-lined Ground Squirrel (*Citellus tridecemlineatus*), *Anat. Rec.* 62: 409 (July 25) 1935.

even in those forms that have become freed to a marked degree from the annual cycle; in such animals estrus cycles retain a controlled definiteness that speaks for adequate regulation but one more nearly restricted to internal control and less definitely influenced by environment. The males of these types usually show continuous testicular activity, and whether rhythms of sperm production occur in them is still to be shown. In the sparrow a definite diurnal rhythm is exhibited, in which spermatogenic divisions occur within a few hours after midnight, when the body temperature of the sleeping bird is low.³

The termination of germ cell production in a complete life history is an indefinite event, and it may be questioned whether in nature an animal lives to such an advanced age that spermatozoa are no longer produced. In man, on whom somewhat more exact information is available, it is well known that some males lack spermatozoa at the age of 50 years, whereas others may produce them abundantly up to the age of 90 years.⁴ It is questioned whether the tendency to apply the term "senile" to men lacking spermatozoa either serves any useful purpose or represents the facts. Various organs may exhibit marked pathologic changes or atypical functions due to many different causes, and it is well known that testicular activity is in some respects a sensitive function influenced by many different bodily states.

Pituitary Factors Influencing Spermatogenesis.—The formation of spermatozoa is subject to many modifying controls. One important control, if not the most important, is that exercised by the pituitary gland. As indicated somewhat earlier, the influence of the pituitary gland in control of the gonads was most convincingly demonstrated by Smith⁵ and Smith and Engle⁶ for the rat and mouse, and their observations have been abundantly confirmed on many species. Removal of the pituitary gland in the functional adult male leads immediately to involutionary changes in the testes and in the young male prevents the attainment of sperm formation. Implantations of fresh pituitary tissue or injections of a proper extract effect a satisfactory substitution and permit continuance of spermatogenic function. Prevention of the immediate spermatogenic involution following hypophysectomy has been accomplished by the administration of testis extracts, chemical androgens,⁷ progesterone⁸ and yeast extract,⁹ but none of these substances afford reparative means if administration is delayed until the damage following hypophysectomy has occurred.

Stimulation of spermatogenesis, as evidenced by precocious formation of germ cells, has been attained by the

administration of anterior pituitary materials or other gonadotropic agents in lower vertebrates,¹⁰ in chicks¹¹ and in the seasonally active ground squirrel¹² but not in rats¹³ or monkeys.¹⁴

The pituitary gland is thus one of the main factors in the control of spermatogenesis, and many other apparently separate phenomena in the modification of the testes appear to be secondary to the pituitary modification:

1. Seasonal testicular activity, in many respects at least, seems to be a problem of pituitary activity. In the ground squirrel the period of spermatogenic activity is a period of high gonadotropic activity of the pituitary, and the period of testicular inactivity one of low gonadotropic activity. Testes in such animals can be thrown into marked spermatogenic activity during the normal inactive period, provided pituitary materials are administered. Likewise, the marked stimulating power of light, especially on the bird, in which Rowan,¹⁵ Bissonnette¹⁶ and others have been able to cause production of spermatozoa in midwinter by gradually increasing the length of day by means of electric light, is principally through the eye. Benoit¹⁷ demonstrated in the duck that light stimulates pituitary activity; hence the effect of light on the testes is only secondary, depending on pituitary activation.

2. Dietary phenomena, such as severe inanition or lack of vitamin B (the injury to the testes appears to be principally nutritional, rather than specifically related to the vitamin deficiency), induce spermatogenic involution.¹⁸ That this is a secondary effect, due to a primary influence on the pituitary, is indicated by the low gonadotropic potency of pituitaries from such animals.¹⁹

3. Androgens as well as estrogens are injurious to testes, especially in young males, and the evidence is strong that the harmful influence is again secondary to inhibition of the pituitary gland.²⁰ Despite continued injections of harmful doses, no injury is apparent if at the same time the animal is provided with pituitary materials. Androgens administered to man induce

3. Riley, G. M.: Experimental Studies on Spermatogenesis in the House Sparrow, *Passer Domesticus* (Linnaeus), *Anat. Rec.* **67**: 327 (Feb. 25) 1937.

4. Engle, E. T.: *Male Reproductive System: Problems of Aging*, Baltimore, Williams and Wilkins Company, 1939, chap. 15.

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12. Wells, L. J., and Moore, C. R.: Hormonal Stimulation of Spermatogenesis in the Testis of the Ground Squirrel, *Anat. Rec.* **66**: 181 (Sept. 25) 1936.

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severe reduction of sperm; recovery occurs on discontinuance of the treatment.²¹

Nonpituitary Influences.—Other agents harmful to spermatogenic activity do not clearly involve the pituitary gland:

1. Cryptorchism. Man, as well as other mammals, occasionally experiences retention of the testicle in the abdomen: Embryonic development has been imperfect to the extent that descent into the scrotum is not accomplished, but the organ shows as a defect only the lack of completed spermatogenesis.

It is now recognized that the failure in germ cell production in the undescended testis is merely the function of the higher temperature of the abdomen; the scrotum is a localized thermoregulator by virtue of its thin walls, modified skin, absence of subcutaneous fat, numerous sweat glands and ability to relax and separate the testicle from close contact with the body.²² This conception is gained from a consideration of several different lines of evidence: (a) Simultaneous recording of temperatures in the abdomen and in the scrotum for rats, rabbits and guinea pigs reveals that scrotal temperatures are from 1 to 8 degrees (C.) lower than abdominal temperatures. (b) In an adult, elevation and confinement of the active testes in the abdomen lead to complete disorganization of seminiferous tubules within five to seven days, with continual decline as long as the testes remain extrascrotal; return to the scrotum is followed by renewed formation of spermatozoa, provided the injury is not of too long standing. (c) A single exposure of the scrotum to a temperature 6 degrees (C.) above body temperature for a period of ten to fifteen minutes leads to degeneration of seminiferous tubules within a period of ten days; recovery of sperm formation follows if the injury has not been too severe.²³ (d) Insulation of the scrotum of a ram with woolen coverings, preventing the natural regulation of scrotal temperature, leads to degeneration of seminiferous tubules and loss of all sperm production. Such an animal, therefore, is sterilized by its own body heat through prevention of the function of the scrotal thermoregulatory capacity. (e) It has long been known that a testis graft located in any well vascularized portion of the body of any amphibian or bird will carry spermatogenesis to complete spermatozoon formation. In mammals this capacity is likewise present, subject to the limitations of adequate environmental temperature. A rat or a mouse testis graft will produce spermatozoa months after transplantation if the graft is scrotal in position or located in the anterior chamber of the eye;²⁴ each location provides a proper temperature.

In keeping with this principle, it is known that febrile states in man induce at least temporary loss of spermatozoa, and Mills²⁵ was able to correlate severity of

testicular damage in soldiers dying in army camps with severity (high febrile states and duration) of disease—principally influenza and pneumonia; no specific toxicity was apparent.

2. Lack of vitamin E, a substance present in green vegetables, wheat germ and other products. This vitamin appears to be a specific requirement for sperm production, since in its absence, though good nutritional states are maintained, sperm production fails.²⁶ The action of this dietary disorder is not so clearly indicated to involve pituitary dysfunction as that of a deficiency of vitamin B.

3. Irradiation. Roentgen rays and mesothorium are destructive to spermatogenesis if employed in large enough doses. Sterility is readily induced thereby and appears to be irreversible.

4. Alcoholism. Alcohol in excess has been shown to abolish spermatogenic activity in experimental animals and man.

5. Confinement. Especially in wild animals, this condition frequently induces sterility. It is generally known that cage confinement of dogs induces loss of sperm production. However, Huggins²⁷ and his associates recently noted ultimate adaptation and adjustment to such confinement; after a period of some four months their caged dogs regained the power of sperm production. This recovery is easily determined by subcutaneous injection of pilocarpine hydrochloride, which induces discharge of spermatozoa along with copious prostatic secretion. This phenomenon may later be proved to have pituitary involvements.

6. Vasoligation. This procedure, though held to produce spermatogenic atrophy by Bouin and Ancel²⁸ and especially by Steinach,²⁹ has been abundantly proved to be without such effect. Almost a century prior to the publication of this erroneous conception by Steinach, Sir Astley Cooper³⁰ proved on his own dog that ligation for a duration of several years did not interfere with spermatogenesis. A testis graft in which no outlet is present will produce spermatozoa in amphibia, birds and mammals. Occlusion of the vas deferens of months' and years' duration in the cock and in at least eight species of mammals, including man, fails to cause testis degenerations, and, indeed, congenital absence of an epididymis and vas deferens in an adult guinea pig did not prevent active sperm formation.³¹ For further details of these phases of testicular function, see Moore.³²

II. SECRETORY ACTIVITY

Although it has been known since biblical times that castration produces the eunuch—concrete evidence that the testes exert decided effects on the organism—it is less than a century since the clear demonstration of Berthold,³³ in 1849, that the effect is exerted through

21. Heckel, N. J.: The Influence of Testosterone Propionate upon Benign Prostatic Hypertrophy and Spermatogenesis: A Clinical and Pathological Study in the Human, *J. Urol.* **43**: 286 (Feb.) 1940. McCullagh, E. P., and McGurl, F. J.: The Clinical Use of Testosterone Propionate, *ibid.* **42**: 1265 (Dec.) 1939.

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29. Steinach, E.: Verjüngung durch experimentelle Neubelebung der Alternen Pubertätsdrüse, *Arch. f. Entw. Mech. d. Organ.* **46**: 557, 1920.

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31. Moore, C. R.: Supplementary Observations on Mammalian Testis Activity, *Anat. Rec.* **48**: 105 (Jan. 25) 1931.

32. Moore, C. R.: Biology of the Testes, in Allen, Edgar; Danforth, C. H., and Doisy, E. A.: Sex and Internal Secretions, Baltimore, Williams & Wilkins Company, 1939, chap. 7.

33. Berthold, A. A.: Transplantation der Hoden, *Arch. f. Anat. Physiol. u. wissensch. Med.* 1849, p. 42.

a humoral substance distributed by the circulation and not by prescribed nerve pathways. Berthold castrated the cock and noted that the bird became a capon. However, if after removal of the testis this organ was thrown back into the peritoneal cavity or was placed under the skin and persisted with good vascular connections, the bird remained a typical cock instead of becoming a capon. The site of the incorporated tissue was inconsequential, but vascular connections were all important. Incidentally, the transplanted testis continued to produce spermatozoa, and it remains essentially to the credit of Bouin and Ancel that, at about the beginning of the present century, they demonstrated that the masculinizing influence of the testis was independent of the active production of germ cells. Thus the testicle exerts its hormone-secreting capacity as a function secondary to germ cell formation, and although attempts have been made to relegate the entire secretory function to the interstitial cells of Leydig, there is much information to suggest that spermatogenic activity contributes to hormone secretion. Some writers have postulated that an entirely separate hormone is produced by the germinal epithelium, but this cannot be granted on the basis of the evidence presented.

Methods of Detection of Testicular Hormone.—The hormone-secreting capacity of the testes and the influence of this hormone in the organism have been studied rather intensively during the last two decades. Methods of detecting the active principles involved have been based largely on warding off or repairing changes occurring after castration, and as yet the only satisfactory indicator is the animal itself. Most of the classes of vertebrates have been employed in the study of testis hormone effects; invertebrates, in the main, do not show specific responses to castration. Certain species of fish exhibit characters representing responses to testis hormone, but these animals have not been used extensively as test objects for such substances. Amphibia, likewise, show certain characters of response to testis hormone—clasp reflexes, thumb or digital excrescences, dorsal fin fold growth and others—and some reactions have been proposed as means of detection of the hormone, without general adoption of the suggestions. Reptiles have been used but little in hormone studies, but birds have been used extensively.

The domestic cock when castrated shows immediate progressive shrinkage in comb and wattles, but hormone introduced by transplantation of testes or hypodermically injected restimulates, almost immediately, the growth of these head furnishings. Comb response in relation to testicular hormone subsequent to the early work of Berthold has been studied rather intensively by Pezard,³⁴ Benoit,³⁵ Caridroit,³⁶ Domm³⁷ and others. Gallagher and Koch³⁸ perfected the method of using such responses as quantitative indicators of the hormone activity in testicular tissue extracts, urine extracts and pure chemical androgens. Comb growth is perhaps the most frequently employed indicator for androgenic substances at the present time.

The use of mammals as indicators of testis hormone has depended in the main on changes occurring in the accessory reproductive organs after castration—these organs being the principal site in the organism of morphologic responses to the hormone.

1. Spermatozoa in the epididymis of the guinea pig are short lived in the absence of testis hormone, and this response has been employed to denote the presence of active substances in extracts of the testes.³⁹

2. The guinea pig when stimulated by an electric current directed to the head ejaculates a coagulable substance and the reaction is a certain demonstration of function of the prostate gland and seminal vesicles. This function is dependent on the presence of testis hormone. The reaction and its modification by castration and by the injection of extracts containing testis hormone were described by Moore and Gallagher.⁴⁰

3. The rat prostate gland responds to castration within four days by loss of certain definite morphologic features. The responses to extracts of testis hormone have been described by Moore, Price and Gallagher.⁴¹

4. Rat seminal vesicles demonstrate castration changes within forty-eight hours, and the changes can be clearly modified by administering testis hormone (Moore, Hughes and Gallagher).⁴²

5. In a similar manner the vas deferens (Vatna)⁴³ and Cowper's gland (Heller⁴⁴) have each proved sufficiently responsive to testis hormone to constitute within themselves responsible indicators of the presence of this substance.

Still other methods of detection of the testis hormone have been utilized. The seminal vesicles of the mouse have been used by Loewe and Voss,⁴⁵ and by Martins and Rocha e Silva.⁴⁶ The mouse adrenal exhibits rather definite changes in relation to testis hormone. Prostate secretion in the dog is readily stimulated by injection of pilocarpine hydrochloride, and Huggins and associates⁴⁷ have shown its loss through castration and reestablishment by injected androgens. In man, responses in eunuchs are now definitely known; many changes that involve penis growth, erections, ejaculations, voice changes, prostate growth and other related activities have been abundantly described within the last five years.⁴⁷

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38. Gallagher, T. F., and Koch, F. C.: The Quantitative Assay for the Testicular Hormone by the Comb Growth Reaction, *J. Pharmacol. & Exper. Therap.* **40**: 327 (Nov.) 1930.

Isolation of Testis Hormone.—Prior to 1927 the effects of testis hormone were studied almost entirely from changes caused by castration and from the effects of transplantation of testes, but in that year McGee and co-workers⁴⁸ succeeded in extracting from fresh testicles of the bull a substance that exerted comb growth-stimulating capacities in capons. As rapidly as short time indicators were developed in laboratory mammals, such extracts proved their capabilities of substituting for the mammalian testis secretions.⁴⁹ These active extracts, obtained in lipid fractions after original extractions of the tissue in benzene, were further purified by Gallagher and Koch,⁴⁸ and their assay was established on a fairly satisfactory quantitative basis.

In 1929 Loewe and Voss⁴⁵ and Funk and Harrow⁵⁰ obtained comb growth-stimulating substances from human male urine. Through concentration of urinary extracts and purification, Butenandt obtained two pure crystalline substances, androsterone and dehydroandrosterone, which were definitely androgenic, and determined the structural formulas.⁵¹ Starting from the suggested formula of androsterone, Ruzicka and co-workers⁵² almost immediately produced this substance synthetically from cholesterol.

Comparative studies of the activity obtained with extracts from urine and from testes, carried on especially by the Laqueur laboratory in Amsterdam, Netherlands,⁵³ suggested that two different substances were involved, and Gallagher and Koch⁵⁴ demonstrated differential responses of the respective active principles to boiling alkali. In 1935 David and others⁵⁵ obtained from extracts of fresh testis a pure chemical substance, testosterone, that showed greater androgenic properties than androsterone. Testosterone likewise was produced synthetically at once by both the Butenandt⁵⁶ and the Ruzicka⁵⁷ group. Combinations of the parent substance, especially with certain fatty acids, greatly enhanced the androgenic effect in test organisms, and a large series of pure chemical compounds are now available that exert marked effects. One of the more active compounds is testosterone propionate, and this is the substance now most frequently used in clinical treatment. Its administration by injections is the more usual, but application of the substance as a cutaneous ointment reveals its ready penetration through the skin

with the usual internal organ responses.⁵⁸ Whether the natural hormone secreted by the testis is represented by one of the forty or more active compounds now available is not certainly known, but it is believed that the naturally secreted hormone may be a substance at least closely allied to testosterone, perhaps in some especially effective chemical combination. It is not known whether the naturally secreted hormone is the same in different species of mammals or in the different classes of vertebrates, but several different pure chemical androgens are individually capable of effective substitution for the naturally secreted hormone in probably all vertebrates.

Periods of Hormone Secretion.—The time of onset of testis secretion of hormone cannot be stated more definitely than that the onset is largely responsible for the beginning of puberal development. Whether testes secrete active substances into the blood stream during embryonic life is yet to be demonstrated. In the rat secretion is evident by about the fortieth day after birth, from secretory development of the prostate gland and seminal vesicles,⁵⁹ and castration at birth induces delay in the development of these accessory reproductive structures.⁶⁰ In the guinea pig hormone secretion is evident by the thirtieth day, when ejaculation is induced by electrical stimulation.¹ In man, studies on the prostate by R. A. Moore⁶¹ suggest a low grade secretion about the tenth to the thirteenth year. In animals whose breeding is constant, hormone secretion is continuous from its inception to its natural decline, but the latter event is less certain by date than the onset of secretion. Wiesner⁶² failed to obtain a correlation between discontinuance of hormone secretion and old age in rats, and in man the evidence for termination of secretion suggests only a general decline at ages 60 to 70 years, with many evidences of good production in much later years.

The majority of vertebrates secrete testis hormone only at definite seasons, which usually coincide with their natural breeding periods. In a wild rodent secretion of testis hormone is limited to a period of about three months, and at other times of the year such accessory reproductive organs as the seminal vesicles, prostate and Cowper's gland remain essentially in the condition observed in the castrate, but capable of responding at any time to introduced hormone.² The natural period of rut, as well as of less definitely seasonal forms of the mating instinct, is conditioned by the hormone.

Modification of the Secretion of Testis Hormone.—In many respects the secretion of hormone and the formation of germ cells run parallel, and conditions which modify one function act likewise on the other; this, however, is not universally true, as will be mentioned later.

Removal of the pituitary gland or loss or diminution in its function precludes or diminishes secretion of hormone by the testis. Involutionary changes in the acces-

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49. Moore and McGee.⁴⁸ Moore and Gallagher.⁴⁸ Moore and others.⁴¹ Moore and others.⁴² Vatna.⁴³ Heller.⁴⁴

50. Funk, C., and Harrow, B.: The Male Hormone. *Proc. Soc. Exper. Biol. & Med.* 26: 325 (Jan.) 1929. Funk, C.; Harrow, B., and Lejwa, A., *ibid.* 26: 569 (April) 1929.

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56. Butenandt, Adolf, and Hanisch, Günter: Ueber Testosteron; Umwandlung des Dehydroandrosterons in Androstendiol und Testosteron, *Ztschr. f. physiol. Chem.* 237: 89, 1935.

57. Ruzicka, L., and Wettstein, A.: Ueber die künstliche Herstellung des Testikelhormons Testosteron, *Helvet. chim. acta* 18: 1264, 1935.

58. Moore, C. R.; Lamar, J. K., and Beck, Naomi: Cutaneous Absorption of Sex Hormones, *J. A. M. A.* 111: 11 (July 2) 1938. Abarbanch, A. R.: Percutaneous Administration of Testosterone Propionate in Dysmenorrhea, *Endocrinology* 26: 765 (May) 1940.

59. Moore and others.⁴¹ Moore and others.⁴²

60. Price, Dorothy: Normal Development of the Prostate and Seminal Vesicles of the Rat with a Study of Experimental Post-Natal Modifications, *Am. J. Anat.* 60: 79 (Nov.) 1936.

61. Moore, R. A.: The Evolution and Involution of the Prostate Gland, *Am. J. Path.* 12: 599 (Sept.) 1936; The Histology of the Newborn and Prepubertal Prostate Gland, *Anat. Rec.* 66: 1 (Aug. 25) 1936.

62. Wiesner, B. P.: The Experimental Study of Senescence, *Brit. M. J.* 2: 585 (Sept. 24) 1932.

sory reproductive organs are quite similar after ablation of the pituitary gland and after castration. In the opposite direction, the administration of fresh pituitary substance or of the gonadotropic principle from other sources results in a marked precocious stimulation of the production of testis hormone or in an intensification of secretion already under way. Some of the indications for precocious hormone secretion are (a) the production of secretion granules in the epithelium of the rat seminal vesicle appreciably earlier than such granules appear in normal animals,⁶⁰ (b) increases in the gross fresh weight of the seminal vesicles of treated rats by 3,000 to 5,000 per cent,¹³ (c) marked stimulation of the growth of comb and wattles in young chicks, and attempts at crowing and treading pen mates two weeks after hatching⁶³ and (d) tremendous increases in the size of all accessory organs of reproduction in ground squirrels artificially stimulated during the period of low sexual activity.²

A recognition of the fundamental influence of the pituitary gland on the secretion of hormone in the testis as well as on spermatogenesis suggests that hypogonadal states may represent fundamentally hypopituitary activity. Furthermore, since it has been established that there is a definite correlation between pituitary activity and testis activity in wild rodents whose breeding is seasonal, one is justified in assuming that the problem of seasonal reproductive activity is essentially a problem of seasonal control of the pituitary function. It would appear that an outstanding difference between mammals in which reproductive activity is continuous and those in which it is seasonal is that one group has a continuously active pituitary and the other a gland the activity of which is influenced by the season.

In view of the conditions portrayed, it is natural that attention should be directed to the problem of pituitary control. Present information is here very limited, but some suggestions may be mentioned. Environmental influences appear to play a decisive role in the seasonal control of the pituitary, but different elements of this complex may be active in different species. Light has been demonstrated to be an effective agent, particularly in the bird, but also in some mammals. Rowan's original demonstration¹⁵ that the progressive daily addition of a few minutes extra light caused testicular activity to be stimulated in midwinter has been extended to show not only that the effective site of this influence is the eye but also that direct illumination of the pituitary gland through the orbit is effective in stimulating testicular activity; the illuminated pituitary possesses much higher gonadotropic activity than the nonilluminated ones.⁷ Reproductive stimulation has likewise followed treatments of fish with light,⁶⁴ also treatments with temperature changes.⁶⁵ Failure of hormone secretion during straight inanition and during deficiency in vitamin B requirements is believed to be a secondary effect, due to primary inactivity of the pituitary.

The hormone-secreting capacities of the testicle in the total absence of spermatogenic activity was first emphasized by Bouin and Ancel.²⁸ Undescended testes, which are devoid of germ cell activity, exert neverthe-

less the typical masculinizing tendencies of normal organs; but, contrary to earlier ideas, such germ cell-free testes do not secrete more hormone than normal organs, but considerably less. In like manner, testis grafts devoid of spermatogenic activity may exert masculinizing influence, as do also testes injured through irradiations. Vasectomy does not modify the hormone-secreting capacities,⁶⁶ nor does it cause degeneration of the germ cell-producing capacities; the operation is, however, an effective measure for insuring sterility by virtue of preventing egress of spermatozoa.

Thus it becomes evident that the two testicular functions are closely parallel and that practically all conditions that stimulate or depress germ cell formation likewise modify hormone secretion. It is true, however, that sperm formation may precede evidence of hormone secretion in approaching puberty or during the annual period of development. It is also true that hormone can be produced in the absence of germ cell activity, as in cryptorchism, in transplantation of testes, after irradiation of testes and particularly in pathologic adrenal involvement.⁶⁷

From the foregoing discussion it will be appreciated in general (1) that testis hormone is not stored in the body but is rather quickly utilized, broken down or excreted and that (2) if it is to be completely effective it must be maintained in the body in concentrations that will affect the organs with the highest thresholds of response. Since different organs exhibit different thresholds, it is possible to maintain one organ in a functional state and not another.

Effects of Testis Hormone.—The effects of testis hormone in the organism are represented by the differences between castrated and normal males, and since investigators do not yet know all the effects of castration, to that extent they fail to understand the effects of the hormone. In general, the two large categories of effects may be stated as (1) the conditioning of the male organism to show sexual responses to the female and (2) the development and maintenance of the accessory organs of reproduction in a functional state, making possible effective insemination. Brief mention of some particular effects may be in order.

Treatment of embryos in the process of sexual differentiation with pure chemical androgens induces modification in the reproductive system, especially in females. Such modification in mammals has been described for guinea pigs,⁶⁸ rats,⁶⁹ mice⁷⁰ and opossums.⁷¹

Treatment of prepuberal young males induces precocious development of accessory reproductive organs.

66. Poynter, H.: Testis Hormone Secretion in the Rat Under Conditions of Vasectomy or Isolation, *Anat. Rec.* 74: 355 (July 25) 1939.

67. Wilkins, L.; Fleischmann, W., and Howard, J. E.: Macrogenitosomia Praecox Associated with Hyperplasia of the Androgenic Tissue of the Adrenal and Death from Cortico-Adrenal Insufficiency, *Endocrinology* 26: 385 (March) 1940.

68. Dantchkoff, V.: L'hormone mâle adulte dans l'histogénèse sexuelle du mammifère, *Compt. rend. Soc. de biol.* 123: 873, 1936.

69. Greene, R. R.; Burrill, M. W., and Ivy, A. C.: The Experimental Production of Intersexuality in the Female Rat, *Am. J. Obst. & Gynec.* 36: 1038 (Dec.) 1938.

70. Raynaud, A.: Intersexualité obtenue expérimentalement chez la souris femelle par action hormonale, *Bull. biol. de la France et de la Belgique* 72: 297, 1938. Turner, C. D.; Haffen, Rita, and Struett, Helen: Some Effects of Testosterone on Sexual Differentiation of Female Albino Mice, *Proc. Soc. Exper. Biol. & Med.* 42: 107 (Oct.) 1939.

71. Moore, C. R.: Modification of Sexual Development in the Opossum by Sex Hormones, *Proc. Soc. Exper. Biol. & Med.* 40: 544 (April) 1939; On the Role of Sex Hormones in Sex Differentiation in the Opossum (*Didelphys Virginiana*), *Physiol. Zool.* 14: 1, 1941. Burns, R. K.: The Differentiation of Sex in the Opossum (*Didelphys Virginiana*) and Its Modification by the Male Hormone Testosterone Propionate, *J. Morphol.* 65: 79 (July 1) 1939; Sex Differentiation During the Early Pouch Stages of the Opossum (*Didelphys Virginiana*) and a Comparison of the Anatomical Changes Induced by Male and Female Sex Hormones, *ibid.* 65: 497 (Nov. 1) 1939.

63. Domm, L. V., and Van Dyke, H. B.: Precocious Development of Sexual Characters in the Fowl by Daily Injections of Hebin, *Proc. Soc. Exper. Biol. & Med.* 30: 349 and 351 (Dec.) 1932.

64. Hoover, E. E.: Experimental Modification of the Sexual Cycle in Trout by Control of Light, *Science* 86: 425 (Nov. 5) 1937.

65. Craig-Bennett, A.: The Reproductive Cycle of the Three-Spined Stickle-Back, *Gasterosteus Aculeatus*, Linn., *Phil., Tr. Roy. Soc., London*, s. B. 219: 197, 1930.

This follows treatment in amphibia, birds, mammals and even man.

Gonadal hormones from either sex react on the pituitary gland and effectively reduce the amount of gonad-stimulating hormone available to the organism. Castration enhances, and the administration of androgen or of estrogen lowers, the gonad-stimulating effects of the pituitary. Thus testes are probably never active to the full extent of their powers, and this reciprocal interaction between gonad and pituitary secretions appears to be a fundamental element in the regulation of the two glands, hence of the reproductive cycles.

Androgens introduced into castrated males rebuild the accessory organs into a functional state or, if introduced at the time of castration, prevent castration changes from appearing.

The effects of androgens on the normal testicle to a large extent have been found to be harmful, rather than stimulating as was once anticipated. The evidence points to the mechanism of action as an indirect effect on the testes by virtue of a suppressive action on the pituitary, rather than a direct action on the sex glands.²⁰ It has been found that the harmful influence is absent if either fresh pituitary tissue or gonadotropic agents are supplied. Injurious effects on the testes from the administration of androgens have been reported in rats, dogs, ducks, cocks, guinea pigs and man. On the other hand, it has been pointed out earlier in this paper that androgens, as well as progesterone and yeast extract, exerted a protective action on spermatogenesis immediately following hypophysectomy though none of these substances had a reparative action if administered following damage to the testicles from hypophysectomy.

SUMMARY

The testes function in producing mature spermatozoa and in secreting a hormone that induces mating desire and stimulates the function of accessory reproductive organs; function of the latter insures transfer of spermatozoa to localities in which mature eggs are to be found.

Sperm production in the majority of vertebrates is seasonal, but in many others it is continuous. It appears that pituitary gland function exercises the basic control; hence seasonal influences appear to operate largely through this gland.

The testes are labile organs and easily influenced by a number of different conditions. Whereas many agents or conditions affect both spermatogenesis and the secretion of hormone, the former may be in abeyance while the latter continues.

Naturally secreted testis hormone is believed to be closely similar, if not identical, to testosterone or some compound of it. It is unknown whether testis secretion is the same in different species of vertebrates, but testosterone compounds are androgenic in practically all vertebrate males.

Precocious secretion of testis hormone can be stimulated by the administration of pituitary materials or other gonadotropic substances; hence testes probably never secrete to their full capacity.

Testis hormone is not stored in the body. Its effect is to condition the mating drive and the function of the proper accessory reproductive glands. The rate of its secretion is believed to be controlled by a reciprocal action between it and pituitary secretions.

In the majority of cases studied the injection of androgens into intact males is harmful rather than beneficial to the testes.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORTS. HOWARD A. CARTER, Secretary.

ABSTRACT OF MINUTES, MEETING OF COUNCIL ON PHYSICAL THERAPY, DEC. 6-7, 1940

The annual meeting of the Council on Physical Therapy was held on Dec. 6 and 7, 1940 at the headquarters of the American Medical Association. The members present were Dr. Harry E. Mock, Chairman, and Drs. Eben J. Carey, Anthony C. Cipollaro, William W. Coblenz, John S. Coulter, Frank D. Dickson, Walter E. Garrey, Frank H. Krusen, Frank R. Ober, Ralph Pemberton and Horatio B. Williams.

RESEARCH

The report of the Committee on Research disclosed that eleven grants in aid of research had been made in 1940. Results of four of the research problems investigated have already been published. The Council members expressed the opinion that the fundamental studies aided by these grants were extremely valuable and that the caliber of the investigators to whom the grants had been made was unusually high.

EDUCATION IN PHYSICAL THERAPY

The Council and the Consultants on Education have carried on an active program of education by means of lectures, exhibits, addresses before medical audiences and writing of informative articles. A detailed report of the activities of each member was presented. The program of education has resulted in a greater interest in physical therapy as evidenced by the increased number of courses in physical therapy that are being given in medical schools and the efficient physical therapy departments functioning in hospitals.

It was voted that a small handbook be prepared under the auspices of the Council. The purpose of this conveniently sized book is to serve as a quick source of information for the intern or practitioner. It was also voted that the Council's present publication, the Handbook of Physical Therapy, be revised.

A report concerning the subcommittee on Physical Therapy of the National Research Council (defense program), on which members of the Council are serving, was made to the Council.

RADIO INTERFERENCE

The problem of radio interference has engaged the attention of the Council for several years. Members of the Council represented the medical profession at a conference held by the Federal Communications Commission in Washington, and a report of the proceedings was made to the Council. Nothing definite was decided at the conference, but it seems evident that the manufacturers of electromedical equipment will be asked to design apparatus so that it will operate on specific frequencies allocated only for this purpose. It was voted that members of the Council shall continue to attend all the meetings on radio interference held by the commission. The Council appreciated the sincere cooperation of the Federal Communications Commission and the manufacturers of electromedical equipment.

THE COUNCIL'S CONSULTANTS

The activities of the Council's Consultants were reported. The Progress Report of the Consultants on Audiometers and Hearing Aids (THE JOURNAL, Sept. 7, 1940, p. 854) disclosed the great activity of that group and the valuable assistance they have rendered the Council. The Consultants on Roentgen Ray Apparatus completed one phase of the work proposed by the Council in the preparation of two informative articles for publication in THE JOURNAL. Tentative requirements for electrocardiographs are being prepared by the Consultants on Electrocardiographs. The Handbook on Amputations, the work of the Consultants on Artificial Limbs, is nearing completion;

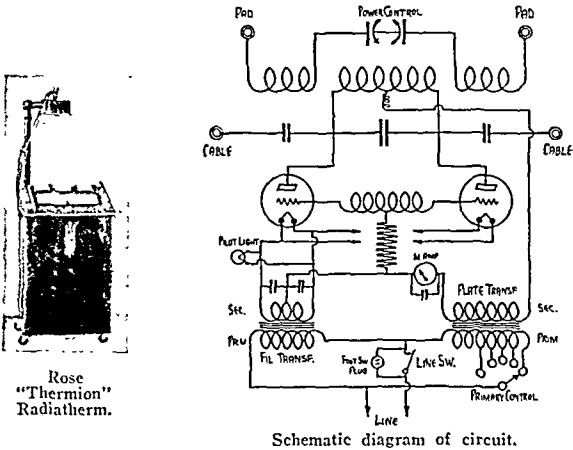
three chapters of the book have already appeared in THE JOURNAL.

It was voted that a new group of Consultants be formed to assist the Council in considering respirators.

ROSE "THERMION" RADIATHERM
ACCEPTABLE

Manufacturer: E. J. Rose Manufacturing Company, 727-733 East Gage Avenue, Los Angeles.

The Rose "Thermion" Radiatherm is used for short wave diathermy. The chassis assembly, which is encased in an individual container, may be removed from the cabinet for portable



use. Pads, cuffs and induction cable are supplied as standard equipment; surgical accessories are available. The unit operates on approximately 12 meter wavelength and is equipped with two oscillator tubes number 218 in a self-rectifying circuit.

Application: Cuffs			
(Degrees Fahrenheit) Average of 6 tests			
	Initial	Final	Rise
Skin	94.5	99.7	5.2
Subcutaneous	97.4	106.4	9.0
Muscle	99.1	105.9	6.8
Oral	98.7	99.5	0.8

Application: Cable			
(Degrees Fahrenheit) Average of 6 tests			
	Initial	Final	Rise
Skin	93.1	100.9	7.8
Subcutaneous	97.5	104.1	6.6
Muscle	99.6	105.6	6.0
Oral	98.9	99.5	0.6

The firm submitted evidence to substantiate the efficacy of the apparatus in deep muscle heating. This evidence is as follows:

Six healthy medical students were used for the tests. The right thigh was used in all cases for the first observation, and the experiments were conducted on the right and left thigh alternately. Temperature measurements were made with a thermocouple in the anterior portion of the thigh at depths of (a) 1/8 inch, (b) 3/4 inch, (c) 2 inches or on the bone. These depths were measured from skin straight in—that is, normal to the surface of the skin.

In applying the inductive cable, approximately 1 1/2 inches of bath toweling was wrapped around the thigh and it was held in place by approximately four wraps of the cable.

The Council used the unit clinically and found that it gave satisfactory clinical service.

In order to determine the transformer temperature rise and the power output, the unit was tested in a laboratory acceptable to the Council. The results of these tests are as follows:

1. The final transformer temperature by the resistance method (within the limits of safety prescribed by the Council) was 96.3 C.
2. The output was 400 watts.

The Council on Physical Therapy voted to accept the Rose "Thermion" Radiatherm for inclusion on its list of accepted devices.

RADIO-EAR JUNIOR 41 ELECTRONIC
HEARING AID ACCEPTABLE

Manufacturer: E. A. Myers and Sons, Inc., 306-308 Beverly Road, Mount Lebanon, Pittsburgh.

The Radio-Ear Junior 41 Electronic Hearing Aid consists of the following parts:

- (a) Combined microphone and vacuum tube amplifier unit M-5028 with volume control switch and battery "economizer" are incorporated in this unit. The latter has two positions marked "battery new" and "battery used," designed to reduce the current drain on new batteries giving full voltage. The microphone amplifier unit is 3 3/4 by 1 3/4 by 5/8 inches and weighs 83 Gm.
- (b) A and B batteries in soft leather case. The over-all dimensions of the latter are 3 3/4 by 3 3/8 inches and the combined weight is 238 Gm. The A battery is a Burgess No. 1-E. S. 1.5 volts cell carried in a clip container. The B battery is a special 30 volt unit. Connections are made by means of a three prong plug connector.
- (c) Air conduction crystal receiver C-5184, 3/8 inch thick by 1 inch diameter, fitted with molded earpiece. Combined weight of receiver and earpiece is 9 Gm.

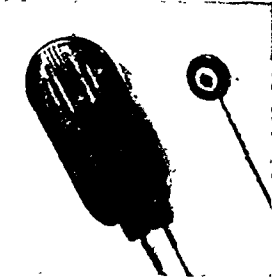
The Council's investigation of the instrument revealed that:

Battery Drain.—With a new battery the currents drawn are as shown in table 1. The figures justify the manufacturer's claim for battery economy due to this feature.

TABLE 1.—Currents with New Battery

Battery	Economizer Position	Voltage	Current
A.....	Battery used	1.5	65.0 ma.
B.....	Battery used	30.0	1.0 ma.
A.....	Battery new	1.5	55.0 ma.
B.....	Battery new	30.0	0.83 ma.

Mechanical Features.—The instrument is substantially made and neat in appearance. Internal noise is not excessive. With a well fitted earpiece the instrument can be used to practically full volume without "feedback squeals." The tone control on the back of the microphone unit provides for three possible adjustments of the frequency response. This adjustment is made permanently by turning a screw set in the case to one of those positions marked by white, blue and red dots respectively. The performance tests were made with the tone control in the white dot position, which according to the manufacturer accentuates the high frequency response.



Radio-Ear Junior 41 Electronic Hearing Aid.

Performance tests were made with "economizer" set in used battery position.

Amplification.—The over-all amplifications at different frequencies given in table 2 were shown at full volume.

TABLE 2.—Amplifications at Different Frequencies

	128	256	512	1,024	2,048	4,096
At normal ear threshold	nil	nil	18	38	35	nil
At approximately 45 db above normal threshold	2	7	17	33	32	nil

The Council voted to accept the Radio-Ear Junior 41 Electronic Hearing Aid for inclusion on its list of accepted devices.

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SATURDAY, APRIL 12, 1941

THE VERDICT

The jury in the case in which the United States Government brought suit on criminal charges in a conspiracy against four medical associations and twenty-one individual defendants brought in its verdict at 11 p. m. on April 4. When the prosecution had completed presentation of its evidence, Justice Proctor directed the jury to acquit the Harris County Medical Society, the Washington Academy of Surgery and two of the individual defendants. One of the individual defendants, Dr. Groover, died before the case came to trial. The final decision of the jury found the American Medical Association and the District of Columbia Medical Society guilty and declared all of the individual defendants not guilty.

Newspapers, radio commentators and many others at once expressed confusion in endeavoring to understand this verdict. This confusion arose because five members of the staff of the American Medical Association, including the Secretary, the only ones connected by the prosecution with this case, were declared by the jury to be innocent of the charges, yet the organization itself was found guilty. Likewise the verdict found the defendant officials and members of the various committees of the District of Columbia Medical Society to be innocent, and yet the organization itself to be guilty. The attorneys for the American Medical Association and the District of Columbia Medical Society are undertaking at once legal procedure toward setting aside this verdict and toward making a suitable motion to appeal.

The instructions given to the jury by Justice Proctor, which are published in this issue of *THE JOURNAL* (p. 1700) should be of interest to every physician. They state succinctly the extent to which the activities of the American Medical Association in carrying on its affairs, in raising the standards of medical colleges and hospitals by inspection and approval or disapproval, in the publication of facts regarding medical activities, and in the maintaining of the Principles of Medical Ethics fall within the bounds of legal conduct.

CHEMOTHERAPY IN SUBACUTE BACTERIAL ENDOCARDITIS

Bacterial endocarditis has always been considered a fatal disease, although occasional spontaneous recovery has undoubtedly occurred. Libman cited 10 cases with positive blood cultures in which recovery had taken place. Capps, in a review of 139 cases, reported 11 in which survival continued for more than five years. He had not, however, seen a single recovery since 1924, which might suggest that there exists a variability in the virulence of causative organisms from year to year.

The discovery of the effect of sulfonamide derivatives on streptococcal infections naturally suggested their trial in cases of subacute bacterial endocarditis. Manson-Bahr¹ reported an apparent cure from the intravenous administration of azosulfamide in 2 typical cases without positive blood cultures. In a case with a typical clinical picture and with *Streptococcus viridans* in blood cultures, Heyman² used sulfanilamide and reported recovery of eighteen months' duration at the time of his report. Whitby³ observed a favorable effect from sulfanilamides on the fever and the general condition of 3 patients with subacute bacterial endocarditis and positive *Streptococcus viridans* blood cultures. The effect, however, was only temporary. Major and Leger⁴ reported recovery in a case in which there had been valvular lesions, petechiae, splinter hemorrhages, fever, splenomegaly and positive *Streptococcus viridans* blood cultures. Unfortunately death occurred one month later from congestive heart failure. Necropsy showed the evidence of a recent endocarditis in the stage of healing and repair. Spink and Crago⁵ employed sulfanilamide therapy in 12 cases and noted a beneficial effect in 2. The drug did not affect the course of the remaining 10. Sulfanilamide rendered the blood sterile in 6 cases. This effect was only temporary except in 2. There was no definite relation between the amount of free sulfanilamide in the blood and the effect of the drug on the bacteria. These physicians express the opinion that sulfanilamide therapy is of doubtful value in bacterial endocarditis because of the nature of the focus of infection. The proliferating mass of bacteria situated beneath the surface of vegetation is probably protected at least in part from the action of free sulfanilamide in the blood as well as from specific antibodies. Major⁶ treated 7 cases with sulfanilamide and was able to report an apparent

1. Manson-Bahr, Philip: Apparent Cure of Two Cases of Infective Endocarditis by Intravenous Chemotherapy, *Practitioner* **141**:221 (Aug.) 1938.

2. Heyman, Jacob: Subacute Bacterial Endocarditis Successfully Treated with Sulfanilamide, *J. A. M. A.* **114**:2373 (June 15) 1940.

3. Whitby, L. E. H.: Chemotherapy of Bacterial Infections, *Lancet* **2**:1095 (Nov. 12) 1938.

4. Major, R. H., and Leger, L. H.: Recovery from Subacute Infectious Endocarditis Following Prontosil Therapy, *J. A. M. A.* **111**:1919 (Nov. 19) 1938.

5. Spink, W. W., and Crago, F. H.: Evaluation of Sulfanilamide in the Treatment of Patients with Subacute Bacterial Endocarditis, *Arch. Int. Med.* **64**:228 (Aug.) 1939.

6. Major, R. H.: The Effect of Sulfanilamide Compounds on Endocarditis, *Am. J. M. Sc.* **199**:759 (June) 1940.

recovery in 3. Andrews likewise reports recovery in a typical case treated with sulfapyridine.

Critical analysis of the reported cases would seem to indicate that sulfanilamide and, even more, sulfapyridine is capable of lowering the temperature and sterilizing the blood in cases of subacute bacterial endocarditis but that these effects are quickly lost. These results are disappointing, since the blood of animals with experimental bacterial endocarditis as well as that of human beings with the disease shows a high titer of antibodies for the organisms. Moreover, the bacteria die quickly in the serum in the presence of leukocytes. The explanation would seem to be found in the nature of the lesion. The constant deposition of fibrin and platelets on the vegetations protects the organisms from the effect of the circulating blood or of any drug introduced into the blood.

The ingenious idea of combining the bacteriostatic effect of sulfapyridine with the anticoagulant effect of heparin appealed to a number of clinicians. The work of Best and his associates has made available a purified heparin which can be given intravenously to man in amounts rich enough to prolong greatly the clotting time of blood. It was believed that heparinization would prevent further deposition of fresh blood clots on the vegetations and thus enable the drug to produce its effect on the organisms. Kelson and White⁷ gave 10 cc. of heparin (10,000 units) in 500 cc. of physiologic solution of sodium chloride by uninterrupted intravenous drip day and night for fourteen days. The rate of flow was regulated to maintain the venous clotting time at approximately one hour. From 4 to 6 Gm. of sulfapyridine was given daily by mouth before and during the use of heparin and for one week afterward. Other therapeutic measures consisted of blood transfusions and administration of ascorbic acid by mouth. Of the 7 patients thus treated 3 could not tolerate heparin for more than an hour and a half because of reactions to a toxic lot of the drug. Two other patients could tolerate it for only three days and two days respectively because of the grave general state, which terminated fatally within a short time. The remaining 3 patients were able to take heparin for more than a week. All 3 showed striking improvement and were reported free from evidences of the disease for nineteen, eighteen and four weeks respectively. Friedman, Hamburger and Katz⁸ were compelled on the tenth day to discontinue the administration of heparin to a patient because of projectile vomiting. The patient died the same day and the necropsy revealed encephalomalacia, hemorrhage into the ventricles and disseminated glomerulonephritis. Fletcher⁹

and Witts¹⁰ each report a case in which death occurred from cerebral hemorrhage as the result of the combined treatment with heparin and sulfapyridine. Apparently then the use of heparin by interfering with the physiologic process of clotting is associated with the danger of vascular accidents which may prove fatal. Other possible disadvantages, as pointed out by Friedman, Hamburger and Katz, are to be seen in the sudden liberation of large quantities of bacteria, should the vegetation disintegrate, with the resulting overwhelming bacteremia. The acute glomerulonephritis reported by several observers may have been conceivably caused by the heparin. However, in view of the generally hopeless prognosis in bacterial endocarditis the methods investigated are warranted for further study and may be distinct advances in our progress toward a solution of the problem of controlling this disease.

NEONATAL IMMUNITY

The sudden increase in prenatal immunity at the time of birth, currently reported by Woolpert and his co-workers¹ of Ohio State University, challenges conventional concepts of immunology. The mammalian fetus is more susceptible to pathogenic micro-organisms than the postnatal animal of the same species. This has been adequately demonstrated by prenatal injections of vaccinia virus,² herpes virus and the virus of human influenza.³ Newborn young and mature guinea pigs, for example, are both insusceptible to the latter virus. Relatively large doses of influenza virus may be injected intracerebrally without the production of recognizable lesions or symptoms. When injected intracerebrally through the maternal abdominal wall into half grown or full grown fetuses, however, the same virus leads to a widespread dissemination and multiplication of the virus throughout the fetal tissues. Intranasal mouse titrations show that the virus reaches its maximum concentration in the fetal lungs, liver and kidneys by the sixth day, whereas little or no virus is demonstrable in the brain, placenta or blood stream. Fetal death is occasionally observed by the sixth day. Spontaneous recovery, however, is the rule, the fetal tissues usually becoming sterile by the tenth day. Titrations of the tenth day fetal blood almost invariably show specific neutralizing antibodies, usually in greater concentration than in the maternal blood. This strongly suggests that the fetal antibodies are not of maternal origin.

Woolpert's most sensational result, however, is the information obtained by intracerebral injection of full

7. Kelson, S. R., and White, P. D.: A New Method of Treatment of Subacute Bacterial Endocarditis, *J. A. M. A.* **113**:1700 (Nov. 4) 1939.

8. Friedman, Meyer; Hamburger, W. W., and Katz, L. N.: Use of Heparin in Subacute Bacterial Endocarditis, *J. A. M. A.* **113**:1702 (Nov. 4) 1939.

9. Fletcher, C. M.: Subacute Bacterial Endocarditis Treated with Sulfapyridine and Heparin, *Lancet* **2**:512 (Oct. 26) 1940.

10. Witts, L. J.: Heparin in Subacute Bacterial Endocarditis, *Brit. M. J.* **1**:484 (March 23) 1940.

1. Dettwiler, H. A.; Hudson, N. P., and Woolpert, O. C.: The Comparative Susceptibility of Fetal and Postnatal Guinea Pigs to the Virus of Epidemic Influenza, *J. Exper. Med.* **72**:623 (Dec.) 1940.

2. Stritar, Joseph, and Hudson, N. P.: Susceptibility of the Guinea Pig Fetus to Vaccinia, *Am. J. Path.* **12**:165 (March) 1936.

3. Woolpert, O. C.; Gallacher, F. W.; Rubenstein, Leona, and Hudson, N. P.: Propagation of the Virus of Influenza in the Guinea Pig Fetus, *J. Exper. Med.* **68**:313 (Sept.) 1938.

term guinea pig fetuses shortly before normal or artificial birth. If the injection is made within eighteen hours before such birth, virus is not detectable in the neonatal brain, lungs, liver or kidneys. Apparently at birth fetal susceptibility is changed to an adequate virucidal immunity, approximately equal to that of the adult guinea pig.

Woolpert and his co-workers have no theory to account for this neonatal increase in microbic resistance except their belief that in some unknown way this immunity must be associated with postnatal respiratory and circulatory readjustments. Determination of the mechanism of neonatal immunity may eventually lead to practical therapeutic methods.

Current Comment

SULFATHIAZOLE CONTAMINATED WITH PHENOBARBITAL

From various portions of the United States, records continue to accumulate of human beings who suffered either death or injury from the use of the tablets of sulfathiazole which were contaminated with phenobarbital and which were manufactured by the Winthrop Chemical Company and distributed with the series designation MP and a subsequent figure. In its latest warning to hospitals and to the medical profession, the Winthrop Chemical Company says:

Please examine the mark on every package of our sulfathiazole tablets and return to us immediately for exchange any package marked with the letters MP. If you have dispensed tablets from bottles bearing these control letters, will you kindly endeavor to recover all such tablets which have not been consumed.

The communities from which have come reports of some seventeen deaths which may have been attributable to the use of contaminated tablets include Allentown, Pa.; Lincoln, Neb.; Farmington, Mo.; Norristown, Pa.; Worcester, Mass.; Palmerton, Pa.; Edenton, N. C.; New Orleans; Louisville; Philadelphia; Tyler, Texas, and Clear Field, Pa. Report of injuries come from a widely distributed series of communities, including primarily places in Massachusetts, Pennsylvania, Kentucky and Missouri. Obviously it is difficult for a physician to determine whether or not deaths resulting from severe cases of pneumonia or similar serious infections were primarily due to the contaminated drug or to the severity of the condition. For that very reason the American Medical Association, through the Council on Pharmacy and Chemistry, is endeavoring to secure actual case histories of incidents in which fatality occurred so that from an analysis of the group as a whole it may be possible to determine more definitely the part played by the contamination in the symptomatology that developed in these patients. No doubt the Food and Drug Administration, which has already issued an official statement on the subject and which has stimulated a great number of inspectors to make first-hand studies of such cases and to secure the return of all of the drug still extant, will eventually make available its own official report on this incident. At

this time again every physician is warned to make at once a personal investigation of all sulfathiazole, Winthrop, which he has on hand or which he may have prescribed for his own patients since December, with a view to securing any of the material labeled with the MP designation and returning it preferably to the Food and Drug Administration officials for their study.

DOCTORS ON THE AIR

Interest in health education by radio is constantly increasing. New arrangements for radio programs have been announced by the medical societies of California¹ and of New York.² In California the state medical society plans simultaneous broadcasting of identical material over ten local radio stations in various parts of the state. In New York the bureau of public relations has issued a special bulletin² designated as "an educational program about educational programs." This bulletin is in the form of a fictitious program in which educators, doctors and radio station representatives participate. The bulletin is based on a questionnaire about radio health talks sent by the bureau of public relations of the Medical Society of the State of New York to radio stations in the United States and an analysis of the three hundred and seventy-six replies received. The questionnaire was accompanied by a typical radio health talk. Of the radio stations eighty-two rated the talk high, one hundred and forty-two medium and forty-nine low. The questionnaire also developed that the substance material in the talk was high; its form of presentation was responsible for its low rating. The questionnaire disclosed that the radio stations prefer good dramatized programs to any other form but are not interested in mediocre efforts at dramatization. The round table and the interview are preferred over the simple talk, but it is conceded that simple talks will of necessity be the most common health presentations on the radio for many years to come. They should therefore be studied and improved. Radio stations insist that the doctors who broadcast must learn to be good speakers and to speak "in plain language without too much technical camouflage." While radio stations continue to present programs of health talks because they are in the public interest, they do so with small enthusiasm because speakers provided by medical societies are not usually good speakers. Doctors do not prepare for radio broadcasting with sufficient seriousness; they fail to rehearse their talks and to time them carefully. Another objection raised by the radio stations is the reluctance of medical societies to allow doctors' names to be used; the radio audience wants to know to whom it is listening. Health broadcasting faces abundant competition from commercial shows offering entertainment. Several directors of radio stations stated that such programs as *Your Health, Medicine in the News* and *Doctors at Work*, broadcast by the American Medical Association and the National Broadcasting Company, are examples of radio health broadcasting which overcome the reluctance of most persons to be educated.

1. Unpublished communication to Bureau of Health Education, American Medical Association.

2. The Doctor Takes to the Air, Public Relations Bureau, Medical Society of the State of New York, Bull. 34, Dec. 10, 1940.

MEDICAL PREPAREDNESS

In this section of *The Journal* each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY SECOND CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Second Corps Area, which comprises the states of New York, New Jersey and Delaware:

ABRAMS, Alfred L., 1st Lieut., Elmhurst, L. I., N. Y., Fort Bragg, N. C.
ALPREN, Bernard F., 1st Lieut., Paterson, N. J., Fort McClellan, Ala.
ALTMAN, Harold, 1st Lieut., New York, Camp Livingston, La.
AMSTER, Joseph J., 1st Lieut., Brooklyn, Camp Livingston, La.
ARTSIS, Nathan, 1st Lieut., Bellmore, L. I., N. Y., Camp Livingston, La.
BADLER, Leon, 1st Lieut., New York, Camp Livingston, La.
BAER, Bernhard, 1st Lieut., Yonkers, N. Y., Camp Blanding, Fla.
BAJOHR, Albert J., 1st Lieut., Flushing, N. Y., Camp Blanding, Fla.
BARNETT, Theodore, 1st Lieut., Brooklyn, Camp Blanding, Fla.
BELL, Murray F., 1st Lieut., Forest Hills, N. Y., Fort Wadsworth, N. Y.
BERESTON, Eugene S., 1st Lieut., New York, Fort Bragg, N. C.
BERKOWITZ, Carl, 1st Lieut., New York, Fort Bragg, N. C.
BERNSTEIN, Sidney A., 1st Lieut., Brooklyn, Fort Bragg, N. C.
BIGLIANI, Urban R., 1st Lieut., North Bergen, N. J., Fort Bragg, N. C.
BLITZMAN, Louis, 1st Lieut., New York, Fort Bragg, N. C.
BLUMENFELD, Emanuel, 1st Lieut., New York, Fort Bragg, N. C.
BOEHM, Walter Edward, 1st Lieut., New York, Fort Bragg, N. C.
BONANNO, Joseph U., 1st Lieut., New York, Fort Bragg, N. C.
BOTTALICO, Michael A., 1st Lieut., New York, Fort Bragg, N. C.
BOXER, David S., Captain, Flushing, L. I., N. Y., Fort Bragg, N. C.
BRANON, Mark E., 1st Lieut., Rutherford, N. J., Fort Adams, R. I.
BRESSLER, Sydney, 1st Lieut., New York, Fort Bragg, N. C.
BRILL, Norman G., 1st Lieut., New York, Fort Bragg, N. C.
BROAD, Monroe M., 1st Lieut., Jamaica, L. I., N. Y., Fort Bragg, N. C.
BRODERICK, Thomas C., 1st Lieut., Yonkers, N. Y., Fort Bragg, N. C.
CASSARA, Thomas, 1st Lieut., Thiells, N. Y., Fort Totten, N. Y.
CASSELL, Max, 1st Lieut., Philadelphia, Fort Dix, N. J.
CHAMBERLAIN, George E., 1st Lieut., New York, Fort Bragg, N. C.
CHESNICK, Reuben B., 1st Lieut., Oaklyn Manor, N. J., Camp Davis, N. C.
CITTA, James P., 1st Lieut., Toms River, N. J., Casey Jones School, Newark, N. J.
CLEMENTE, Louis J., Captain, Brooklyn, Fort Bragg, N. C.
CONNORS, David A., 1st Lieut., Richmond Hill, N. Y., Fort Dix, N. J.
CREMONA, Vincent M., 1st Lieut., New York, Camp Croft, S. C.
CUSICK, Joseph, Captain, Binghamton, N. Y., Fort Monmouth, N. J.
DAVIDSON, Douglas T., Jr., 1st Lieut., Claymont, Del., Fort DuPont, Del.
DAVIDSON, Sidney, Captain, Larchmont, N. Y., Mitchel Field, N. Y.
DAVISON, Bernard S., 1st Lieut., Brooklyn, Pine Camp, N. Y.
DE LORENZO, Francis C., 1st Lieut., East Orange, N. J., Fort Bragg, N. C.
DICKES, Robert, 1st Lieut., New York, Camp Croft, S. C.
DOONEIEF, Albert S., 1st Lieut., Brooklyn, Camp Davis, N. C.
DOUGHERTY, Daniel V., 1st Lieut., Homer, N. Y., Fort Monmouth, N. J.
ENGLISH, Harrison F., III, 1st Lieut., Trenton, N. J., Carlisle Barracks, Pa.
FERARU, Felix, 1st Lieut., Lynbrook, N. Y., Fort Benning, Ga.
FINEGOLD, John, 1st Lieut., Niagara Falls, N. Y., Camp Croft, S. C.
FORMAN, Everett W., 1st Lieut., New York, Fort Benning, Ga.

THIRD CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Third Corps Area, which comprises the states of Pennsylvania, Virginia, District of Columbia and Maryland:

ACTON, Conrad Berens, Captain, Baltimore, Fort Belvoir, Va.
BARKER, Joseph Michael, 1st Lieut., Washington, D. C., Camp Lee, Va.
BRADLEY, David Vernard, 1st Lieut., Philadelphia, Camp Livingston, La.
BULFAMONTE, Joseph Charles, 1st Lieut., Shamokin, Pa., Fort George G. Meade, Md.
CLAYTOR, Frank William, 1st Lieut., Roanoke, Va., Fort Bragg, N. C.
CLAYTOR, John Bunyan, Jr., 1st Lieut., Roanoke, Va., Camp Livingston, La.
CORFF, Meyer, Major, Philadelphia, Fort Story, Va.
DYSON, John Milnes, 1st Lieut., Hazleton, Pa., Fort Story, Va.
FITZPATRICK, Hamilton Douglas, 1st Lieut., East Radford, Va., Fort Monroe, Va.

FRIEDMANN, Gustav, 1st Lieut., Scotch Plains, N. J., Camp Forrest, Tenn.
GALLO, Frank A. R., 1st Lieut., Brooklyn, Fort Benning, Ga.
GOLD, Edwin M., 1st Lieut., Brooklyn, Camp Blanding, Fla.
GORE, Ira, 1st Lieut., Brooklyn, Fort Benning, Ga.
GRAUBARD, David J., 1st Lieut., New York, Fort Dix, N. J.
HEEVE, William Lester, 1st Lieut., Brooklyn, Pine Camp, N. Y.
HEFTER, Maxwell S., 1st Lieut., Spring Valley, N. Y., Fort Benning, Ga.
HOLLEB, Eugene M., 1st Lieut., Brooklyn, Pine Camp, N. Y.
IANACONE, John A., 1st Lieut., Paterson, N. J., Fort Monmouth, N. J.
ISAACS, Ivan, 1st Lieut., Brooklyn, Camp Forrest, Tenn.
JUCHLI, Rene H., Captain, Amsterdam, N. Y., West Point, N. Y.
KANE, Louis J., 1st Lieut., Brooklyn, Fort Jackson, S. C.
KANSES, Edmund S., 1st Lieut., Rumson, N. J., Fort Jackson, S. C.
KIBBE, Milton H., 1st Lieut., Plainfield, N. J., Fort Benning, Ga.
KINNE, Harvey S., 1st Lieut., Cortland, N. Y., Fort Jackson, S. C.
KOPLIN, Abraham H., 1st Lieut., Trenton, N. J., Fort Jackson, S. C.
KUIVE, George B., 1st Lieut., Morris Plains, N. J., Pine Camp, N. Y.
LAMBERTA, Frank, 1st Lieut., Brooklyn, Fort Dix, N. Y.
LAMPERT, Norman J., 1st Lieut., Brooklyn, Camp Blanding, Fla.
LANG, Leonard C., 1st Lieut., Buffalo, Fort Jackson, S. C.
LA RAJA, Raymond J., 1st Lieut., Brooklyn, Camp Forrest, Tenn.
MACALUSO, Dominic C., 1st Lieut., Bellesville, N. J., Fort Monmouth, N. J.
MARANGONI, Bruno A., 1st Lieut., New York, Fort McClellan, Ala.
MARKS, Bertram E., 1st Lieut., Brooklyn, Fort Barrancas, Fla.
MARSHALL, Louis E., 1st Lieut., Brooklyn, Pine Camp, N. Y.
MOORE, Dean C., 1st Lieut., East Orange, N. J., Fort Bragg, N. C.
MOORE, William H., 1st Lieut., Saratoga Springs, N. Y., Fort Jackson, S. C.
OATMAN, Jack G., 1st Lieut., Greystone, N. J., Fort Bragg, N. C.
ORENSTEIN, Leo, 1st Lieut., New York, Fort Benning, Ga.
PAUL, Abraham, 1st Lieut., Atlantic City, N. J., Carlisle Barracks, Pa.
PINO, Anthony, 1st Lieut., Bridgeton, N. J., Fort Jackson, S. C.
PROVISOR, Benjamin, 1st Lieut., Passaic, N. J., Fort Monmouth, N. J.
RINER, Edward D., 1st Lieut., New York, Pine Camp, N. Y.
SARAJIAN, Aram M., 1st Lieut., West Englewood, N. J., Camp Livingston, La.
SAXE, David H., 1st Lieut., Passaic, N. J., Fort Bragg, N. C.
SCHWAB, George P., 1st Lieut., Union City, N. J., Fort Benning, Ga.
SPENCER, Gordon A., 1st Lieut., Valhalla, N. Y., Camp Claiborne, La.
STARR, Eli, 1st Lieut., Brooklyn, Fort Jackson, S. C.
STEPHENSON, Charles R., 1st Lieut., Endicott, N. Y., Pine Camp, N. Y.
TOMLINS, Francis I., 1st Lieut., Ridgewood, N. J., Fort Jackson, S. C.
VAN MARTER, James H., Major, Groton, N. Y., 2d Corps Area Recruitment Office, New York.
VERDON, Robert B., 1st Lieut., Bergenfield, N. J., Fort Bragg, N. C.
WEILL, David R., Jr., 1st Lieut., New York, Pine Camp, N. Y.
WENTZELL, James E., 1st Lieut., Wenonah, N. J., Camp Livingston, La.
WOLFSON, Irving, Captain, Buffalo, Fort Jackson, S. C.
YONTEF, Reuben, 1st Lieut., Bayonne, N. J., Fort Jackson, S. C.

CORRECTION

Major Gross.—In the list of reserve officers ordered to active duty under the Second Corps Area in *THE JOURNAL*, March 15, page 1148, Herbert F. Gross was listed as a first lieutenant when he should have been listed as major.

HILL, Paul Swanson, Captain, Harrisonburg, Va., Fort Eustis, Va.
HINKSON, DeHaven, Major, Philadelphia, Fort Bragg, N. C.
McKEE, Carlisle Emerson, Jr., 1st Lieut., Pittsburgh, Fort Belvoir, Va.
MEDOFF, Joseph, 1st Lieut., Philadelphia, Fort Eustis, Va.
MENDELSON, Matthew, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.
O'CONNOR, Arthur Joseph, 1st Lieut., Pittsburgh, Fort Monroe, Va.
OLSON, Robert Mortimer, 1st Lieut., Palmyra, Pa., Indiantown Gap Military Reservation, Indiantown Gap, Pa.
RAMSEY, James Penhurst, 1st Lieut., Philadelphia, Fort Bragg, N. C.
SCHNEIDER, Henry Conrad, 1st Lieut., Philadelphia, 28th Division, Indiantown Gap Military Reservation, Indiantown Gap, Pa.
SCHULTZ, Edward Joseph, Captain, Claysburg, Pa., 28th Division, Indiantown Gap Military Reservation, Indiantown Gap, Pa.
SICA, Paul Anthony, 1st Lieut., Pittsburgh, Fort Belvoir, Va.
SMITH, Forrest Fullerton, Captain, Hallstead, Pa., 28th Division, Indiantown Gap Military Reservation, Indiantown Gap, Pa.
SNEDDON, John, Jr., 1st Lieut., Hanover, Pa., Camp Lee, Va.
STAPINSKI, Stanley Michael, 1st Lieut., Glenn Lyon, Pa., Camp Lee, Va.

FOURTH CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Fourth Corps Area, which comprises the states of Tennessee, North Carolina, South Carolina, Alabama, Georgia, Mississippi, Florida and Louisiana:

ALLEN, Benjamin L., 1st Lieut., Spartanburg, S. C., Fort Benning, Ga.
CROWDER, Miles S., Captain, Jefferson City, Tenn., Fort Benning, Ga.
JOHNSON, Winice A. J., 1st Lieut., Lakeland, Fla., Camp Livingston, La.
MANLY, John B., 1st Lieut., Tuskegee, Ala., Fort Bragg, N. C.
MIZELL, Von D., 1st Lieut., Fort Lauderdale, Fla., Camp Livingston, La.
TERRENCE, August C., 1st Lieut., Opelousas, La., Camp Livingston, La.

SIXTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Sixth Corps Area, which comprises the states of Wisconsin, Illinois and Michigan:

ANDERSON, E. Gilbert, 1st Lieut., Rockford, Ill., 30th Division, Fort Jackson, S. C.
ASHLEY, Richard W., 1st Lieut., Kenosha, Wis., Station Hospital, Fort Sam Houston, Texas.
BALDWIN, Raymond M., 1st Lieut., Beloit, Wis., Station Hospital, Fort Sill, Okla.
BLAIR, Thomas H., 1st Lieut., Ann Arbor, Mich., Station Hospital, Fort Custer, Mich.
BOERSMA, Donald, 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
EISENSTEIN, Harold, Captain, Chicago, Station Hospital, Fort Bliss, Texas.
EISENSTEIN, Milton W., Captain, Chicago, Station Hospital, Fort Bliss, Texas.
FARA, Frank J., 1st Lieut., Berwyn, Ill., Station Hospital, Fort Bliss, Texas.
FARHAT, Maynard M., 1st Lieut., Flint, Mich., Station Hospital, Fort Sill, Okla.
FREE, Harry W., 1st Lieut., Detroit, 12th Cavalry, Fort Brown, Texas.
HEINRICH, Jerome F., 1st Lieut., Chicago, Station Hospital, Camp Grant, Ill.
HUBERT, John R., 1st Lieut., Pontiac, Mich., Station Hospital, Fort Sill, Okla.
HYMAN, Samuel J., 1st Lieut., Inkster, Mich., 32d Division, Camp Beauregard, La.

SEVENTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Seventh Corps Area, which comprises the states of North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri, Arkansas and Wyoming:

ANDREW, Earl Vernon, Captain, Maquoketa, Iowa, Fort Knox, Ky.
BISHOP, James Frederick, 1st Lieut., Davenport, Iowa, Fort Francis E. Warren, Wyo.
BLOEMENDAAL, Gerrit John, 1st Lieut., Ipswich, S. D., Camp J. T. Robinson, Ark.
BUZELLE, Leonard Kinnicutt, 1st Lieut., Minneapolis, Camp J. T. Robinson, Ark.
CAPEL, Havis T., 1st Lieut., Pine Bluff, Ark., Fort Francis E. Warren, Wyo.
CLARK, Orville Richolson, 1st Lieut., Topeka, Kan., Fort Leonard Wood, Mo.
CONNOLLY, William Burton, Captain, Helena, Ark., Camp J. T. Robinson, Ark.
DRASKY, Stanley, Captain, Linwood, Neb., Fort Riley, Kan.
GIOVALE, Silvio Joseph, 1st Lieut., Reliance, Wyo., Pine Camp, N. Y.
GLASER, Leland Forrest, Captain, Springfield, Mo., Fort Leonard Wood, Mo.
GOLDWASSER, Herbert Valentine, Captain, St. Louis, Camp J. T. Robinson, Ark.
GRAHAM, Wallace Harry, 1st Lieut., Kansas City, Mo., Fort Leonard Wood, Mo.
GREENBERG, Maynard Maurice, Captain, Omaha, Fort Leonard Wood, Mo.
HALL, Millard Wilson, Captain, Wichita, Kan., Camp J. T. Robinson, Ark.
HANSEN, Clifford Henry, 1st Lieut., Omaha, Fort Leonard Wood, Mo.
HIGGINS, Joseph Patrick, 1st Lieut., Albion, Neb., Camp J. T. Robinson, Ark.
JOHNSON, Malcolm Rossland, Captain, Red Wing, Minn., Fort Riley, Kan.
LOW, Edward John, 1st Lieut., Mahanomen, Minn., Fort Sam Houston, Texas.

Orders Revoked

CHAMBLEE, John S., 1st Lieut., Windsor, N. C.
CRICHLAW, Richard S., Lieut. Col., New Orleans.
DOTSON, Walter S., Jr., 1st Lieut., Westmoreland, Tenn.
FAISON, Thomas G., Captain, Winton, N. C.
FERBER, Leon, 1st Lieut., Nashville, Tenn.
HENRY, Jennings I., 1st Lieut., Atlanta, Ga.
HESTER, Marion W., Captain, Atlanta, Ga.
LEVY, Louis, Major, Memphis, Tenn.
MAYS, John R. S., Captain, Macon, Ga.
WHITEHEAD, Clarence M., 1st Lieut., Greenville, Ga.
WISE, Robert A., 1st Lieut., Chattanooga, Tenn.

JANA, Joseph T., Jr., 1st Lieut., Berwyn, Ill., 11th Station Hospital, Fort Custer, Mich.
JOHNSON, Paul T., 1st Lieut., Rockford, Ill., 32d Division, Camp Beauregard, La.
KETTERER, Walter R., 1st Lieut., Greenville, Ill., 27th Division, Fort McClellan, Ala.
KONOPA, John F., 1st Lieut., Manistee, Mich., Station Hospital, Fort Custer, Mich.
KRAM, David D., 1st Lieut., Chicago, Station Hospital, Chanute Field, Ill.
LEAVITT, Samuel S., 1st Lieut., Orland Park, Ill., 5th Division, Fort Custer, Mich.
LOVE, Loren L., 1st Lieut., Christopher, Ill., Station Hospital, Fort Sill, Okla.
MacALPINE, Orville D., 1st Lieut., Saginaw, Mich., Station Hospital, Chanute Field, Ill.
McBEAN, James B., 1st Lieut., Chicago, Station Hospital, Fort Sill, Okla.
McDOWELL, Mordecai M., 1st Lieut., Danville, Ill., Station Hospital, Fort Sam Houston, Texas.
SEAFORTH, Edward A., 1st Lieut., Perkinstown, Wis., Station Hospital, Fort Sam Houston, Texas.
SUTTON, Charles F., 1st Lieut., Chillicothe, Ill., Station Hospital, Fort Sam Houston, Texas.
VEDNER, Joseph H., 1st Lieut., Menomonie, Wis., 30th Division, Fort Jackson, S. C.
VERMEREN, Paul C., 1st Lieut., Chicago, Station Hospital, Selfridge Field, Mich.
WEINBERG, Charles M., 1st Lieut., Maywood, Ill., Station Hospital, Fort Sill, Okla.
WIEN, Norman A., 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.

Orders Revoked

BARNES, Seth Stevens, 1st Lieut., Cape Girardeau, Mo., Fort Leonard Wood, Mo.
BERGMAN, Harold Hanford, 1st Lieut., Gillette, Wyo., Camp J. T. Robinson, Ark.
DEYOUNG, George Marion, George, Iowa, 1st Lieut., Camp Murray, Wash.
FREIDMAN, Michael, 1st Lieut., St. Louis, Camp J. T. Robinson, Ark.
GARCIA, Charles Leon, Captain, Warrenton, Mo., Camp J. T. Robinson, Ark.
HOOVER, Paul Williams, 1st Lieut., Arkadelphia, Ark., Camp J. T. Robinson, Ark.
KELLING, Douglas George, 1st Lieut., Waverly, Mo., Camp J. T. Robinson, Ark.
MAGNESS, Guy Norton, Captain, University City, Mo., Camp J. T. Robinson, Ark.
McCRAY, Raymond Vaughn, 1st Lieut., Malvern, Ark., Camp J. T. Robinson, Ark.
MOVREY, William Oliver, 1st Lieut., St. Louis, Camp J. T. Robinson, Ark.
REDMOND, James Joseph, 1st Lieut., Cedar Rapids, Iowa, Camp J. T. Robinson, Ark.
ROBROFF, Henry Kenneth, Captain, Elbowoods, N. D., Fort Riley, Kan.
SHERIDAN, Edmund Reid, 1st Lieut., St. Louis, Camp J. T. Robinson, Ark.
SMITH, Clifford Lemar, 1st Lieut., Buffalo, Wyo., Camp J. T. Robinson, Ark.
VIRANT, John Aloysius, 1st Lieut., St. Louis, Camp J. T. Robinson, Ark.

EIGHTH CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Eighth Corps Area, which comprises the states of Colorado, Arizona, New Mexico, Oklahoma and Texas:

ARNIM, Landon C., 1st Lieut., Corpus Christi, Texas, 2d Division, Fort Sam Houston, Texas.
BICKLEY, Estill Truett, 1st Lieut., Corpus Christi, Texas, 20th Coast Artillery, Fort Crockett, Texas.
CHAFFIN, Zale, 1st Lieut., Oklahoma City, 36th Division, Camp Bowie, Texas.
CINNAMON, Alfred Morris, 1st Lieut., Dallas, Texas, 45th Division, Camp Berkeley, Texas.
CLARK, Ralph O., 1st Lieut., Oklahoma City, 45th Division, Camp Berkeley, Texas.
COGBURN, Charles C., 1st Lieut., Nixon, Texas, 36th Division, Camp Bowie, Texas.
GIPSON, Carle D., 1st Lieut., Three Rivers, Texas, 2d Division, Fort Sam Houston, Texas.
HAMME, Ralph Eugene, 1st Lieut., Edinburg, Texas, 2d Division, Fort Sam Houston, Texas.
HOWELL, Ira Leo, 1st Lieut., White Plains, N. Y., 8th Cavalry, Fort Bliss, Texas.
IVY, J. B., 1st Lieut., Weslaco, Texas, 2d Division, Fort Sam Houston, Texas.
JERMSTAD, Robert J., 1st Lieut., Fort Worth, Texas, Station Hospital, Fort Sam Houston, Texas.
MAXFIELD, James Robert, Captain, Albuquerque, N. M., Station Hospital, Fort Bliss, Texas.
MC CARTHY, James E., 1st Lieut., Kenedy, Texas, 2d Division, Fort Sam Houston, Texas.
McELROY, Robert B., 1st Lieut., Rogers, Texas, 2d Division, Fort Sam Houston, Texas.
McGEHEE, Frank Owen, 1st Lieut., Houston, Texas, 2d Division, Fort Sam Houston, Texas.

McMILLAN, George S., 1st Lieut., Hurley, N. M., 45th Division, Camp Berkeley, Texas.
MONROE, Myrick L., 1st Lieut., Jasper, Texas, 36th Division, Camp Bowie, Texas.
NEWSOM, Robert L., 1st Lieut., Munday, Texas, 36th Division, Camp Bowie, Texas.
PARROTT, Robert U., 1st Lieut., Smithville, Texas, 36th Division, Camp Bowie, Texas.
PETERS, I. D., 1st Lieut., Houston, Texas, Camp Wallace, Texas.
PICKETT, Taylor Thomas, Captain, Garland, Texas, Camp Wallace, Texas.
PIERSON, Dwight Dillon, 1st Lieut., Buffalo, Okla., 156th Station Hospital, Camp Wolters, Texas.
ROTHER, C. N., 1st Lieut., San Antonio, Texas, 36th Division, Camp Bowie, Texas.
SCHULZE, Roscoe Gene A., 1st Lieut., Schulenburg, Texas, 52d Signal Battalion, Fort Sam Houston, Texas.
SHAPIRO, David E., 1st Lieut., Safford, Ariz., 82d Field Artillery, Fort Bliss, Texas.
SMITH, Howard Calvin, 1st Lieut., Colorado Springs, Colo., 36th Division, Camp Bowie, Texas.
STREET, Glenn Q., 1st Lieut., Halstead, Kan., Station Hospital, Fort Sam Houston, Texas.
WAGNER, Gerald W., 1st Lieut., Plainview, Texas, Station Hospital, Fort Bliss, Texas.

Orders Revoked

CARSON, John M., 1st Lieut., Shawnee, Okla.
CURRY, John Russell, 1st Lieut., Blackwell, Okla.
FOLLINGSTAD, Alvin H., Captain, Springer, N. M.
GUTHRIE, Aubrey E., 1st Lieut., Floydada, Texas.
HOLT, Russell, 1st Lieut., El Paso, Texas.
HYDER, Prentiss L., 1st Lieut., Corpus Christi, Texas.
PUIG, Valentine L., Jr., 1st Lieut., Laredo, Texas.
STEPHEN, James J., 1st Lieut., Goldthwaite, Texas.
TUCKER, Jesse Norris, 1st Lieut., Houston, Texas.
VAN SWERINGEN, Walter, Major, Amarillo, Texas.

NINTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Ninth Corps Area, which comprises the states of Washington, Montana, Oregon, Nevada, Utah, California and Idaho:

ANDERSON, Stanley B., 1st Lieut., Glendale, Calif., Moffett Field, Calif.
BABCOCK, Daniel W., 1st Lieut., Placerville, Calif., Camp Haan, Riverside, Calif.
BERNSTEIN, Henry C., 1st Lieut., San Francisco, March Field, Calif.
BLOUNT, Lester L., 1st Lieut., Spreckles, Calif., Camp Haan, Riverside, Calif.
BRASLOW, Lawrence, 1st Lieut., Los Angeles, March Field, Calif.
DAHLMAN, Rynol A., 1st Lieut., Los Angeles, Camp Roberts, Calif.
DOWNEY, Thomas P., 1st Lieut., San Diego, Calif., Camp Roberts, Calif.
GALANTE, Peter J., Captain, Chiloquin, Ore., Camp Callan, Torrey Pines, Calif.
GIERSON, Herman W., 1st Lieut., Los Angeles, March Field, Calif.
HELVIG, Carl M., Captain, Seattle, Fort Lewis, Wash.

LEAVITT, Arthur S., 1st Lieut., Los Angeles, Camp Callan, Torrey Pines, Calif.
LINDSAY, Charles V., Captain, Encinitas, Calif., Camp Roberts, Calif.
LOWENSTEIN, Bernard, Captain, Tacoma, Wash., March Field, Calif.
MARCHUS, Donald B., 1st Lieut., Redding, Calif., Fort Lewis, Wash.
MERILLAT, Herbert C., 1st Lieut., Sedro-Woolley, Wash., McChord Field, Wash.
POLLAK, John D., 1st Lieut., North Hollywood, Calif., Camp Callan, Torrey Pines, Calif.
REEDER, Thomas P., Jr., 1st Lieut., Newport Beach, Calif., Camp Callan, Torrey Pines, Calif.
SEILER, William E., 1st Lieut., San Diego, Calif., Camp Roberts, Calif.
SPIVEY, William L., 1st Lieut., Taft, Calif., Camp Callan, Torrey Pines, Calif.
TUFTS, Frank Elwood, 1st Lieut., Sacramento, Calif., McClellan Field, Calif.
WEINBERG, Sydney L., Captain, Hollywood, Calif., Camp Callan, Torrey Pines, Calif.

Orders Revoked

COTTRELL, George W., 1st Lieut., reported March 17 as assigned to Fort Lewis, Wash., such orders revoked.
MERRET, Russell J., 1st Lieut., reported February 25 assigned to 1st Medical Regiment, Fort Ord, Calif., relieved from active duty.

ORDERED TO FOREIGN DUTY

BAERS, Harry, 1st Lieut., from Fort Benning, Ga., to Hawaiian Department.
CRANSTON, Clyde J., Captain, from Fort Hayes, Ohio, to Hawaiian Department, sailing from New York April 1.
FOSTER, George B., Jr., Colonel, from Hawaiian Department to San Francisco Port of Embarkation, Fort Mason.
HEFLEBOWER, Roy C., Colonel, from Hawaiian Department to San Francisco Port of Embarkation.
LOCHEN, Everett L., Captain, from Chanute Field, Ill., to Hawaiian Department.
MATTHIS, Austin W., Captain, from Fort Douglas, Utah, to Hawaiian Department.

NOELL, Livingston P., Jr., 1st Lieut., from Kelly Field, Texas, to Hawaiian Department.
RICH, John W., Major, from Hawaiian Department to Tilton General Hospital, Fort Dix, N. J.
SKOW, George D., 1st Lieut., from Patterson Field, Ohio, to Philippine Department.
TOUPKIN, Jerome H., 1st Lieut., from Fort Benjamin Harrison, Ind., to Hawaiian Department, sailing from New York April 1.
WHITE, Raymond L., 1st Lieut., from Santa Maria, Calif., to Hawaiian Department.

THE 134TH MEDICAL REGIMENT AT FORT BRAGG

The 134th Medical Regiment from the New York National Guard with units at Albany, Corning, Ticonderoga and Syracuse is now on extended active duty at Fort Bragg, North Carolina. Following are the rank and home addresses of the medical officers on duty with this medical regiment:

DAVIS, Ralph H., Major, Penn Yan.
DUNGAN, Clarence E., 1st Lieut., Auburn.
EPSTEIN, William M., 1st Lieut., Newark, N. J.
FITZGERALD, Thomas G., 1st Lieut., Albany.

HEBEL, Herbert D., 1st Lieut., Auburn.
HOOD, Robert I., Captain, Corning.
JOHNSON, Paul C., 1st Lieut., Penn Yan.
KELLEHER, Vincent R., 1st Lieut., Fort Edward.
KIELY, James A., 1st Lieut., Binghamton.
McKEON, John G., 1st Lieut., Albany.
MIERAS, Marion D., 1st Lieut., Elmira.
MOORE, Francis W., Colonel and Commanding Officer, Brooklyn.
MURPHY, James M., 1st Lieut., Willard.
O'BRIEN, Richard A., Major, Corning.
ROONEY, James F., Lieut. Col., Albany.
SARGENT, Carlton W., 1st Lieut., Dundee.
STANSBURY, Frederick C., 1st Lieut., Syracuse.
TAMASI, Joseph J., 1st Lieut., Garden City.

SELECTIVE SERVICE EXAMINATIONS IN NEW JERSEY

Through the cooperation of the Second Corps Area of the Army and the New Jersey State Tuberculosis Committee, every man inducted into the military service through the selective service system received a roentgen examination of the chest at a cost of 75 cents per man, the cost being paid by the government, it was reported at a meeting of the committee on medical preparedness of the Medical Society of New Jersey with chairmen of county committees and representatives of local and induction boards in Trenton in February. Up to December 31 among 16,412 registrants examined local boards found 139 cases of tuberculosis, 70 of which were previously unknown, it was reported. The induction boards examined 12,016 selectees from November 23 to February 28 and rejected 80 for tuberculosis. A statement of the number of selectees rejected for all causes from November 25 through January 31 showed that 976 out of a total of 6,283 registrants examined were rejected for medical and 46 for nonmedical causes. According to this report, the general rate of rejections by induction boards up to January 31 was 16.2 per cent, and the rate was reduced during the month of February to 10 per cent, it was said.

INDUCTION BOARD REJECTIONS IN CONNECTICUT

Figures recently released by the Connecticut Selective Service Headquarters show that of the 4,832 men examined by local boards and sent to the army induction board in Hartford as fit for military service 393, or slightly more than 8 per cent, have been rejected for physical defects and 59 have been found not acceptable for other reasons.

The greatest cause of rejection is dental conditions, which have caused 79 men to be turned down. Faulty eyesight has been found in 51, substandard abdominal conditions, including hernia, in 47, ruptured ear drums in 40, while 35 early cases of tuberculosis have been found by the roentgen examination that is being given to all candidates in Connecticut. Among the other causes for rejection have been venereal disease 35, heart diseases 32, below standard weight, height and chest measurement 22, nervous and mental disorders 18, defects of hands and feet 10, diseases of mouth and nose 5, spine 5, metabolic diseases and diseases of the blood 5.

Conviction of a felony accounted for 44 of the 59 rejections for causes other than physical defects, and 7 men were unable to understand simple English.

Thus Connecticut is rapidly approaching a record low in the number of draftees rejected by the Army induction board. As more experience is obtained in the operation of the draft the physicians on the local boards and the induction board, all of whom have been furnished by the Connecticut State Medical Society, are getting closer together in their results.

NAVAL MOBILE HOSPITALS

A five hundred bed mobile general hospital will be transported to Pearl Harbor, Hawaii, to supply hospital facilities for the naval forces pending construction of a permanent naval hospital there. Congress has just appropriated \$300,000 for the mobile hospital, and Comdr. John H. Chambers, M. C., U. S. Navy, has been assigned to the unit to supervise its organization. Commander Chambers has been executive officer of the Navy's first mobile base hospital stationed at Guantanamo Bay, Cuba; he with two other officers from that unit will go to the Navy Medical Supply Depot in Brooklyn to assemble the equipment for the mobile base hospital number 2, a job which it is expected will be completed by June 1. The first mobile hospital has functioned satisfactorily; it has fourteen medical officers on the staff, three pharmacists and one hundred and eighty-one enlisted hospital corpsmen and one hundred and fifteen enlisted men with nonhospital ratings.

COMPETITION FOR THE WELLCOME PRIZE

The Sir Henry Wellcome Medal and Prize, offered each year through the Association of Military Surgeons of the United States, will be awarded this year for the most useful paper on an original investigation into any phase of army or navy field service, the association announces. Appropriate subjects could relate to camp sanitation and expedients, food inspection, emergency care of wounded, evacuation, landing operations, health measures in occupied territory, control of communicable disease, or others of similar nature. Relative value to the services as a whole will be the determining factor. Competition is open to all medical officers of the government services and all members of the association. Each competitor must furnish five copies of his paper, which must not be signed with his true name but identified with a nom de plume or a distinctive device. Papers must be forwarded to the secretary of the Association of Military Surgeons of the United States, Army Medical Museum, Washington, D. C., so as to arrive not later than August 20.

MOTION PICTURES ON PERSONAL HYGIENE

Utilizing information furnished by the Surgeon General, two motion picture films on the general subject of personal hygiene have been produced in Hollywood by the Research Council of the Academy of Motion Picture Arts and Sciences. These pictures, which have been accepted by the War Department, will be shown to officers and enlisted men with a view to promoting the health of the army. Among other things, the film will show the proper care of the teeth, hands, scalp and other parts of the body and methods of guarding against infection when exposed to contagious diseases.

BRITISH RELIEF NEEDS FUNDS

The Medical and Dental Committee of the East Bay, British War Relief Association of Northern California, announces that the recent purchase and dispatch to England of a portable demountable x-ray and fluoroscopic unit with motor generator has exhausted all its funds. Any one wishing to donate funds to the association should make checks payable to the British War Relief Association, Medical Committee, and mail to George U. Wood, secretary, 434 Thirtieth Street, Oakland, Calif.

MEDICAL LABORATORY IN PUERTO RICO

It is expected that the new medical laboratory which will operate in conjunction with the San Juan base hospital in Puerto Rico will be in operation in July. Lieut. Col. Virgil H. Barnard, M. C., U. S. Army, has been named commanding officer of the laboratory, which will serve the Puerto Rico Department, using a staff about equal to the staff of a corps area laboratory. The laboratory will be located near the School of Tropical Medicine of Columbia University at the outskirts of the city of San Juan.

ARMY MONTHLY MEETING

At the December meeting at the Army Medical Center of the Medical Department Officers residing in Washington and vicinity Brigadier General Frederick F. Russell, U. S. Army, retired, and now professor of preventive medicine and epidemiology at the Harvard University Medical School, was the speaker. General Russell formerly was for many years a teacher in the Army Medical School and a pioneer in the development of the antityphoid vaccine which has been in use in the army.

VACANCIES IN THE MEDICAL CORPS RESERVE

There are about seven thousand vacancies in the Medical Corps Reserve and more than eight hundred in the Medical Administrative Corps Reserve, according to the *Army and Navy Journal*, March 1. Only the Ninth Corps Area has attained full peacetime Medical Reserve Corps strength.

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA
VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGEONS, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOE, ROSCO GENUNG LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MCGOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 1576)

MARCH 18—MORNING

TESTIMONY OF DR. RICHARD H. PRICE

DIRECT EXAMINATION

By Mr. Leahy:

Richard H. Price said he is a practicing physician at present on active duty in the Naval Reserve at Norfolk, Va. His preliminary education was in the Auburn, N. Y., high school; Geneseo, N. Y., normal school, where he received the medical student qualifying certificate from the University of the State of New York. He was graduated at the College of Physicians and Surgeons in Boston but had most of his medical education at the University of Buffalo. He had graduate work at Buffalo and postgraduate work at the University of Chicago and the University of Pennsylvania, and ten years of hospital work. Besides the internships, it was mostly general medicine, internal medicine, neurology and psychiatry. Most of them were government hospitals in the United States Public Health Service and the Veterans Bureau—what is now the Veterans Administration.

Q.—Over what period of time were you employed by the Veterans Administration? A.—From the organization of the Veterans Bureau—I think it was about 1923—until 1927. Before that I had been with the Public Health Service.

Q.—In what cities or parts of the country have you worked? A.—At Pittsburgh, Philadelphia, East Norfolk, Mass., Perryville, Md., and Augusta, Ga.

Q.—When did you first join the staff of G. H. A.? A.—I did some work without pay for them in December 1937, but I went on their salary roll in January 1938.

Q.—What was the type of work you first did without pay, that you mentioned? A.—X-ray work.

Q.—What experience had you had in x-ray work? A.—I had had ten years' experience in x-ray work.

Q.—When you went on the staff in what capacity did you go on the staff? A.—First, in charge of general medicine.

Q.—How long were you with the G. H. A.? A.—I was with them more than a year.

Q.—Were you steadily employed, then, during the year 1938? A.—That is right.

Q.—How much of your time did you spend at G. H. A.? A.—Full time.

Q.—And full time was how much of the day or night? A.—From 9 in the morning until 6 at the G. H. A., and then the rest of the twenty-four hours making home calls in Virginia, Maryland and the District of Columbia.

Q.—Do you recall how many were on the staff while you were there? A.—I believe at first there were five, and then later possibly seven or eight all together.

Q.—What was the general character and type of work which you did in G. H. A.? A.—The general type of work was to make examinations, physical examinations, and to prescribe treatment. I did not do any major surgical work or any obstetrical work or pediatric work. General medicine was to the exclusion of those.

Q.—Did you ever make any application to a hospital for hospital privileges? A.—While I was with G. H. A.?

Q.—Yes. A.—I applied to two of the local hospitals.

Q.—When did you make the applications? A.—I made one in the spring of 1938 and one in the fall of 1938, if I remember correctly.

Q.—How did you apply? I do not mean, now, formally, but did you apply personally or did you have someone apply for you? A.—I applied by letter.

Q.—To what hospital did you apply in the spring? A.—To the Homeopathic Hospital. I think it is called the National Homeopathic Hospital.

Q.—To what hospital did you apply later? A.—In the early fall, to the Garfield Memorial Hospital.

Q.—What was the result from the Garfield Hospital? A.—I was given courtesy privileges at Garfield Hospital.

Q.—Do you recall the character or type of privileges which you applied for? A.—I believe I applied for that very thing—courtesy privileges for medical cases, not for surgical or obstetric or pediatric cases, but for medical cases.

Q.—Did you also acquire privileges at Homeopathic Hospital? A.—No, sir; I did not.

Q.—By the way, were you a member of the District Medical Society when you applied? A.—No. I have never been a member of the District Medical Society.

Q.—Have you ever been a member of the American Medical Association? A.—Yes, sir.

Q.—Are you still? A.—No, sir.

Q.—When was it you ceased being a member? A.—I ceased in January of this year.

Q.—What was the result at Homeopathic Hospital? I believe you said you applied there also. A.—I applied, but I did not receive privileges. I do not remember whether they wrote me a letter and said I did not have them or whether they did not answer. But I know I never obtained privileges. In fact, I have never been in that hospital. I do not even know where it is.

Q.—Following your privileges at Garfield, what was Garfield's attitude toward patients?

Mr. Lewin:—Objected to unless he fixes the time when the privileges were granted. It is our information he got them two days before this indictment was returned.

Mr. Leahy:—If you want to testify, take the stand and I will cross-examine you.

Mr. Lewin:—I do not think the question is relevant.

THE COURT:—I think that counsel should not make statements of fact.

Mr. Lewin:—I beg your Honor's pardon, but I thought I had to make it as a basis for my objection.

THE COURT:—No. The basis of your objection would be that the testimony is not relevant unless it is shown that it was before the time of the indictment.

Mr. Lewin:—I am sorry. I wish I had put it that way.

By Mr. Leahy:

Q.—Could you give us, according to your best recollection, Doctor, when it was that you obtained privileges at Garfield? A.—I could not fix the date; no, sir. But it was not very long after I made application. I think it was within a month, or

something like that, after I made application. I don't remember the date, but I am quite sure it was in the fall of 1938.

(Here there was much discussion about the time of the incidents concerned.)

By Mr. Leahy:

Q.—Did you have any patients at all in any of the hospitals in Washington prior to Dec. 20, 1938? A.—I am not certain about that.

Q.—You got your privileges on Dec. 19, 1938. How long before that time did you make application for the privileges? A.—I believe it was about a month before.

Q.—What difficulty did you have in obtaining privileges from Garfield Hospital, Doctor? A.—I did not have any difficulty in obtaining privileges.

Q.—After you wrote the letter, and following a period of approximately a month, then what occurred? A.—I received the privileges asked for.

Q.—While you were at G. H. A. in general medicine what was your experience with reference to the quality of care which you were able to give your patients?

Mr. Leland:—Objected to.

THE COURT:—I do not think that is material.

Mr. Leahy:—Your Honor, may we approach the bench on that?

THE COURT:—Certainly.

(Counsel for the respective parties approached the bench and conferred with the Court in a low tone of voice.)

(The discussion concerned the right of the witness to testify as to the quality of service rendered by G. H. A. The witness was temporarily withdrawn to give the Court opportunity to consider previous evidence by Dr. Cabot on this point.)

TESTIMONY OF DR. ROSCO GENUNG LELAND

DIRECT EXAMINATION

Dr. Leland said he has been director of the Bureau of Medical Economics for ten years. He graduated from the Mendon, Mich., high school and from the University of Michigan, department of Literature, Science and the Arts with the degree of Bachelor of Arts in 1907. He received the degree of doctor of Medicine from the Michigan University in 1909. He had an assistantship in the University of Michigan, 1909 to 1910, then did private practice of medicine for nine years in southwestern Michigan. In the meantime he was in the service of the army of the United States for twenty-six months in the United States, France and England, returning in May 1919. Then he became one of the staff of the Ohio State Department of Health for about six years. Here he was administrative head of a division of health which had in it the bureaus of tuberculosis, hospitals, public health nursing, venereal diseases, social protective measures, and care of ophthalmia or prevention of ophthalmia in the newborn. Then he went to Toledo, Ohio, to take charge, as executive secretary, of the Toledo Public Health Association, an organization of some twenty-six private organizations, and was there about fifteen months, from 1926 until March 1927. Next he became assistant in the Bureau of Health and Public Instruction of the American Medical Association for four years.

Q.—Just generally, and without going into too much detail, what are the functions of that bureau in the American Medical Association? A.—That bureau undertakes to provide information on health matters and the preservation of health and the prevention of disease for the public.

Q.—And in what way, if any, does it distribute the knowledge which it acquires? A.—It contributes largely through the health magazine published by the American Medical Association, known as *Hygeia*. It publishes a large number of separate publications on health subjects, and it has in charge a radio program.

Q.—What is the function of the radio program? A.—The radio program has been devised to carry information concerning the medical profession and health to the public, and particularly to children who are in grade and high school.

Q.—What subjects are broadcast for the public benefit? A.—The topic of the broadcast at the present time is a series of radio programs on the subject of "Doctors at Work," giving to the public in simple terms, dramatized, a word picture of the things that doctors do from day to day.

Q.—How many of these pamphlets are published by that particular bureau of the American Medical Association? A.—I have no accurate recollection of the number, but I presume it would be at least fifty or seventy-five; and in addition to the radio program items there would be several hundred.

Q.—How are they distributed—free, or for a charge? A.—Free.

Q.—What is the method of distribution? Is it on call or on subscription or what? A.—On request.

Q.—What work did you then take over? A.—I was made Director of the Bureau of Medical Economics.

Q.—How long has that bureau been in existence? A.—It was authorized by the House of Delegates of the American Medical Association at its meeting in Detroit in 1930, and the bureau itself was organized in March of 1931. At that time I was made the director.

Q.—How large a bureau is that, Doctor? A.—I have three associates and twenty-five clerks.

Q.—Generally, what are the functions of the Bureau of Medical Economics? A.—The Bureau of Medical Economics undertakes to discover and collect information concerning the amount of sickness and the way in which people get their medical and hospital care, the way in which they meet their bills. It also collects and keeps for reference a large amount of information known as Vital Statistics, statistics pertaining to births and deaths and the types and amount of disease.

Q.—How is most of that information collected by the bureau? A.—A great deal of it is collected from official organizations, such as the Census Bureau here in Washington, the International Labor Organization in Geneva, Switzerland, with offices here, and from a large number of organizations that are engaged in the collection of information pertaining to vital statistics, statistics on population and statistics of various other types of studies, and also from medical organizations that have conducted studies in various parts of the country. State medical societies have conducted a large number of separate studies.

THE COURT:—Mr. Leahy, I think a reasonable amount of background is all right, but if you kept the witness from elaborating too much I think it would be better.

Mr. Leahy:—Very well.

By Mr. Leahy:

Q.—Doctor, are there any articles published by the bureau which appear in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION? A.—From time to time articles are published in THE JOURNAL, but there are other articles and reports that are too lengthy to publish in THE JOURNAL, and they are published as separate publications.

Q.—Doctor, you have sat here in the court room, have you not? A.—Yes, sir.

Q.—You heard the testimony, did you, of Dr. Cabot with reference to articles published by the Bureau of Medical Economics? A.—I did.

Q.—In publishing articles under the supervision of your bureau, what is the practice with reference to the manner of their presentation? Are both sides presented, only one side; are they argumentative, factual or what? A.—We try to do both. On some subjects there are perhaps definitely two sides. We endeavor to present both sides. On other subjects there is probably only one side and we endeavor to present to the public or to the medical profession both sides of a question.

Q.—On any questions on which articles have been published in THE JOURNAL, Doctor, what have you to say with reference to the scientific study placed in the articles? A.—We endeavor to bring to the examination of the subject under consideration the very highest degree of scientific treatment in order to arrive at the most sound judgment.

Q.—Now, Doctor, coming down more specifically, do you recall when you first heard of G. H. A.? A.—I believe it was at the time of the American Medical Association meeting in Atlantic City in June 1937.

Q.—Do you recall now whether a copy of a letter from—I think it is Major General Ireland—was received by your bureau in the American Medical Association in Chicago? A.—I have seen, since I have been here, a copy that was said to have been sent to my bureau. I do not recall seeing it at the time it was said to have been sent there.

Q.—Through what meeting or in what manner did you hear of G. H. A. at that convention? A.—As I recall it, it was a brief report or statement made by Dr. Woodward to the House of Delegates.

Q.—Do you recall whether any action was taken on the report at the time? A.—I do not recall any action.

Q.—When next did you hear of G. H. A.? A.—I was asked to accompany Dr. Woodward to Washington to confer with members of the Medical Society of the District of Columbia in July of 1937.

Q.—Do you recall what instructions, if any, you had at the time you came here to Washington in July of 1937? A.—The only instruction I had was to secure as much information as possible about the nature and operation of G. H. A.

Q.—What information had you before that time? A.—Only that given by Dr. Woodward at the meeting.

Q.—Personally what effort had you made prior to that time to find out anything about G. H. A.? A.—I had made no effort. I knew nothing about the existence of such an organization.

Q.—Did you come to Washington in July 1937? A.—I did.

Q.—Whom did you meet when you got here, in the District Medical Society, if any one? A.—I doubt that I can recall all of those of the District physicians who were at that meeting, but I believe I saw Dr. Conklin, Dr. Macatee, Dr. Hooe and Dr. McGovern; but I think there were more than that.

Q.—Did you know Dr. McGovern before that time? A.—I believe I had met him, but I cannot recall when or where.

Q.—Do you remember whether you had met Dr. Hooe before that time or not? A.—No; I believe not.

Q.—Had you ever met Dr. Macatee before that time? A.—Yes. I think Dr. Macatee had been in the House of Delegates for some time and I had known him there.

Q.—How many of these defendants who have been in the court room with you here since this trial started had you known, other than in the American Medical Association, before you came here? A.—I don't know that I can name them offhand. I knew Dr. McGovern.

THE COURT:—Suppose you call the names.

By Mr. Leahy:

Q.—I will call the names, Doctor, and see if you can tell us, as you hear the names read, when you first met them, omitting the ones you have told us about having met for the first time. (In response to the call the witness testified he had met Dr. Christie in connection with some work pertaining to the Committee on the Costs of Medical Care. He had not met Drs. Custis or Martel. He had not met Drs. Neill, Reede, Sprigg, Stanton, Warfield, Willson, or Young. He thought he had met Dr. Yater probably sometime in 1935 in connection with the organization of a plan of the District Medical Society that was organized about that time.)

Q.—Now, going back to this meeting in July of 1937, did Dr. Woodward come here to Washington with you? A.—Yes, sir.

Q.—Do you recall now what information you obtained, if any, upon that occasion, about G. H. A.? A.—No information in addition to that which we already had had.

Q.—Do you recall now about what information you had when you came to Washington, about G. H. A.? A.—We had information concerning the articles of incorporation, as I recall it, and some information about the methods of financing; but beyond that I cannot recall any other definite information.

Q.—What other thing was discussed at this meeting of July 1937 between you all, other than matters of trying to get information? A.—As I recall it, Dr. Woodward suggested that the District Medical Society ought to have counsel, and I made a suggestion for the District Medical Society itself pertaining to a method by which prepayment medical care could be organized.

Q.—Do you recall now personally ever having come to Washington again with respect to G. H. A.? A.—I do not.

Q.—Do you recall now whether you ever attended any meeting of the District Medical Society? A.—I have attended meetings of the District Medical Society on several occasions, but not in the interest or for the purpose of finding out about or discussing G. H. A.

Q.—When you returned to Chicago what was done by you in Chicago with reference to G. H. A., if anything? A.—I made a verbal report of the visit to Washington to Dr. West.

Q.—From the time that you returned to Chicago and made the verbal report to Dr. West of the meeting here in July of 1937, what else have you ever done with reference to G. H. A. in any way, shape, or form? A.—Nothing.

Q.—Have you ever come to the District Medical Society with reference to any plan which you had in mind? A.—Yes, sir.

Q.—Do you recall when that was? A.—One of those meetings was in December of 1938, as I recall it, and there were several others, but I cannot recall the exact dates.

Q.—In what capacity did you come when you came in November of 1938, or on any of the other occasions which you just mentioned? A.—As Director of the Bureau of Medical Economics.

Q.—For what purpose? A.—To discuss with the Committee of the District Medical Society methods that could be used in the development of a plan to provide people of low incomes with medical services on a prepayment basis.

Q.—Do you recall whether you had any plan of your own, now? A.—I had no plan of my own. I had frequently said

that it was not possible to develop a master plan; but I did have ideas about certain principles that ought to be incorporated.

Q.—Do you recall whether at or about that time the Society was formulating a plan? A.—The Society was formulating a plan which I believe was an outgrowth of a plan I mentioned a moment ago, which was developed in 1935.

Q.—At any time, Doctor, while you were in the District of Columbia with any of the officers or members of the District of Columbia Medical Society, did you ever discuss the matters or ways or means of any one hindering or restraining Group Health Association? A.—No, never.

Q.—Was there ever any correspondence between you and any member of the District Medical Society with reference to the same subject matter about which I have inquired? A.—No, sir.

Q.—What attention, if any, Doctor, did you pay to G. H. A. after the meeting of July 1937? A.—I paid no particular attention to it. I think occasionally, the times of which I do not recall, I may have asked Dr. Woodward a question or two, but beyond that I did nothing.

Q.—Do you recall a meeting in Chicago on the 6th day of November 1937? A.—Yes.

Q.—Were you present at that meeting? A.—Yes.

Q.—Who else was there? A.—Dr. McGovern, Dr. Hooe, Dr. West, and Dr. Woodward.

Q.—What part did you take in that meeting? A.—None.

Q.—Did you say a word? A.—Not a word.

Q.—Following that meeting, did you meet Dr. Hooe or Dr. McGovern again in any way? A.—Well, I may have met them some time but I cannot recall any particular instance at present.

Q.—Now, you said that in your bureau that you had some assistants; did you say three? A.—Three.

Q.—During the years 1937 and 1938 how many assistants were in your bureau? A.—I had two at that time.

Q.—And what were the duties or functions of those assistants? A.—They were charged with the duties of taking over some of the work of the Bureau of Medical Economics. They were trained or given the duties of taking care of certain studies and because they had developed a familiarity with certain subjects they were also given certain correspondence to take care of.

Q.—How heavy, or otherwise, is the correspondence of the bureau? A.—It varies somewhat from three thousand to seven or eight thousand letters a year.

Q.—And of what type or character is the correspondence in your bureau? A.—A great many of the letters are inquiries coming to the Bureau of Medical Economics and require a considerable amount of research in order to send back an intelligent and satisfactory reply to the inquiry.

Q.—Now, Doctor, has there ever been fixed by your bureau any policy with reference to group prepayment plans of medicine? A.—Only those policies established by the House of Delegates.

Q.—What jurisdiction has your own bureau for fixing any policy for said things? A.—None whatever.

Q.—Has the House of Delegates, to your knowledge, ever fixed a policy under which your bureau operates with reference to this group prepayment plan of practice? A.—In 1934 the House of Delegates adopted what are known as the ten principles, which are intended to assist state and county medical societies that felt a desire to organize some plan of prepayment care. Later on, the House of Delegates also adopted ten principles which applied to the organization and administration of group hospitals. Those are the two main policies.

Q.—What policy of opposition or otherwise has your bureau operated under since 1934 to group prepayment plan? A.—The only opposition that the bureau has had has been to follow that which was established by the House of Delegates in opposition to compulsory sickness insurance.

Q.—No other policy whatsoever has characterized your work in the Bureau? A.—No.

Q.—Now, some correspondence—I won't go over it all with you—some correspondence was introduced in evidence here with a Mr. Laux: do you recall that? A.—Yes, sir.

Q.—Was he a member of the staff of your bureau? A.—Yes.

Q.—And there is also some correspondence here with a Mr. Simons: do you recall that? A.—Yes.

Q.—Was he also a member of the staff of your bureau? A.—He was.

Q.—Now, with respect to the correspondence conducted by either Mr. Laux or Mr. Simons, what knowledge if any, had you of the correspondence written by either or both of these gentlemen at the time? A.—They carried on a considerable correspondence that I never saw. I had confidence in those two associates to carry on a certain type of correspondence without my paying very much attention to it.

Q.—As you heard the correspondence which was dictated by Mr. Laux and Mr. Simons, what knowledge, if any, did you have of the correspondence, and its contents, before you heard it here in the court room? A.—None.

Q.—What is your practice as to reading all the correspondence which comes to the bureau? A.—I read only those bits of correspondence which I feel I should answer myself. I sometimes read also correspondence which I pass on to associates to handle because it is necessary to arrive at some decision as to whether I should myself do it or pass it on to them.

Q.—I now show you Exhibit 264 for the Government, which is a carbon copy of a letter dated March 23, 1934. Will you look that over and see if you can recall that as a carbon copy of an original, which original you dictated? A.—I wrote the original of this.

Q.—Can you now tell us whether it was an original answer to an earlier letter which I just brought to your attention? A.—I believe it is.

Q.—The letter which has been identified as Exhibit 265 is on the letterhead of the Providence Mutual Life Insurance Company of Philadelphia. It is dated March 16, 1934. It is written to Arthur J. Cramp, M.D., Director of Bureau of Investigation, American Medical Association, Chicago:

"Dear Dr. Cramp:"

Who is he? A.—He was Director of the Bureau of Investigation, American Medical Association.

Q.—Is that bureau still in existence? A.—Yes.

Q.—Under the jurisdiction of what office or bureau or department; or is it an independent bureau? A.—None; it is an independent bureau.

Q.—What does the Bureau of Investigation do? A.—It collects information concerning the operations of quacks, charlatans and pertaining to some "patent medicine" and a lot of curious devices for the treatment of people.

Q.—And having collected that information what does it do with it? A.—It publishes the facts about many of those individuals.

Q.—In what magazine? A.—In THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Mr. Leahy:—The letter reads:

"I am enclosing a copy of a circular which we have just received through our Los Angeles representative. This is designed to interest our Los Angeles agencies as a group to avail themselves of whatever service this medical clinic has to offer at the fee schedule, as I understand, which is quoted herein.

"Before instructing our general agent in Los Angeles as to what they shall do relative to this matter, I should like your opinion concerning the ethics of this group, and whether the principle on which such a medical group is operated is consistent with the highest medical ethics.

"Doubtless, there is available to you full information concerning the staff of physicians who make up this particular medical group. In so far as you know, are they all men of ability and integrity?

"I should greatly appreciate your opinion concerning this matter and any recommendation which you may have regarding this type of medical practice.

"Very truly yours,

"Ernest J. Dewees,

"Assistant Medical Director,

"Providence Mutual Life Insurance Company."

Q.—Doctor, what do you do toward volunteering information with reference to any particular group, or devices, or quacks, or what not? A.—To whom? The inquirer?

Q.—Do you do so only on inquiry, or do you volunteer information? A.—Usually the information is given out chiefly on inquiry by someone who writes to us, although in some instances the subject may be presented through the columns of THE JOURNAL.

Q.—I notice it says in that letter:

"Doubtless, there is available to you full information concerning the staff of physicians who make up this particular medical group"; as to the ability and integrity of these men.

Do you know what he refers to in that statement? A.—I would assume he referred to the American Medical Directory or perhaps to the files of the American Medical Association.

Mr. Leahy:—In Exhibit 264, which is the number this carbon copy has received, on March 23, 1934 Dr. Leland wrote to Dr. Ernest J. Dewees, Assistant Medical Director, Providence Mutual Life Insurance Company, Philadelphia, Pennsylvania:

"Dear Dr. Dewees:

"The Los Angeles Medical Association, I believe, will be glad to give you a more recent report on the personnel and activities of the Ross-Loos medical group than can be given from this bureau.

"I am personally of the opinion that the methods used by many of the organizations similar to this one do not contribute to the best interests of either the public or medical profession.

"The Secretary of the Los Angeles Medical Association is Dr. Harry H. Wilson, whose office is at 1925 Wilshire Boulevard, Los Angeles, California.

"It may be of some interest to you to note a newspaper report under date of March 6, 1934, states that Dr. H. C. Loos and Donald Ross 'were banished from the Los Angeles County Medical Association Monday night for engaging in a plan of health insurance.'

"For that and other reasons, I believe it might be more satisfactory for you to secure the information you desire from the Los Angeles Medical Association.

"Sincerely yours,

"R. G. Leland."

By Mr. Leahy:

Q.—Do you recall, now, at the time you wrote this letter to Dr. Dewees, what information you had other than the newspaper report with reference to the activities of the Los Angeles Medical Association and the Ross-Loos Clinic? A.—We had information concerning the organization and operation of the Ross-Loos medical group, but this information concerning the newspaper item was entirely new. We had nothing on which to verify that statement; therefore, it seemed to me that checking with the local people was the wise procedure.

Q.—Had the American Medical Association ever taken any action against the Ross-Loos Clinic? A.—No, sir.

Q.—What jurisdiction had the American Medical Association over the activities of the Los Angeles Medical Association, if that be the name of it? A.—None.

Q.—Do you recall whether the question of the Ross-Loos Clinic ever came before the American Medical Association in any form? A.—It did.

Q.—Do you recall when? A.—I believe it was some time late in 1935, perhaps in 1936, it came to the judicial council of the American Medical Association as an appeal from an action of the California Medical Association.

Q.—Appeal by whom? A.—Appeal by Drs. Ross and Loos from the action of the Los Angeles Medical Society and the California Medical Association.

Q.—And what did the American Medical Association do on the appeal? A.—As I recall it, the judicial council of the American Medical Association reversed the action of the California Medical Association.

Q.—Are Drs. Ross and Loos members of the American Medical Association at this time? A.—I believe so.

Q.—You stated in the second paragraph of this letter:

"I am personally of the opinion that the methods used by many of the organizations similar to this one do not contribute to the best interests of either the public or medical profession."

To what did you refer when you wrote that to Dr. Dewees? A.—I referred to information that had come to the Bureau of Medical Economics concerning a considerable number of organizations that had become legally involved in California; I believe there were some one hundred and forty-three of such organizations in California, and many of them had become organized in late 1933, early 1934—a few some years before that—and about 1933 some of those organizers had been indicted and sent to prison.

Q.—How many of those organizations, as you recall, in California, had come under the investigation of the State of California? A.—There was a list of one hundred and forty-three of them that were being investigated and, as I recall it, at least six or seven individuals were finally indicted and sentenced.

Q.—Doctor, could you just briefly—do not go into details about it—but just substantially tell us about some schemes for giving medical attention and service in the United States that your bureau has investigated. A.—There are some two thousand or more industrial medical care plans. We haven't investigated those carefully but we know there are that many and we know the type and, in general, the way in which they operate. There are about three hundred student health services in the colleges and universities; about three hundred—may I look at some notes—there are about three hundred of the type of organizations known as mutual health and hospital associations. Those organizations are, I presume, what one might call "consumer" groups.

Q.—How many of those do you say are operating? A.—About five hundred, and those contain the one hundred and forty-three to which I have just referred, in California. There are about nineteen flat rate plans, which are used by hospitals to give care to people on a flat rate basis, including everything that is needed. About fifty-four hospital insurance companies; seventy-eight group hospital plans operating and about sixty or

more that are proposed, and about three hundred and fifty group medical plans; at least twenty-four union sick benefit plans and probably three hundred and fifty rural medical plans which are being sponsored by the Farm Security Administration.

Q.—Now, with reference to these groups which you have just mentioned, what action has the American Medical Association taken or advocated against them? A.—They have taken no action except to secure the information about them and, in some instances, publish the facts concerning them.

Q.—But there are that many plans which you just mentioned now in operation? A.—There may be more.

Q.—And as director of your own bureau what action have you taken against any one? A.—None.

Q.—To return, however, to the paragraph in your letter to Dr. Dewees:

"I am personally of the opinion that the methods used by many of the organizations similar to this one do not contribute to the best interests of either the public or medical profession."

to what are you referring when you say:

"the methods used by many of the organizations?"

A.—The methods I think I had in mind were those used by these organizations in California which had taken money away from people and had not been in existence and in operation to give service when the people needed the service.

Q.—What information, Doctor, had you at the time about the Ross-Loos Clinic; your own personal information? A.—I had visited the Ross-Loos group some time in 1932.

Mr. Leahy:—This is from the Belmont High School, 1575 West 2d Street, Los Angeles, to the A. M. A., Chicago:

"Gentlemen:

"We have out here in Los Angeles a medical group called the Ross-Loos medical group. Could you advise me if this organization meets with the unqualified endorsement of the A. M. A.? I have been of the opinion that it was not exactly ethical and for that reason didn't care to endorse it.

"Thanking you for this information,

"Yours truly,

"George Horton."

268, which has just been identified by Dr. Leland is his reply, dated May 31, to the inquiry:

"The Los Angeles Medical Association, I believe, will be able to give you a more recent report on the personnel and activities of the Ross-Loos medical group than can be given from this bureau.

"The Secretary of the Los Angeles Medical Association is Dr. Harry H. Wilson, whose address is 1925 Wilshire Boulevard, Los Angeles, California.

"I am personally of the opinion that the methods used by many of these organizations similar to this one do not contribute to the best interests of either the public or the medical profession.

"It may be of some interest to you to know that a newspaper report under date of March 6, 1934 states that Drs. H. C. Loos and Donald Ross 'were banished from the Los Angeles County Medical Association Monday night for engaging in a plan of health insurance.'

"For that and other reasons I believe it might be more satisfactory for you to secure the information you desire from the Los Angeles Medical Association."

By Mr. Leahy:

Q.—Now, you stated in the second paragraph of that letter approximately the same opinion as you gave in the earlier paragraph, about which you testified, that

"organizations similar to this one do not contribute to the best interests of either the public or the medical profession."

To what did you refer when you said they do not contribute to the best interests of either the public or medical profession? A.—I referred, as I said, I had in mind in the first letter that some of these organizations had been taking money away from people without giving them service, and also had in mind that many of them used advertising and solicitation, which are often used by such organizations, and they are not considered ethical practices.

Q.—And why are they not considered as ethical, Doctor, these practices of advertising and soliciting? A.—There is an opportunity in advertising to make exaggerated and unwarranted claims for the benefits which are advertised.

Q.—And as to solicitation? A.—The same thing holds true on solicitation. There is always a certain amount of word of mouth advertising.

Mr. Leahy:—271 is a letter of inquiry from R. H. Ludden, M.D., physician and surgeon, Viroqua, Wis., directed to the American Medical Association, attention of R. G. Leland:

"Gentlemen:

"Could you please send me information on the Ross-Loos medical group, Los Angeles, Calif.

"Yours very truly,

"R. H. Ludden, M.D."

270 is a carbon of a reply which Dr. Leland states he has written to 271. It is dated June 5, 1934, directed to Dr. Ludden.

"The Los Angeles Medical Association, I believe, will be able to give you a more recent report on the personnel and activities of the Ross-Loos medical group than can be given from this bureau."

Q.—Now, Doctor, have you seen the Ross-Loos Clinic since 1932, when you stated you visited it? A.—I have not.

"I am personally of the opinion that the methods used by many of the organizations similar to this one do not contribute to the best interests of either the public or medical profession."

Then he gives the name of the Secretary of the Los Angeles Medical Society; then the same paragraph as to the newspaper account of March 6, 1934, and concludes:

"For this and other reasons, I believe it might be more satisfactory for you to secure the information you desire from the Los Angeles Medical Association."

Q.—During the spring of 1934, when these three letters which you have just read and to which you replied were received by you, and the replies written by you, what information had you particularly of a recent date on the Ross-Loos Clinic, as of that date? A.—The only information I had, in addition to the operation of the clinic, was this newspaper account that apparently the Ross-Loos Medical Clinic or Dr. Ross and Dr. Loos had become somewhat involved with the Los Angeles Medical Association, but the exact nature of the difficulties were not known to me at that time.

Q.—Is that why you referred the inquirer back to the Los Angeles Medical Association? A.—Yes.

Q.—How did you happen to have the address of the Secretary of the Los Angeles Medical Association? A.—We maintain a directory of the names and addresses of all the secretaries of all the medical societies throughout the country.

Q.—By the way, may I ask this: Is it one of the functions of the American Medical Association, for the benefit of the Association and the profession and the public, to keep any record of all doctors in the United States, regardless of whether they are members of the A. M. A. or not? A.—The American Medical Association does that.

Q.—This is an inquiry from Drs. Rigby and Hargrave, of Shreveport, La.; it is 273, dated Jan. 22, 1935. It is addressed to the American Medical Association.

"Gentlemen:

"Due to the fact that I am chairman, of the Economics Committee, of the Shreveport Medical Society, I desire to get all the information that is obtainable on Medical Economics. We have, in this vicinity, some members of the medical fraternity, who do not belong to our local or state society and who engage in extensive advertising to further their practice of medicine. We have one, who claims to be a Fellow of Proctology, and there are others whom I could name operating in various branches of medicine. I also have in my possession, some information from the Ross-Loos Medical Group, Los Angeles, California. I would like to know if the Ross-Loos Medical Group of Los Angeles, are an ethical group of Doctors and if they belong to organized medicine.

"Any information you may be able to give me, will be appreciated."

To this Dr. Leland wrote the original of which 272 is a copy.

"The Los Angeles Medical Association, I believe, will be able to give you a more recent report on the personnel and activities of the Ross-Loos medical group than can be given from this bureau.

"The Secretary of the Los Angeles Medical Association is Dr. Harry H. Wilson,"

giving his address.

"I am personally of the opinion that the methods used by many of the organizations,"

and the same paragraph again.

"It may be of some interest,"

and the same paragraph.

"For this and other reasons, I believe it might be more satisfactory for you to secure the information you desire from the Los Angeles Medical Association.

"Under separate cover I am sending you a complete set of the publications of this bureau which I trust will be of interest and benefit to you."

Q.—Now, Doctor, have you any independent recollection of what constituted the set of publications which you sent to that doctor? A.—No, I do not have any recollection. The number and nature of the publications of the bureau have changed from time to time, adding each year several new publications. I could not be sure just which ones were included in this particular package.

Q.—Doctor, between the time of the letter which you wrote in June 1934 and this letter in March 1935, what additional

information had you had with reference to the Ross-Loos Clinic?
A.—None that I can recall at the moment.

Q.—Now, when you received these various inquiries which we have just been reading, Doctor, did they induce you to make any investigation of the Ross-Loos Clinic for or on behalf of the American Medical Association? A.—No, sir.

Q.—Did the American Medical Association instigate any investigation of the Ross-Loos Clinic? A.—Not to my knowledge.

Q.—More particularly, did your bureau? A.—I made an investigation purely on my own initiative to learn what was being done by the Ross-Loos Clinic.

Q.—Was that in 1932, which you spoke about? A.—Yes.

Q.—What was the character of investigation made at that time? A.—I called at the Ross-Loos Medical Clinic where I was received very cordially. I met Drs. Ross and Loos and a considerable number of the staff. I was shown the clinic building and the facilities used for diagnosis and treatment of patients, to acquaint me with the methods and personnel of the Ross-Loos medical group.

Q.—Was that particular visit to that group made for the purpose of investigating that group, or was it routine, or what? A.—It was a routine visit made very shortly after the organization of the Bureau of Medical Economics for the purpose of collecting information and building up a source of material for the bureau.

Q.—What other groups did you visit in that same year, if any? A.—I visited groups in Minneapolis, Fargo, Bismarck, Glendive, Montana, Billings, Spokane, Seattle, Tacoma, San Francisco, Los Angeles, San Diego—

Q.—That's enough; what purpose did you have in making this trip around to these various groups in these various cities?

A.—Nothing, except to secure information; the facts as to the ways in which medical groups were being operated.

Q.—And what use did you put the information to? A.—Later on we secured some additional information by mail and published a separate publication.

Q.—And what action did the American Medical Association take other than the publication that you just mentioned of the information? A.—None whatever.

(The witness identified a letter to Mr. James H. Baker, executive secretary Hennepin County Medical Society, Minneapolis.)

"Dear Mr. Baker:

"The Kansas City Industrial Hospital Association agreement with the Butler Manufacturing Company is but another example of similar types of contract practice that exists in other parts of the United States. Patients are not given freedom of choice of physician but must accept the physician furnished by the Industrial Hospital Association. The agreement states that members may at their own expense call or employ their own physician. Nothing is said as to the manner in which hospital care will be provided, although it is inferred that beneficiaries must be taken care of in hospitals of the Association in the event hospital care is necessary.

"This type of organization has been brought to the attention of the medical profession on several occasions. It is one which, in my opinion, ought to be discouraged.

"Under separate cover I am sending you several copies of our reprint 'New Forms of Medical Practice,' in which several types of this form of arrangement are discussed. "Sincerely yours,"

Q.—Now, Doctor, at the time you wrote this letter, back in April 1935, had you information in reference to this Kansas City Industrial Hospital Association? A.—Some information regarding the Kansas City Industrial Hospital Association had been sent to me by Mr. Baker; on the basis of that information, which as I recall it, was a rather brief pamphlet, I made these comments.

Q.—You stated in there:

"This type of organization has been brought to the attention of the medical profession on several occasions."

Again you state that it was similar to other forms of contract practice that existed in other parts of the United States. What did you mean by that? A.—Forms of contract practice that existed in various parts of the United States for many years; but there seems to have been a concentration of contract practice of a low type in certain sections, some in West Virginia; some in the State of Washington, and some in Oregon; and on the basis of the performances of these types of contract practice I believed that those particular types ought to be discouraged.

Q.—Now, why do you think that the type which you said was of low form—will you tell us what the form was and why you said it should be discouraged? A.—Contract practice, group and individual, were organized to provide a certain amount of service under contract at a very low cost. It was the custom

for others, individuals or groups, to organize similar services with contracts to provide medical care or hospital care, or both, offering either the same amount of service for less money, or more service for the same amount of money. In some cases this competition, if it can be called that, or solicitation, went from bad to worse by constantly lowering the quality of medical care offered. I could give you some examples; some of the bad features.

Q.—Well, give us an example of the bad features so we will know in detail. A.—I refer to such an example as the amputation of a man's arm because, instead of carrying the man through to the reasonable—

Mr. Levin (interposing):—Excuse me. Is he talking about the Ross-Loos Clinic?

Mr. Leahy:—No.

The Witness:—No. The reasonable restoration of that arm to function because it would require less time than the process of treatment and rehabilitation.

By Mr. Leahy:

Q.—Now, in your experience, Doctor, where these what you call low forms of contract practice, what did you discover under the contract practice with reference to such matters as you have just described? Were they indulged in or were they not? A.—In different parts of the country?

Q.—Yes. A.—They were; a large number of such organizations all over the country.

Mr. Leahy:—On the stationery of the Academy of Medicine of Cincinnati, Cincinnati, dated March 2, 1936, to Dr. Leland:

U. S. EXHIBIT 277

"The Academy of Medicine of Cincinnati is confronted with the following problem:

"Dr. George H. Cook, after some service with the Ross-Loos at Los Angeles, is preparing to start such a clinic in Cincinnati. Some of the members of the Academy of Medicine whom he has approached have asked the Academy whether an association with this clinic will jeopardize their standing with the Academy. The Executive Council of the Academy has ruled that this question must be answered by the entire County Society. This will be brought to a vote on Tuesday, March 10. Have you any information about this clinic or have you any experience which will guide us in handling this matter?

"The Executive Council will meet on Friday afternoon, March 6th, and I would appreciate hearing from you by that time if possible.

"Thanking you in advance for any information you can give us, and with very best wishes, I am

"Sincerely yours,
"Edward D. King, President."

By Mr. Leahy:

Q.—Doctor, have you replied to that letter? A.—This is a carbon of the reply which I made.

Mr. Leahy:—That's numbered 276 and runs to Dr. King, President of the Academy of Medicine of Cincinnati:

U. S. EXHIBIT 276

"This is to acknowledge receipt of your letter of March 2 relative to the formation of a clinic similar to the Ross-Loos Medical Group in Los Angeles.

"The effect of association with such a group by members of the Academy of Medicine of Cincinnati must be determined by the Academy, which has the original jurisdiction over the ethical conduct of its members."

By Mr. Leahy:

Q.—Doctor, why did you write that to Dr. King? A.—Well, because it's true.

Q.—Did you have anything to do with the ethical conduct of members of the Academy in Cincinnati? A.—Only so far as I might discuss the matter with the secretary or some member of the Academy. I had no authority nor jurisdiction over the members of the Academy of Medicine of Cincinnati.

Q.—For instance, if the Academy of Medicine of Cincinnati wanted to start a clinic, what jurisdiction did your bureau have over it? A.—Not a particle.

Q.—What jurisdiction did the American Medical Association have over it? A.—Nothing.

Q.—In other words, was the Academy entirely independent of you and the American Medical Association, anything it wanted to do? A.—Yes, sir.

"I believe that you should bear in mind that the press, which has socialistic leanings, has energetically taken up the cudgel for the Ross-Loos Medical Group."

Q.—Now, what did you mean by that statement, Doctor, when you said: that the press which had "socialistic leanings"? A.—Well, I think many of us have seen certain publications that have a very liberal view and that have from time to time pub-

lished articles and have assumed the attitude that the socialization of medicine would be a good thing for the people and for the profession of the United States.

Mr. Leahy:

"An attempt is being made to show that the Ross-Loos method is the most desirable method of providing medical care.

"I believe that in the discussion of this matter, your Executive Council and the membership of the Academy as well, should bear in mind the Ten Principles adopted by the House of Delegates at the Cleveland Session in 1934, as a measure of the necessity for, and the method of providing medical services. For example, the 3rd Principle states, 'Patients must have absolute freedom to choose a legally qualified doctor of medicine, who will serve them from among all those qualified to practice and who are willing to give service.' Since I do not have before me the details of the proposal by Dr. George H. Cook, I do not know whether his plan contemplates such a freedom of choice of physician.

"Again, the 8th Principle states, 'Any form of medical service should include within its scope all legally qualified doctors of medicine of the locality covered by its operation, who wish to give service under the conditions established.'

"Under separate cover, I am sending you a copy of the Special Report of this Bureau entitled, 'Medical Service Plans,' adopted by the House of Delegates at the Atlantic City Session. However, I am calling your special attention to these two principles.

"There are other factors which must be considered in examining any proposal to supplement the regular practice of medicine. In many instances these factors may not be apparent in the proposals themselves, but develop later in the operation of the scheme. I refer particularly to the quality of medical care and other methods by which subscribers or participants are obtained. In many schemes which have come to my attention, the amount charged for the medical care has been so small that there could be but one outcome—a reduction in either the amount or the quality of the medical services given, and in many instances, both these factors are involved. The manner of securing subscribers involves a practical application of the Principles of Medical Ethics, especially as these principles pertain to solicitation and unfair commercial competition.

"It is my understanding that the Ross-Loos Medical Group was composed of a number of very competent physicians."

By Mr. Leahy:

Q.—Did you believe that when you wrote it, Doctor? *A.*—I did.

Mr. Leahy:

"As far as I know, the quality of medical care given seems to be good. I am unable to give you all the details of the operation of this medical group or their methods of securing subscribers. However, I am enclosing a copy of an article which appeared in the Los Angeles City Employees Magazine. I am also enclosing a copy of a pamphlet of Information for Subscribers of The Ross-Loos Medical Group.

"It is my further understanding that the Ross-Loos Medical Group in Los Angeles entered into contracts with certain groups of municipal employees and others, under the terms of which medical services would be furnished by the members of the Ross-Loos group for certain stipulated sums. Furthermore, it is my understanding that each member of the groups concerned was required to pay a certain amount each week or month, and that this sum would be used to pay the cost of service rendered by the Ross-Loos clinic. I am informed that the Los Angeles County Medical Association objected to the operation of this plan, by the Ross-Loos group, and the charges were finally preferred against Doctors Ross and Loos. These charges were substantiated by the Council of the Los Angeles Medical Association, and on appeal, the California Medical Association upheld the action of the Los Angeles Medical Association whereby Doctors Ross and Loos were expelled from membership. This case was appealed to the Judicial Council of the American Medical Association. The decision of the Council may be found in THE JOURNAL of Jan. 25, 1936," the volume stated. "You will note however, that the Judicial Council decision expresses no opinion as to the guilt or innocence of the appellants in connection with any unethical practices alleged and charged against them.

"If at any time you believe I may be of some assistance to you, I shall be pleased to help to the limit of my ability."

By Mr. Leahy:

Q.—Doctor, when you enclosed a copy of the information for subscribers of the Ross-Loos Medical Group, have you any recollection now what that copy was? *A.*—No, I do not.

Q.—Have you any recollection now as to what you referred to when you stated, "I am sending you a copy of the Special Report of this Bureau entitled, 'Medical Service Plans'?" *A.*—Yes, sir.

Q.—What were they? *A.*—That was a report, special report of the Bureau, as I recall it, published in 1935, I believe, listing the service plans which had come to our attention throughout the United States, in the form of state medical society plans, operating and proposed; county medical society plans; and the various classifications of services which they gave, either for indigents or for low-income groups; or they were merely for collecting bills: in other words, postpayment plans or prepayment plans.

Q.—Were those forms which you state you enclosed to the director of the Academy factual in nature, informative, or were they recommendations contained therein, or what type were they? *A.*—They were factual, informative, and offered some suggestions or discussion of the principles involved in organizing and operating various types of plans.

Q.—At that time had there been any plans for the prepayment of cost of medical care? *A.*—Yes.

Q.—Do you recall how many were in existence? *A.*—Well, at that time there were very few operated by medical societies. There were plans being operated by groups of different kinds. Perhaps they might be designated as either consumer or producer prepayment groups, but there were only a few throughout the country.

Q.—Now, Doctor, there seems to be a series of letters here between you and a Mr. R. A. Swink.

Mr. Leahy:—Exhibit 279 has just been identified as a letter from Mr. Swink, the Executive Secretary, to Dr. Leland, on the Academy of Medicine of Cincinnati letterhead:

U. S. EXHIBIT 279

"Some days ago Dr. Edward King, President of the Academy, wrote you for some information pertaining to the Ross-Loos Clinic at Los Angeles. We very much appreciated the information furnished by you.

"In order that you might be acquainted with what has occurred here recently, I am enclosing a carbon copy of a letter sent to Charles S. Nelson, executive Secretary of the Ohio State Medical Association, in which a fairly complete statement is given of just what has occurred to date. I feel certain you would be interested in knowing of this action.

"If you have any special pamphlets, or can give me any other references that would enable us to make a more complete statement of organized medicine's viewpoint on the whole insurance scheme, I would like very much to have it.

"Yours truly,

"(R. A. Swink.)"

Mr. Leahy:—The enclosure is dated March 19 and numbered 280, on the same stationery head, directed to Nelson:

U. S. EXHIBIT 280

"Last fall Dr. George H. Cook, a graduate of the University of Cincinnati, but not a member of the Academy here, made it known to some of the members of the Council and to others, that he had just returned from Los Angeles, where he had spent some months getting complete information on the operation of the Ross-Loos Clinic. He stated that it was his intention to organize a similar group in Cincinnati.

"Reports of his activities were heard from time to time, mostly in the form of rumors, until early in February of this year when a letter was received from him by Council, together with a prospectus of his proposed group. In his letter, he asked Council to let him know what attitude would be taken toward members of the Academy who might become members of his group.

"Immediately upon receipt of this letter and prospectus, the entire matter was referred for study to the standing committee on the Cost of Medical Care, of which Dr. Albert H. Freiberg is chairman. After many hours' consideration covering several meetings, this committee recommended to Council that it should reply to Dr. Cook by saying that a request such as he had made, could be considered only when presented by a member of the Academy; and secondly that if such a request is later made by a member, it would then be advisable for Council to call a special meeting of the Academy, so that the entire membership could participate in the discussion and have a final vote as to the policy of the Academy in respect to this matter.

"These recommendations were adopted by Council and Dr. Cook was accordingly notified of the action. Within a few days thereafter, a letter was received from Dr. E. E. Rhoads, a member of the Academy, stating that he was seriously considering the invitation to become a member of Dr. Cook's group and asking whether 'belonging to the George H. Cook Medical Group will in any way jeopardize my standing in the Academy.' Upon receipt of Dr. Rhoads' letter, Council called a special meeting and decided to make consideration of this matter a special order of business to come before the Academy at its regular meeting on March 10, 1936. A copy of notice sent to all members is enclosed herewith.

"Interest in this matter attracted a large attendance at the meeting on March 10. A rough count indicated that there were approximately 325 to 350 members present. As a result of thorough discussion on the part of Council at two special meetings prior to this meeting of the entire Academy, Council prepared a statement to be read by the President, Dr. King, by way of introduction to the entire matter and a statement of the issues involved.

"After giving a brief history of the events leading up to the calling of the meeting, Council called attention in its statement to Article VI, Section 2 of the 'Principles of Ethics' of the A. M. A., and then informed the Academy that, in the opinion of Council, the thing for the members to do was to answer certain questions, with the understanding that those answers would become the rules which Council would feel obliged to enforce in a situation that might arise as suggested in Dr. Rhoads' letter. The questions on which Council desired an answer were these:

"1. Does practice under a prepayment group plan such as is being here proposed, and which does not include all of the legally qualified physicians of the community, but restricts itself to a small group, constitute a violation of Article VI, Section 2 of the 'Principles of Ethics' of the A. M. A.?"

"2. Shall membership in the Academy of Medicine of Cincinnati be withheld from physicians who are practicing in violation of this rule?"

"3. Shall violation of this rule by a member of the Academy constitute sufficient reason for the termination of his membership?"

"It is not necessary for me to relate the entire discussion that occurred at that point other than to say that a motion was immediately made by Dr. Robert Carothers to the effect that practice under a prepayment group plan such as was being proposed, does constitute a violation of Article VI, Section 2 of the 'Principles of Ethics.' That motion was by way of saying yes to question no. 1. After prolonged discussion on the motion, in which only one member, Dr. Samuel Iglauer, spoke in opposition to the matter, a rising vote was taken and practically every one present voted in favor of the motion. There were 3 or 4 who voted against the motion and possibly 15 or 20 others who did not vote either way.

"With the first motion disposed of, motions on the other two questions were immediately put and voted on, with similar results.

"The enclosed clipping from the *Enquirer* on the morning following the meeting is indicative of the reports appearing in all the newspapers of the action taken. The next day after that is when the editorial appeared in the *Enquirer* entitled, 'A Danger Involved,' and in which the Academy was accused of 'boycotting' any physician who undertakes to give medical service on a group basis.

"I trust that this rather lengthy review of the situation will be of interest to you and if you have any suggestions or comments to make, I am sure, Council will be very glad to receive them.

"Yours truly,
"R. A. Swink."

By Mr. Leahy:

Q.—Doctor, what other information did you have with reference to what transpired than this letter of Mr. Swink's to Dr. Nelson, a copy of which he sent to you? A.—No other.

Q.—What did you have, if anything, to do with the preparation of these questions? A.—Oh, nothing.

Q.—Which were answered? A.—Nothing.

Q.—Or with the calling of any meeting of the Council or a meeting of the Academy? A.—Nothing whatever.

Q.—Did you know that either was being held, or anything about it, prior to the receipt of this copy of this letter? A.—I can't recall whether any other letters had come announcing the holding of a meeting or not, but at the present time I would have to say no.

Q.—What advice, if any, did you try to give to Mr. Swink or Mr. Nelson or to Dr. King with reference to this matter? A.—Nothing at all.

Q.—Was it or was it not a matter of complete jurisdiction of the local Society entirely? A.—It was in their jurisdiction completely.

Q.—And this reply of March 25, 1936, numbered 278, which is a carbon of the original, is, I think you stated, in reply to the letter which you had received from Mr. Swink? A.—That's right.

Mr. Leahy:—Dated March 25, to Swink:

U. S. EXHIBIT 278

"I am greatly obliged to you for your letter with the enclosed carbon copy of your communication to Mr. Nelson. I am personally of the opinion that the Academy of Medicine of Cincinnati proceeded in a wise course on the matter under consideration.

"This Bureau is now preparing a publication on 'Economics and the Ethics of Medicine.' This publication will probably bear more directly than any other one we have on the question under discussion, however, I am unable to give you the date at which this will be ready for distribution. In the meantime, I am enclosing some publications of the Bureau in the hope that they may be of some help to you."

By Mr. Leahy:

Q.—And when you stated, I am personally of the opinion that the Academy acted wisely or in a wise course, to what did you refer? A.—I referred to the procedure that they had adopted in arriving at the end. They had made an investigation, they had framed their own questions, and they had put them to the vote of their own membership, and the membership had expressed itself.

Q.—And with that expression what interest had you? A.—An academic one.

Q.—Any advice or anything of that kind? A.—Nothing at all.

Mr. Leahy:—This is on the Medical Society of the District of Columbia stationery, and it is dated June 5, 1937, over the signature of Dr. Conklin, and addressed to Dr. Leland:

U. S. EXHIBIT 259

"I am enclosing herewith a plan that has recently come to our attention for development of prepayment medical service in governmental bureaus. The potentialities of such a plan, if and when it is put in force in the capital city, should be readily understood.

"With hopes that I will have the pleasant opportunity of seeing you during the coming week, I am," Postscript:

"I regret that I was not 'at home' when you called at my office recently. I am hoping for better luck next time."

By Mr. Leahy:

Q.—Well, have you an independent recollection now of having received a plan called "Federal Employees Cooperative Medical Service, Inc."? A.—I recall receiving it, but I can't recall the contents of it.

Q.—Now, looking at the letter again, it states:

With hopes that I will have the pleasant opportunity of seeing you during the coming week,"

Was there any function which was to occur during the coming week? A.—That doesn't mean anything to me now.

Q.—When was the convention of the A. M. A. held in 1937? A.—It was in the early part of June, at Atlantic City. Perhaps that refers to the meeting of the American Medical Association.

Q.—Now, the postscript there states:

"I regret that I was not 'at home' when you called at my office recently. I am hoping for better luck next time."

Have you any independent recollection now of having called at his home or at the office? A.—Oh, I believe that "at home" in quotations means his office.

Q.—His office. Yes. A.—I called at Dr. Conklin's office several times, but I don't know whether it was close to that date or not.

Q.—At all events, have you any independent recollection now of having called, to find that he was out? A.—Yes, I remember that I called once, and Dr. Conklin was out.

Q.—What connection had that call, if any, with Group Health Association? A.—I don't connect it at all with Group Health Association, because I called on the secretary several times as a matter of courtesy and interest, and on matters of medical society affairs, having nothing to do with Group Health Association.

Q.—Now, this carbon copy is dated August 18, Doctor. The letter which Dr. Conklin wrote to you was dated June 5, 1937. I notice you state in the carbon, "Since your letter arrived just as I was leaving the office for my vacation, I have had no opportunity to answer it until today." Had you taken your vacation at that time? A.—I had taken my vacation, and the convention of the American Medical Association had also intervened, and I believe that I had been out—away from the office, as well, on some field work.

Mr. Leahy:—Dated Aug. 18, 1937, numbered 260, in evidence, for the prosecution:

U. S. EXHIBIT 260

"Since your letter arrived just as I was leaving the office for my vacation, I have had no opportunity to answer it until today.

"The suggestion which I made at the committee meeting is, in my opinion, a very simple one, involving nothing but cash payments to those who wish to participate. It is based largely on the type of arrangement that has been in effect for many years and operated by health and accident insurance companies."

By Mr. Leahy:

Q.—To what are you referring in that paragraph, Doctor? A.—I am referring to the principle of cash payments made by health and accident insurance companies on the basis of a contract between them and their policyholders, by which they agree to pay in cash directly to the insured the amount of any claims that are made against the company under a contract.

Q.—Well, I notice you state, "The suggestion which I made at the committee meeting." A.—I made the suggestion at the committee meeting, which was in July of 1937, the suggestion to the Medical Society that they might take under advisement the idea of organizing a cash indemnity plan which would be similar to the cash indemnity plan operated by health and accident insurance companies, if they could qualify under the laws of the District.

(Here was described the Mutual Benefit Insurance Plan as shown in previous printing of this letter.)

MARCH 18—AFTER RECESS

(The Court ruled that testimony on the quality of medical service rendered G. H. A. could be introduced to refute the Cabot testimony.)

TESTIMONY OF DR. RICHARD B. PRICE DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, I believe this morning when you were asked to step aside for a few moments I was about to ask you the question as to your experience while you were at Group Health Association and on its staff of physicians, and more particularly during the year 1938 and up to the 20th day of December

thereof. What was your experience as to the quality of medical care which Group Health was able to give to its patients? *A.*—I found that it was not the care that I wanted to give patients. In other words, I did not think that it was adequate medical care.

By Mr. Leahy:

Q.—Why do you say, Doctor, that it was not the adequate medical care that you thought patients should receive? *A.*—To express it in a word, I would say that it was an attempt to practice medicine wholesale; and I think that adequate medical care would be the opposite. In other words, personal service is the keynote of adequate medical care.

Q.—What ability had you personally to give personal service to the patients that you had in Group Health? *A.*—Very limited.

Q.—What was that due to? *A.*—Well, many factors. My final opinion was that it was due to the type of set-up, rather than to any other possible factor. There were other factors, of course.

Q.—First, with reference to the type of set-up: to what do you refer? *A.*—Well, it was an organization trying to take the place of the family physician, of the personal physician. That was the fundamental trouble with it.

Q.—In what respect did you find that that type of set-up could not replace the family physician? *A.*—For instance, if I were sick in the middle of the night and would want medical care—if I were a member of an organization such as that and called for medical care and a doctor would come to see me who was not familiar with my case, and I would be too sick to go into details, I would not have the confidence in him that I would have in a doctor who knew me. If I may take just a minute or so—I believe we are not as individuals just the sum of our heart and lungs and arms and legs; we are more than that. In other words, personality is more than just the sum of the things that we can determine by x-ray examination. If you are sick it is more important to me as a physician what you think about yourself than the way your heart sounds.

Q.—In your own experience, Doctor, did you find that upon visiting patients on whom you called those patients had had other doctors than yourself? *A.*—They had; yes. That is correct.

Q.—And with reference to the number of patients whom you were called upon to treat, what had that number to do with reference to the adequacy of care which you could render to them? *A.*—I had to attempt to care for more than I could give proper care to.

Q.—Do you recall whether there were any patients at the hospital who were asking or requesting operations which could not be granted? *A.*—There were.

Q.—Do you recall whether there were many or few? *A.*—During the year 1938?

Q.—Yes. *A.*—I should say that nearly a hundred patients had been promised operations and were not given them during that time.

Q.—To what was that due? *A.*—Well, I believe the chief reason they were not giving them was because the organization did not feel they had the money to pay for the hospitalization, and so forth. In other words, they were running—

Mr. Lewin:—We object to what the Association felt. He has got to testify to his knowledge.

THE COURT:—Yes.

By Mr. Leahy:

Q.—Did you discuss that in any way with the board of trustees? *A.*—I talked to the Medical Director about it many times.

Q.—What did he say?

Mr. Lewin:—Objected to as hearsay.

Mr. Leahy:—Oh, no.

Mr. Kelleher:—Let us have the Medical Director here if they want that testimony. Put it in through the right man.

Mr. Leahy:—If your Honor please, this is the chief physician in charge of all the outfit.

THE COURT:—I think that should be limited, Mr. Leahy, to go no further than to show any instructions which might have been given by Dr. Brown to his subordinates in the handling of such cases. I do not think it should go into the question of the opinions or thoughts that Brown may have had in a general sort of way.

Mr. Leahy:—No; I will not do that, your Honor.

THE COURT:—You see my distinction?

Mr. Leahy:—I see the distinction, your Honor; yes. And I will adhere to it.

THE COURT:—Limit it to that, then.

By Mr. Leahy:

Q.—Doctor, did you have any patients of your own at the time who were seeking operations and could not get them? *A.*—I don't know what to say about "my own." I did not have any patients whom I considered my own.

THE COURT:—You mean, Group Health patients?

Mr. Leahy:—Yes, sir.

By Mr. Leahy:

Q.—Any Group Health patients whom you treated? *A.*—Yes.

Q.—Did you discuss the failure to give operations as to those? *A.*—Yes.

Q.—Did you talk it over with the Director? *A.*—Yes.

Q.—What did he say to you about those operations? *A.*—He said that it would be necessary to stall them off—which he did.

Q.—Did you come in contact with physicians in the District of Columbia who were members of the Medical Society of the District of Columbia? *A.*—Yes, sir.

Q.—What were your relations with those doctors with reference to consultations or assistance or cooperation in regard to your patients of Group Health? *A.*—The doctors whom I met, members of the Society, were without exception very friendly to me, kind in their attitude.

Q.—What evidence did you find among those members of the Medical Society with whom you discussed the affairs as to interfering with you in your practice with reference to Group Health patients? *A.*—They did not interfere with me.

Q.—Did you have occasion at any time to seek the advice of members of the Medical Society with reference to the condition of any patients of Group Health that you were treating? *A.*—Yes, sir.

Q.—What was the result of that? *A.*—Well, I had occasion to ask consultation with one of the leading heart specialists of the country, I believe, Dr. Thomas Lee, in two cases.

Q.—What did Dr. Thomas Lee do? *A.*—Dr. Thomas Lee visited the patients.

Q.—What did he do with respect to you? *A.*—Sent me reports of what he found.

Q.—Do you recall, Doctor, how many patients a day, on an average, you would see at Group Health personally? *A.*—In 1938?

Q.—Yes. *A.*—I saw as many as 60 a day. That was not the average, however.

Q.—In your judgment, Doctor, can a physician render adequate medical service to as many as 60 patients a day? *A.*—I cannot; no, sir.

Q.—Do you recall from your observation down there whether or not the other doctors on the staff were similarly at work? *A.*—They were all over-worked.

Q.—Were you engaged at any time in making any house calls for G. H. A.? *A.*—Yes.

Q.—What patients would you be called upon to see on house calls? *A.*—All types of patients except obstetric cases and pediatric cases.

Q.—How many other doctors were there who were attending patients in Group Health while you were there? In 1938, I mean. *A.*—I believe there were at the end of 1938 seven or eight; something like that.

Q.—Do you recall now whether a patient who was seen at home on a house call always had the same doctor? *A.*—No. They did not have the same doctor.

Q.—What effect, Doctor, does that have on rendering adequate medical care to a patient?

Mr. Kelleher:—Objected to as repetitive, your Honor. He has already covered it.

Mr. Leahy:—He said that doctors would be called upon to see patients at Group Health Association who had been attended by other doctors.

THE COURT:—What was your question?

Mr. Leahy:—My question was, What was the effect that that would have on a patient?

THE COURT:—I think he made some reference to that. If it is not clear in your mind, he may answer.

A.—The doctor making a call on a patient who had been under another doctor's care would not have the patient's record available; he would not know what the other doctor had found, would not know what treatment the other doctor was giving him, and the patient, therefore, would not have the confidence in the new doctor that he would if one doctor had had the continuity of the case.

By Mr. Leahy:

Q.—What did you find, Doctor, with reference to the maintenance of the doctor-patient relationship in Group Health Association? A.—Well, that was lost, because we were attempting to practice medicine wholesale, as I said before.

CROSS EXAMINATION

Mr. Lewin:

Q.—Doctor, you said that none of the members of the District Medical Society interfered with your practice while you were with Group Health. Was not that your testimony? A.—I believe—did I say, interfered with it?

Q.—Yes. A.—Except for the cases that I mentioned.

Q.—When you joined Group Health did you not know that Group Health would have to make outside consultations in dangerous cases? A.—Well, I had not given it any thought, but it is true that they should, certainly.

Q.—As a matter of fact, did you not have a very serious heart case, a Mr. Bradley? A.—I mentioned that I had heart cases, but I would like to be excused from giving the patients' names and the diagnosis.

THE COURT:—I do not think that you should go into the personal side of it. Do not identify the cases.

By Mr. Lewin:

Q.—Did you not have a serious heart case, a man over 40 years of age? A.—I had heart cases; yes; 2 heart cases.

Q.—Had you been treating him for heart trouble? A.—Yes.

Q.—Was his case rather acute? A.—Yes, sir.

Q.—And that was while you were with Group Health Association in 1938? A.—That is right.

Q.—That was March of 1938, to be exact, was it not? A.—I don't recall the exact date, but it was in 1938.

Q.—Did you have an electrocardiograph at the Group Health Association? A.—Yes.

Q.—Did you have an electrocardiograph when you were in private practice in Delaware? A.—Yes; I had access to one.

Q.—Did you have one in your own office? A.—I had one in the office of the Dupont Company with which I was associated.

Q.—But when you were in private practice in Delaware did you have one? A.—I did not have one in my office.

Q.—But you did have one at Group Health and you did have one when you were on salary with Dupont; is that right? A.—Yes.

Q.—You used this electrocardiograph and that indicated that this gentleman was very sick, did it not? Is that right? A.—Well, now, as to an electrocardiograph, there is a good deal of discussion as to how much that will indicate. But I will grant that the man was sick. I do not want to say that the electrocardiograph will make a diagnosis. It takes a doctor to make a diagnosis.

Q.—But you felt the need of a consultation by an eminent heart specialist? A.—Yes.

Q.—And you turned to a member of the District Medical Society? A.—Yes.

Q.—And that gentleman's name was Dr. Thomas Lee? A.—Yes, sir.

Q.—Were you able to get a consultation with him? A.—May I express it in a few words?

Q.—Won't you answer the question? A.—I cannot say no, and I cannot say yes.

Mr. Leahy:—Don't argue with him.

Mr. Kelleher:—Nobody is arguing with him.

By Mr. Lewin:

Q.—Were you able to get a consultation with him?

Mr. Richardson:—He answered it.

A.—I called Dr. Lee on the telephone and asked him about the same case and he said, "Doctor, I would like to see the case with you, but there is some question, which I hope will be settled soon, about the legality of Group Health. Until that is settled I would rather see the patient myself and send you a report."

By Mr. Lewin:

Q.—Is that all he told you? A.—At that time.

Q.—Did you ask him to come in consultation with you? A.—I asked him to see the patient. I am not sure whether I asked him to see the patient with me or not. But whether I asked the question directly, as to whether or not he would see the patient with me, his answer was as I have told you. I had not even met Dr. Lee.

Q.—Did you ask him to come in consultation with you over that case? A.—I can't answer that yes or no.

Q.—Did you testify before the grand jury of the United States that returned this indictment? A.—I beg your pardon?

Q.—Did you testify before the Grand Jury of the United States? A.—I did.

Q.—Were you asked to tell about this case that I am asking you about now? A.—That is right.

Mr. Leahy:—I suggest that he might show it to the witness to see if that refreshes his recollection.

Mr. Lewin:—I am sure that his Honor will permit me to conduct this examination in this way, which is absolutely proper.

THE COURT:—I do not know. I am opposed to turning generally to testimony before a grand jury. That is wholly in the discretion of the court, and it is only when it is of sufficient importance to be in the public interest that I could justify it. Otherwise it would break down the secrecy of the grand jury altogether. You can generally use grand jury notes of testimony. I am opposed to the general use of such notes in this case. If you will pass it up to me I will pass upon it.

(Counsel for both sides approached the bench and conferred with the Court in a low tone of voice.)

(The discussion concerned the right to use the transcript of the grand jury testimony in questioning the witness.)

By Mr. Lewin:

Q.—As a matter of fact, you testified before the grand jury on Oct. 31, 1938, did you not, toward the end of your association with Group Health Association? Is that right? A.—So far as I remember. I see that it is that date.

Q.—And that is after you had been with Group Health Association something over ten months; is that right? A.—That is correct; yes.

Q.—I point to this answer which you gave there and ask you if that refreshes your recollection as to whether or not you called Dr. Lee in consultation with you? A.—I should say that I did.

Q.—You told us that Dr. Lee expressed some doubt as to the legality of Group Health Association. Was that your testimony? A.—That is what he said on the telephone. It was not that he expressed the doubt. He said there was a question, but I don't think he had any doubt about it.

Q.—Did he not say that he would be glad to come in consultation with you, but he could not do it because you were a Group Health doctor and it was a Group Health patient? A.—That is correct.

Q.—Did he not give the reason for that the instructions of the local District Medical Society? A.—He said they questioned the legality of it.

Q.—Did he not say that he had been instructed by the local Association not to hold consultations with any doctors on the staff of Group Health? A.—That is right.

Q.—Is that what he said? A.—That is correct.

Q.—When you testified before the grand jury did you say anything about his saying that somebody had doubts as to the legality of Group Health? Look at that and refresh your recollection (handing transcript to the witness).

Mr. Leahy:—I object.

THE COURT:—Objection sustained.

By Mr. Lewin:

Q.—As a matter of fact, he did not consult with you, did he? A.—Not with me; no.

Q.—He saw the patient independently, did he not? A.—Yes.

Q.—And that was abnormal procedure, was it not, when you had asked a doctor to come in consultation with you? A.—Well, it is not exactly the usual view of consultation.

Q.—What is the usual view? A.—I suppose the very meaning of the word would be coming together.

Q.—Is there any advantage in that? A.—There is in many cases.

Q.—But you were deprived of that advantage in this case, were you not? A.—That is correct, to that extent.

Q.—So to that extent you were interfered with by the District Medical Society, were you not?

Mr. Leahy:—I object.

THE COURT:—That is purely argumentative.

Mr. Lewin:—He gave that kind of a conclusion in response to Mr. Leahy.

By Mr. Lewin:

Q.—Did you not have another patient also seriously ill with heart trouble? A.—That is right.

Q.—An old lady over 60 years of age? A.—Yes.

Q.—And was she not so sick that you thought she was going to die in your office? A.—In the office of Group Health Association.

Q.—And did you not try again to get Dr. Lee in consultation? A.—I did; I called him again.

Q.—Did you not get the same response from him, that the District Medical Society would not let him come? A.—The response was the same as the other time.

Q.—Have I correctly characterized what the response was, that the District of Columbia Medical Society had a rule which forbade him to have any consultation with Group Health doctors? A.—He did say that the District Society questioned the legality of Group Health; I am pretty sure, both times. He said he did not have anything against me personally; there was not anything personal at all. He simply said that he hoped the thing would be settled soon.

Q.—Did he not say in that case that the Medical Society still prevented him from having a consultation with you?

Mr. Leahy:—I object to this constant repeating, if your Honor please, and doing by indirection what your Honor has told him not to do directly.

THE COURT:—While I do not think Mr. Lewin so intended, it might be open to that objection.

Mr. Lewin:—It is simply a question of holding it in my mind. I want to be accurate about it. I might have transcribed this into notes, and there could not be any question about my using them.

THE COURT:—It is a little difficult to decide. Proceed.

By Mr. Lewin:

Q.—Will you answer that question? A.—Of course—would you mind repeating the question?

Q.—Did he not tell you in connection with this old lady's case that the Medical Society still prevented him from having consultation with you? A.—Yes.

Q.—Did he not say that he hoped matters would be straightened out so that you could have consultations in the usual way? A.—Yes, sir.

Mr. Richardson:—I would like to suggest that this alleged grand jury transcript be taken away from in front of counsel. He is simply reading from it and avoiding your Honor's ruling with reference to it.

Mr. Lewin:—I do not think I am.

Mr. Richardson:—Why not put it out of the way?

Mr. Lewin:—Why do you have any doubt about the authenticity of it? Why can I not read it?

THE COURT:—It is pretty difficult for the court to control that. Suppose it were some other paper that he was refreshing his recollection from; you could not object to it. Suppose he had copied it off from those pages to another piece of paper. The difficulty has arisen from identifying that as the report of the grand jury proceedings. That is where the mistake arose, not by the use of the paper itself.

Mr. Richardson:—Of course his producing it is not our fault; but having produced it and identified it, standing there and turning the pages and reading it leaves the impression that the grand jury testimony is being read to the witness.

THE COURT:—The mistake has been made in identifying those notes as particular notes. It is just one of those things that will happen. I cannot wipe that out.

By Mr. Lewin:

Q.—Is it not true that while you were with Group Health you had a number of other cases where you would have had the usual consultations but could not get them—let me change that—and could not have them because of this rule?

Mr. Leahy:—What rule?

Mr. Lewin:—The rule of the District Medical Society—just what Dr. Lee gave as his reason.

A.—I do not recall any. There may have been.

By Mr. Lewin:

Q.—Do you not recall other cases in which you would like to have had face to face consultations with specialists in the District of Columbia, members of the District Medical Society, if you could have obtained them? A.—I think there probably were.

Q.—Were you not blocked from obtaining them or trying to obtain them because of this experience which you had with Dr. Lee in those two cases? A.—I think I can say yes to that, in the same way.

Q.—You were with Group Health Association from what date to what date? A.—I testified this morning that I started in December 1937, with x-ray plates for them, without pay. I was not on their salary roll, but I was actually doing some work for them.

Q.—Were you still with them as late as Dec. 20, 1938, when this indictment was returned? A.—Oh, yes.

Q.—At that time were you a member of the American Medical Association? A.—Yes, sir.

Q.—Through what local society? A.—The Newcastle County, Delaware, Medical Society.

Q.—Had you not received some instructions from the American Medical Association at that time that you would have to change your membership to some other local society? A.—I do not recall that now; no, sir.

Q.—Would you like to have your memory refreshed? A.—I don't recall anything about it right now.

Q.—Let me show you this and see if it refreshes your recollection (handing transcript to the witness). Had you not had instructions from the A. M. A. that you must apply to the District Medical Society for membership if you wanted to retain your membership in the A. M. A.?

Mr. Leahy:—I object to that as immaterial and outside the scope of the direct examination.

Mr. Lewin:—I think it has something to do with the interest of this witness.

Mr. Kellcher:—And the interference with his activities, your Honor. Mr. Leahy asked the broad question whether there had been any interference with him while he was with G. H. A.

Mr. Leahy:—No, I did not. I asked the question about the District Medical Society.

THE COURT:—I will permit him to answer the question.

Mr. Leahy:—Exception, if your Honor please.

THE COURT:—You may answer.

The Witness:—I had a letter something about applying locally, but I do not think it said the District Medical Society.

By Mr. Lewin:

Q.—What did it mean by applying locally? A.—If I recall now, it was a ruling of the American Medical Association that a doctor away from his former place of practice more than a year should apply in his new locality for membership rather than to maintain his membership in the old location.

Q.—And your new locality was the District of Columbia, was it not? A.—Not my residence. Group Health was; yes.

Q.—Was not that the place where you were supposed to apply locally? A.—I could have either applied here or to the Alexandria, Virginia, Society, where I maintained a residence.

Q.—Did you apply to the Alexandria, Virginia, one?

Mr. Leahy:—I object as immaterial.

THE COURT:—Yes; I think it is immaterial whether he applied or not.

Mr. Lewin:—I have something in mind, your Honor, that I think will make it material.

THE COURT:—Step here and tell me about it.

(Counsel for both sides approached the bench and conferred with the court in a low tone of voice.)

(The discussion was on the bearing of the question. The Court sustained the objection.)

By Mr. Lewin:

Q.—When you testified in chief here about your dissatisfaction with Group Health practice did you mean to imply that there was anything, in your opinion, unethical in regard to Group Health practice? A.—I am not qualified to answer that question. There are so many standards of ethics that I do not feel qualified as an expert on that.

Q.—In your standards of ethics was there anything unethical in your relation to Group Health patients? A.—I cannot answer that, either.

Mr. Lewin:—May I refresh his recollection?

THE COURT:—I am not going to let you make general use of that record. I told you that.

Mr. Lewin:—I am simply using it to refresh.

THE COURT:—The question put to this witness was not whether things were ethical or unethical. The question was as to what opportunities it gave for good practice. That has nothing to do with ethics or lack of ethics. So I think it should be confined to that. In what ways, in his opinion, did it affect his ability to give good service.

Mr. Lewin:—I just wanted to be sure I understood what he meant by good and bad practice.

Mr. Leahy:—Ask him.

Mr. Lewin:—I am coming to that.

By Mr. Lewin:

Q.—As a matter of fact, throughout the whole period of 1938, from the time you joined Group Health Association until Oct. 31, 1938, were you not able to give better treatment to your patients, and superior treatment to your patients, while you

were with Group Health, than you were able to do in your private practice in Delaware? *A.*—No.

Q.—Let me see if I can refresh your recollection.

May I do that, your Honor?

THE COURT:—I think you may, for that.

(Mr. Lewin handed transcript to the witness.)

A.—In some ways, yes, but not in every way.

By Mr. Lewin:

Q.—Did you not believe in October 1938 that we, meaning Group Health Association, could give better medical care than could be given in private practice? *A.*—No; I don't believe that we could.

Mr. Lewin:—Now, your Honor, may I confront him more directly? I would like to show this to your Honor (handing transcript to the court.)

THE COURT:—You may let him see it.

By Mr. Lewin:

Q.—You have seen this portion of your grand jury testimony, have you not (indicating)? *A.*—Yes, sir.

Q.—What is your testimony since you have seen this answer to my last question? *A.*—I still think at the present time we could not give them as good attention.

Q.—What did you think while you were with them in October 1938, and throughout that whole period, from January 1938, to October 1938? What was your opinion then? *A.*—I did mention something about the patient's pocketbook, and so forth, that we did not have to worry about the patient's pocketbook. But, on the other hand, I feel certain now—

Q.—Now, wait a minute. I am asking you what you thought then. That is not responsive.

Mr. Leahy:—I object, if your Honor please. The proper thing to do is to say, "Were you not asked this question and did you not give this answer?"

Mr. Lewin:—We have a right to get the answer from the witness.

THE COURT:—The question is that he has expressed his opinion now as to the effect of Group Health practice as related to his experience. That was general. Certainly he has not got to be confined to the opinion which he may have expressed at some other time. He may have changed his opinion. It is purely an opinion which may change.

Mr. Lewin:—I am not suggesting that he has not a right so to testify, but I do not think he has a right to do that in response to my question which was directed in 1938.

THE COURT:—I am afraid that we have lost your question in the melee. Suppose you put another question.

By Mr. Lewin:

Q.—In October 1938, were you not asked this question and did you not give this answer:

"What about the kind of treatment that you can give patients at Group Health as compared with the kind of treatment you could give patients in your private practice in Delaware?"

And did you not give this answer:—

Mr. Leahy:—I object to the use of this transcript, which your Honor has again and again called to counsel's attention. It does not do any good for your Honor to give a direction; he just simply walks over it.

Mr. Kelleher:—That is not a fair statement.

THE COURT:—I will permit him to ask the question. I have seen that answer.

Mr. Lewin:—I suppose you are now going to withdraw your remark?

Mr. Leahy:—No.

Mr. Lewin:—I thought you might be generous enough to do it.

THE COURT:—Come on, gentlemen. We have plenty of work to do here.

By Mr. Lewin:

Q.—Did you not give this answer to that question:

"Well, the treatment and care are superior here, because we have the association with other men in the various specialties and have complete and adequate laboratory facilities, and also because we can devote our entire time to medical work and not have to think about the patient's pocketbook and so on. So I believe we can give the patients better medical care."

What is your answer? *A.*—That I did say that; yes.

Mr. Richardson:—May we now inspect the transcript that counsel just read?

THE COURT:—Yes.

Mr. Kelleher:—May we approach the bench?

THE COURT:—Not on that. Counsel has the right to see it. *Mr. Kelleher:*—All we mean is to be sure that the limitation is correctly expressed. They can see the part that is addressed to the witness.

THE COURT:—Yes.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, going back to the talk you had with Dr. Lee, will you now give us to the best of your recollection just what Dr. Lee said to you on the telephone when you called him? What did you say to him, so that we will get the entire conversation. *A.*—I said that I am Dr. Price, on the staff of G. H. A. I had never met Dr. Lee—I have never met him yet; that I would like to have him see this patient if he would be kind enough to do so.

Q.—Did you describe the condition of the patient over the telephone to the doctor, to Dr. Lee? *A.*—I did.

Q.—What did Dr. Lee say then? *A.*—Dr. Lee said he would be glad to see the patient, but that until things were straightened out he would prefer seeing the patient himself, and sending me a report of his finding.

Q.—Did he say what matters were to be straightened out? *A.*—He said that there was a question of the legality of Group Health Association, the Association with which I was connected.

Q.—Do you remember now about what time of the year that was when you made this telephone call to Dr. Lee? *A.*—I believe it was, since my memory has been refreshed about the date by Mr. Lewin—that it was March 1938.

Q.—Was that the gentlemen who was described as being about 40 years of age, whose case you were drawing to the attention of Dr. Lee? *A.*—Yes.

Q.—Do you know whether Dr. Lee did see the patient? *A.*—Yes.

Q.—As soon as possible? *A.*—Yes.

Q.—And he sent you his full report? *A.*—Yes.

Q.—And the patient got better? *A.*—Yes.

Q.—Now, about the lady: Can you recall about when it was you called on the telephone about her? *A.*—I think it was in the summer of 1938; I am not sure about the month or the exact date.

Q.—And did you say that Dr. Lee repeated again in substance what he told you before? *A.*—Yes.

Q.—Did you describe the condition of the lady over the telephone? *A.*—Yes.

Q.—Did he talk with you about the condition as you described it? *A.*—Yes.

Q.—Do you call that consulting at all when you discuss over the telephone instead of being face to face with each other, the patient, conditions, and such things? *A.*—Yes.

Mr. Leahy:—He says the benefit of the face to face consultation was not given. I would like to have the witness testify on that point.

THE COURT:—He said he never saw Dr. Lee.

By Mr. Leahy:

Q.—But, Doctor, did you or did you not discuss over the telephone with Dr. Lee the condition of each of your patients? *A.*—Yes.

Q.—And did Dr. Lee express to you anything with reference to the condition of them? *A.*—He did; he went into full details about it; his finding.

Q.—Did he also visit the second lady, as soon as possible? *A.*—Yes.

Q.—And she got better? *A.*—Yes.

Q.—Now, referring to these questions asked with reference to the character and type of care, do you recall whether at any time shortly after October 1938, along about December 1938 or January, early January 1939, there came a time when you resigned from G. H. A.?

Mr. Lewin:—Objected to.

THE COURT:—That is not redirect examination.

Mr. Leahy:—Could I approach the bench?

THE COURT:—Yes.

(Counsel for both sides approached the bench and conferred with the Court.)

(After discussion the Court sustained the objection.)

By Mr. Leahy:

Q.—Doctor, you made an answer, I think, in response to one of the statements that there may have been some other consultation which I believe you sought or which you would have

sought, that in substance: Now, can you recall any other cases in which you called on any of the doctors over the telephone other than the two asked about? *A.*—No, sir.

Q.—You have no such recollection? *A.*—No.

Q.—And if any such case occurred it has made no impression on you? *A.*—No, it must have been a hypothetical rather than an actual case.

TESTIMONY OF PERCY S. BROWN

DIRECT EXAMINATION

Percy S. Brown, Boston, Mass., said he is the treasurer and trustee of the Twentieth Century Fund, and secretary-treasurer and executive director of the Good Will Fund. He has no official connection with Health Economics, Incorporated. It was supported by the Twentieth Century Fund. Its director was Mr. Rickcard. The witness said he is joint secretary and treasurer of the joint committee of the two funds, Twentieth Century and Good Will.

In response to subpoena he produced reports of the Auditor of the Twentieth Century Fund for three years, March 1, 1936, to Feb. 28, 1937, and for a similar fiscal year ending Feb. 28, 1938, and for the year ending Feb. 28, 1939; also audits by the same Auditor of the Good Will Fund for the period of time from the beginning of its operation, Dec. 20, 1936, to Dec. 31, 1938, and for the period Jan. 1, 1939 to Dec. 31, 1939, and from Jan. 1, 1940 to Dec. 31, 1940. He also presented unaudited financial statements made to the joint committee of the two funds for the period Nov. 9, 1939 to Dec. 31, 1939, and for the twelve months ending Dec. 31, 1940. Next were the regular published annual reports of the Twentieth Century Fund for the year 1935, years 1936, 1937 and 1938.

(Objections were made to testimony on individual items in the reports.)

Mr. Lewin:—I wonder if I could not interpose an objection at this time to this whole line of examination and approach the bench?

THE COURT:—There has been nothing of significance in this examination so far.

Mr. Lewin:—It is creating a lot of mystery that I would just as soon not have in the case; it means a lot of trouble to dispel it.

Mr. Kelleher:—These things do speak for themselves.

THE COURT:—They are not in evidence; the contents have not been disclosed. I don't like to anticipate matters too much.

By Mr. Leahy:

Q.—Now, showing you exhibit 35 for identification, which you just explained to us, I am turning to page B. I will ask you if there is anything on that page against which you can mark your initials for the same purpose as you marked them on the other sheet.

(The witness initialed the exhibit.)

Mr. Lewin:—I would like to see what he marked.

Mr. Kelleher:—Why was that necessary to be marked? I don't quite understand this procedure.

Mr. Leahy:—You will.

Mr. Kelleher:—Our objection is that it is an indirect way of getting something in.

THE COURT:—I don't know what is in there. I don't see what the great concern is about.

Mr. Kelleher:—I would just like to show your Honor this.

THE COURT:—There appears no reason for a departure from the usual methods. I will wait until it is offered.

By Mr. Leahy:

Q.—And I think you have already stated that Health Economics, Inc., was set up by Twentieth Century Fund? *A.*—Yes.

Q.—And, Mr. Brown, of your own personal knowledge, do you know, whether it was the Health Economics, Inc., which was the instrumentality in having H. O. L. C. set up G. H. A.?

Mr. Lewin:—We object to that; at last the cat is out of the bag.

Mr. Kelleher:—It is immaterial.

Mr. Leahy:—It is just an introductory question.

THE COURT:—If objected to, you will have to show me the materiality.

Mr. Leahy:—Shall I approach the bench?

THE COURT:—Yes.

(Counsel for both sides approached the bench and conferred with the Court.)

(There was much discussion at the bench on the materiality of the evidence offered. The Court took the matter under advisement.)

TESTIMONY OF DR. ROSCO GENUING LELAND

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Mr. Leahy:—Exhibit 258, ladies and gentlemen, is a letter on the stationery of Dr. T. J. Williams. It is dated July 21, 1938, the American Medical Association, Chicago, Illinois:

U. S. EXHIBIT 258

"Gentlemen:

"Will you be kind enough to send me what information you have relative to the doctors, Donald Ross and Clifford Loos, private group clinic in Los Angeles, as well as the Trinity Hospital group in Little Rock, Arkansas, and other similar groups who provide medical service, hospitalization, drugs, services of specialists, etc., to the man and his family for a specified monthly payment.

"Kindly send same to the above Evanston address. Thanking you,
"T. J. Williams."

By Mr. Leahy:

July 25, 1938, directed to Dr. T. J. Williams, at the Davis Street address in Evanston, Illinois:

U. S. EXHIBIT NO. 257

"Dear Dr. Williams:

"The Medical Service Plan of Trinity Hospital, Little Rock, Arkansas, is one type of several prepayment plans for medical care that have been attempted."

(Here was read Dr. Leland's letter describing the Trinity Hospital plan.)

By Mr. Leahy:

Q.—To what do you refer, Doctor, where it says, "The staff members have also been willing to participate in such a plan because additional income for special services could be secured from subscribers to the plan"?

A.—It means that the plan did not give complete medical service, but that certain items of medical care were charged for at regular rates and were not included on the regular monthly premiums stated.

Q.—And those, added to the premiums stated, would make up the additional income which you speak about?

A.—They increased the income to the organization.

By Mr. Leahy:

Q.—Then you state: Sent under separate cover: Economics and Ethics of Medicine; Medical Service Plans; Organization of Medical Services; and Contract Practice. What were those four publications which you sent? *A.*—They were publications of the Bureau of Medical Economics, some of them the reports of special studies.

Q.—Doctor, did your bureau at any time since you became its director oppose the prepayment plan of medicine and medical care? *A.*—I should have to qualify that, if I may: we have opposed the compulsory prepayment plans but not voluntary.

Q.—And by "compulsory" to what do you refer? *A.*—By "compulsory" I refer to those plans which are made compulsory by law, applying to everyone in certain income groups, who must participate if they are employed persons.

Q.—To the voluntary prepayment plan, what has been the policy of your bureau? *A.*—An attempt to collect all the information that bore upon the organization and administration of such plans, in order that with the accumulation of experience we might be in a position better to assist those individuals or organizations that wished to organize plans for the benefit of low-income people.

Q.—Has your experience or the experience of the bureau, after the collection of these data that you refer to, been enabled at any time to assist those groups who desired to form prepayment plans? *A.*—Well, I can't give you the exact number, but there have been numerous individuals and groups, both in industry and in the community as well as state and county medical societies, that we have assisted and that I have assisted personally in the development of prepayment plans, and some of those are now in operation.

Q.—Can you think of any of them now as you sit there, Doctor? *A.*—Well, the California Medical Service, Physicians—California Physicians Service was sponsored by the California Medical Association. The Michigan State Medical Society—

Mr. Lewin:—Can you fix the time as to these, please?

By Mr. Leahy:

Q.—Could you give us the time, also, if you can, when these plans were formulated? *A.*—As I recall it, the California Medical Association plan was adopted by the House of Delegates of the California Medical Association in Los Angeles in about December, 1938. The Michigan State Medical Society plan was organized about two years ago and is now in full

operation. The New Jersey State Medical Society has a plan perfected, but I believe it is not yet in operation. Several plans have been approved and in three sections of the state have been organized in New York, one covering about 17 counties around New York City, another covering several counties around Utica, and a third several counties around Buffalo.

Q.—Doctor, has your bureau at any time taken any position of opposition with reference to the contract practice of medicine generally? A.—Well, yes. We have opposed the conditions under which contracts were—under which the medical care under contracts was delivered, the conditions being in opposition to certain of the sections of the Principles of Medical Ethics as adopted and followed by the American Medical Association.

Q.—And when were those principles adopted? A.—Well, those were in the process of development over quite a number of years. They have been added to and explained, made more intelligible from time to time as the conditions became more noticeable and more troublesome to the medical profession, and I believe that the last edition was about 1936 or '7.

Q.—Somewhere in your testimony or in the correspondence, Doctor, you have mentioned two of ten principles. What were the ten principles to which you referred? A.—The ten principles that we refer to frequently as the Ten Principles were adopted in 1934 by the House of Delegates at the meeting of the American Medical Association in Cleveland, merely as a guide which could be followed by county or state medical societies that undertook to organize prepayment medical plans, in case they felt it seemed necessary to supplement the private practice of medicine with a prepayment plan for those in low-income classes.

Q.—Were those ten principles at any time modified or amended in any subsequent convention of the House of Delegates? A.—Principle No. 6 was modified in 1935. As it was originally stated, it led to a considerable confusion and some contradiction to the remaining nine principles. In 1935 that principle was changed in wording.

Q.—In what respect was it changed? A.—That principle was changed (referring to a record) in 1935 to read: "In whatever way the cost of medical service may be distributed, it should be paid for by the patient in accordance with his income status and in a manner that is mutually satisfactory."

Q.—Now, what effect did this amendment or clarification of this sixth principle have on prepayment plans, if any? A.—Well, it merely clarified the position of the American Medical Association, because this principle, as now stated, pertains directly to the prepayment idea. Before, the principle stated that payment should be made by the patient at the time the service was rendered, which meant nothing more than the private practice of medicine.

Q.—In other words, Doctor, did the amendment of this principle No. 6 operate in opposition to or in advance of prepayment cost plan? A.—Well, it advanced the—or assisted in a better interpretation of the yardsticks or measures that should be applied in the organization of prepayment arrangements.

Q.—Doctor, to your knowledge, the American Medical Association—has it members of the association who are conducting contract practice of medicine? A.—Yes.

Q.—Are they in large numbers or few? A.—I have no idea how many, what proportion of physicians in good standing throughout the United States are actually engaged in contract practice, but I suspect there is a fairly large number, and some of them are engaged in a type of contract practice that is quite essential in order to give medical attention to certain groups of people who are working in various industries or the production of natural resources.

Q.—When you say there are quite a number, do you mean 10 or 20 or a hundred, or do you mean in the thousands? A.—Well, I would say probably several thousand.

Q.—Have you any information at all as to how many groups are being treated under plans of contract practice? A.—There are in the United States about 350 medical groups, what we call in medical parlance "group practice groups." A recent study of three hundred and thirty-five of those groups indicated that only seventeen of them were employing any form of prepayment medical plan.

Q.—The balance were employing what kind of a plan? A.—Well, fee for service plans.

Q.—How recent was that study, Doctor? A.—Completed last year.

Q.—And what area did the study cover? A.—The United States.

Q.—Now, Doctor, did you personally or did your bureau ever take any position whatsoever with reference to G. H. A. here in Washington? A.—No, sir.

Q.—Was any study made of it? A.—No independent study. I realized that Dr. Woodward was making a very careful and

continuous attempt to get information, and I knew that any information that he was able to secure would be made readily available to me if at any time I needed it.

Q.—Has your bureau ever made any kind of a report on G. H. A.? A.—No, sir. We have referred to a report or the article that was published in THE JOURNAL of October 2, I believe.

Q.—But aside from such a reference as that, have you ever made any independent investigation of or report of G. H. A.? A.—No, sir.

Q.—Do you recall whether your bureau in any way cooperated with Dr. Woodward in the preparation of this article? A.—Not at all.

Q.—Aside from the trip which you say you made here to Washington sometime in July of 1937, did you cooperate or collaborate in any way, shape, or form with Dr. Woodward? A.—No, sir.

Q.—What assistance, if any, did you give Dr. Woodward in the preparation of the article? A.—Well, I just didn't assist him. He prepared the article himself, and it was his article.

Q.—What conferences, if any, did you have with him with reference to its preparation? A.—Not the preparation of the article? I undoubtedly was in his office several times and, among other things, might have asked a question or two about G. H. A., but I have no independent recollection of those events. However, in the preparation of the article I had nothing to do. I didn't even know he was writing an article.

Q.—Now, with reference to this correspondence which I brought to your attention there, Doctor, some of the letters being those which you received and others which you had written in reply thereto, was it your intention in any way to discourage a prepayment plan of medicine, at all events, when you wrote those letters? A.—No, sir. I had no idea of discouraging any one from organizing a prepayment plan, but I felt that they were entitled, by courtesy and otherwise, to any information or facts that I might have that might help them in organizing a plan of that kind.

Q.—Now, Doctor, with reference to the particular charge preferred against you as a defendant here, I want to ask, in the words of the charge against you: Did you, Doctor, at any time conspire with any one for the purpose of restraining trade in the District of Columbia? A.—I did not.

Q.—That is to say, for the purpose of restraining Group Health Association, Inc., in its business of arranging for the provision of medical care and hospitalization to its members and their dependents on a risk-sharing prepayment basis? A.—Never.

Q.—Or for the purpose of restraining the members of Group Health Association, Inc., in obtaining by cooperative efforts adequate medical care for themselves and their dependents from doctors engaged in group medical practice on a risk-sharing prepayment basis? A.—No, sir.

Q.—For the purpose of restraining the doctors serving on the medical staff of said Group Health Association, Inc., in the pursuit of their callings? A.—No, sir.

Q.—For the purpose of restraining doctors (not on the medical staff of Group Health Association, Inc.) practicing in the District of Columbia, including the doctors so practicing who are made defendants herein, in pursuit of their callings? A.—I did not.

Q.—For the purpose of restraining the Washington hospitals in the business of operating such hospitals? A.—No, sir.

Q.—Did you ever discuss with anybody at any time anything in connection with any Washington hospitals and G. H. A.? A.—No, sir. May I modify that?

Q.—Surely. A.—I did overhear some discussion at the time of the November 6 conference, but I did not engage in that conversation.

Q.—Prior to that and exclusive of that, what other information have you with reference to any—pertaining to the Washington hospitals? A.—None.

Q.—Did you ever approach anyone to advise him not to join G. H. A. as a member. A.—Never.

Q.—Did you ever talk to anybody who was on the staff of G. H. A. as a medical doctor? A.—No, sir.

Q.—Did you ever try to do anything personally with anybody whatsoever in reference to the medical staff or the membership of G. H. A.? A.—No such idea ever entered my mind.

Q.—When did you first find out where the clinic, even, was located? A.—About three days ago I walked past it.

Q.—Was that the first time you ever saw it? A.—Yes, sir.

Q.—Did you ever at any time, either personally or with anybody else, discuss the G. H. A. clinic? A.—Not to my recollection.

Q.—A great many letters have been introduced here, Dr. Leland. You have sat in the courtroom and know these letters which have been introduced? A.—Yes, sir.

Q.—Exclusive of those which were brought to your attention today, let me ask you: What information have you with reference to letters which were written by any official or officer of the District Medical Society? A.—None at all.

Q.—When is the first time those letters ever came to your attention? A.—Except the ones that came to me personally, at the time of the trial here.

Q.—Minutes of meetings, as you recall, have been introduced here in evidence, purporting to be the record of what transpired at certain meetings of the District Medical Society. What information had you with reference to the contents of any of those meetings? A.—No information at all until I heard them read here.

Q.—There was one meeting which I think was some time in November 1937, and do you recall that Dr. Woodward was recorded in that meeting as having been present? A.—Yes, sir.

Q.—Do you recall whether you were present at that meeting or not with Dr. Woodward? A.—I doubt that I could be absolutely positive beyond any doubt, but—

Q.—What is your best recollection? A.—My best recollection is that I was not there.

Q.—Aside from the meeting of the executive committee in July of 1937, which you have mentioned to us, and the other occasion when you state that you made a committee report with reference to a plan which the District Medical Society was forming, did you appear at any executive committee meeting, special committee meeting, or meeting of the Medical Society? A.—It is barely possible that I meant there all of those meetings, but at present, to the best of my recollection, I did not.

Q.—I omitted to ask you this, Dr. Leland: Are you a member of any associations of a professional character? A.—I am a fellow of the American Public Health Association, a member of the American Statistical Association, the American Economic Association, the Royal Economic Society, London, and Medical Societies.

Q.—Is your bureau now or you personally engaged in any way with reference to the medical assistance which is being rendered in the present national preparedness? A.—I am conducting the census of physicians for the Committee on Medical Preparedness of the American Medical Association.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Leland, see if I understood your testimony. It is a fact, isn't it, that a copy of the Cutter letter of March 1937, was made for you?

Mr. Kellcher:—Ireland letter.

By Mr. Lewin:

Q.—That's the Ireland letter to Cutter. A.—That's right.

Q.—And it is a fact that it was sent to you? A.—I assume so, yes, sir.

Q.—And all you testified here today was that you don't recall whether you read it at that time or not? A.—That's right.

Q.—And if you had read it, it would have told you that the H. O. L. C. was planning a medical service plan, wouldn't it? A.—Yes.

Mr. Leahy:—I object as argumentative; speaks for itself if he read it.

THE COURT:—Yes.

Mr. Leahy:—It would have told him what appears on the face of it.

Mr. Lewin:—Correct.

THE COURT:—Objection sustained.

By Mr. Lewin:

Q.—It would have told you also, would it not, that they were trying to get a staff?

Mr. Leahy:—I object, if your Honor please.

THE COURT:—Yes.

Mr. Leahy:—The letter speaks for itself.

THE COURT:—Yes.

Mr. Lewin:—I am just pointing out, your Honor will remember that there is a lot of documents here.

THE COURT:—I know.

Mr. Lewin:—And it is very hard to deal with them. I don't want to read the entire document, but I should like to be able to point up some questions with regard to it.

THE COURT:—I suppose it is permissible, in view of the latitude I have given both sides.

Mr. Leahy:—It is just argumentative, I thought, too, if your Honor please.

THE COURT:—It is argumentative, true, but about 90 per cent of these questions are argumentative.

Mr. Leahy:—I guess that is true.

THE COURT:—You get seven hundred and fifty documents in here, why, I assume it is necessary. At least counsel do, and I haven't objected to it.

Mr. Lewin:—I am going to make this just as sharp as I possibly can.

Mr. Leahy:—Go ahead.

Mr. Lewin:—I promise you that.

By Mr. Lewin:

Q.—What is your answer, sir? A.—Might I see the document, please?

Q.—Yes, indeed.

(The document referred to was handed to the witness.)

The Witness:—Well, it states they were looking for physicians, yes.

By Mr. Lewin:

Q.—The kind of information in that letter is the kind of information that falls under your jurisdiction as head of the Bureau of Medical Economics; isn't it true? A.—Information similar to that, yes, sir.

Q.—Yes. In normal course that's the kind of information, if sent to the A. M. A., which would come to you? A.—That is right.

Q.—Isn't that right? A.—That is right.

Q.—Yes. Now, I think you told us that the first time you heard about Group Health was down at Atlantic City. A.—That is right.

Q.—And that was from June 6 to June 10, wasn't it? A.—I think those were the dates.

Q.—And didn't you say that you heard of it from Dr. Woodward? A.—The statement he made in the House of Delegates, yes.

Q.—And didn't you say that when you came down to Washington with Dr. Woodward on July 14, that the only information you had with regard to Group Health Association was what he had told you? A.—Well, I had learned in Atlantic City.

Q.—From Dr. Woodward? A.—Yes.

Q.—Is that right? A.—To the best of my recollection.

Q.—And isn't it also a fact that before you went down to Atlantic City Dr. Conklin had sent you the confidential prospectus of the health plan for Washington? A.—Well, I received a prospectus, but I didn't connect the two in any way.

Q.—Well, did you know— A.—They were named—they had different names.

Q.—Well, didn't it outline a group practice plan on a prepayment basis? A.—I had no way of connecting the two, the prospectus that he sent with the H. O. L. C. or Group Health Association.

Q.—Did you know of any other plan in Washington? A.—No.

Q.—At that time? A.—No.

Q.—Didn't his letter tell you that it was in relation to a prepayment medical service in government bureaus? A.—Well, there might be more than one.

Q.—Was there more than one? A.—I didn't know.

Q.—Do you mean to say you made no connection between that plan that you received from Dr. Conklin— A.—That's right.

Q.—And the plan that was under discussion at Atlantic City? A.—That's right.

Q.—Didn't Dr. Conklin write you, "I am enclosing herewith a plan that has recently come to our attention for development of a prepayment medical service in governmental bureaus"? A.—(The witness nodded his head.)

Q.—"The potentialities of such a plan, if and when it is put in force in the Capital City, should be readily understood"? A.—Yes, sir.

Q.—And didn't you read that plan? A.—I did.

Q.—And when you came down here on the 14th didn't you connect that plan which you had read with the plan that you were asked to come down here and advise the District Medical Society on? A.—No, I did not.

Q.—No connection between the two? A.—No, sir.

Q.—You thought it related to some other plan than Group Health Association? A.—Yes, sir.

Q.—What other plan did you think it related to? A.—Well, it had different names, some other—some other federal employees, but I have no way of knowing who.

Q.—Wasn't it referred to as "a cooperative medical service plan"? A.—Yes.

Q.—Did you ever find out that there was any other cooperative medical service plan that fitted that description except Group Health? A.—Well, I didn't feel that that description fitted Group Health, with the information that I had at that time.

Q.—Did you make any later study to find out what was referred to in that prospectus? A.—No. That is the last I ever heard of that.

Q.—Didn't you ever at any time connect that prospectus with Group Health Association? A.—No.

Q.—Didn't you refer to that prospectus in a written report which you made to Dr. West in connection with Group Health Association? A.—I don't recall that I ever made a written report to Group Health.

Q.—All right. We will come to that in a moment. Now, you told us that you were authorized to come down to Washington with Dr. Woodward to confer with the District Medical Society? A.—Yes.

Q.—Weren't you formally authorized to come down here and advise the District Medical Society with regard to Group Health Association? A.—I think those were the words used.

Q.—Yes. And didn't you come down to obey that instruction? A.—We had no instructions.

Q.—Didn't you have an instruction to come down here and advise the District Medical Society with regard to Group Health Association? A.—That is a pretty broad statement.

Q.—Well, broad or not, weren't you instructed to do that? A.—Yes.

Q.—And didn't you come down here for that purpose? A.—Yes, sir.

Q.—And didn't you as a matter of fact advise the District Medical Society? A.—I did.

Q.—All right. You did talk, then, at that conference? A.—Yes.

Q.—July 14th? A.—Yes.

Q.—And didn't you know that Dr. West had suggested another cooperative plan to be set up by the District Medical Society to offset the effect of Group Health Association? A.—I knew that after I returned home.

Q.—When you wrote to Conklin and explained your plan, you knew that what he wanted was the details of a plan to offset Group Health Association, didn't you? A.—I don't believe I did at that time.

Q.—Oh, you said you knew it after you got home. And you wrote Conklin in August, didn't you, and told him in detail what you had proposed when you were down here advising the District Medical Society? A.—Perhaps I did.

Q.—All right. Then you knew that what you were advising them was to set up a plan for the first time, a prepayment plan, in competition with Group Health Association; isn't that right? A.—No, sir.

Q.—Huh? A.—No, sir.

Q.—Didn't you know that Dr. West had suggested that the District Medical Society, for the first time in its history, organize a prepayment plan to offset Group Health Association? A.—That wasn't my understanding of it. I understand that it was an outgrowth of a plan that they had had in operation for some two years and wanted to go on further with.

Q.—Did you have a talk with Dr. West about that time? A.—Oh, I had lots of times. I presume so.

Q.—Well, you say you found out that that was his plan when you got back to Chicago. Did you find it out from Dr. West? A.—I don't know the day; I heard Dr. West mention the fact that he had been here and made some suggestions.

Q.—Yes.

Mr. Kelleher:—Here it is.

By Mr. Lewin:

Q.—And didn't Dr. West tell you that his suggestion was to set up a plan in competition with Group Health? A.—He may have. I don't recall it now.

Q.—Well, does this refresh your recollection, his letter to Verbyck, which is in evidence (indicating)? A.—Uh-huh.

THE COURT:—Point out the part you have in mind.

Mr. Lewin:—I have. I have done so.

The Witness:—Yes.

By Mr. Lewin:

Q.—Didn't he say this in that letter: that "If I were a member of the committee of the District Society I would want to consider the advisability of organizing a sort of cooperative movement under the auspices of the Society to offset the effect of the cooperative movement that is now being promoted by certain agencies in Washington"? A.—That's what he said in the letter.

Q.—Yes. And then when you advised Conklin in August of 1937, you knew you were advising him of your pool for that purpose, didn't you? A.—That isn't the purpose I had in mind.

Q.—And wasn't the suggestion that you made for a cooperative movement simply a collection agency for private practice? A.—No, not that at all.

Q.—Wasn't that the effect? A.—No, sir.

Q.—Of what you wrote Dr. Conklin? A.—No, sir.

Q.—Didn't you suggest that there be a pool of money set up by prepayment and out of that pool of money doctors be paid on fee-for-service basis? A.—It was a cash indemnity prepayment plan.

Q.—Yes. And it planned, didn't it, that the patient would receive the cash? A.—That is right.

Q.—And pay the same fee for service—doctors on the same fee-for-service basis? A.—You may speak of it that way.

Q.—And didn't contemplate any group practice whatever? A.—No.

Q.—Isn't that right? A.—That's right.

Q.—Yes. Well, now, you said, I think, on your direct examination, that when you went back to Chicago you did nothing more except to make an oral report to Dr. West? A.—That's right.

Q.—You stand on that testimony? A.—There is a report that carries my name.

Q.—Well, didn't you authorize it? I show you the report. A.—Yes, sir.

Q.—Didn't you and Dr. Woodward make a written report to Dr. West? A.—I didn't collaborate with Dr. Woodward.

Q.—Do you mean to say that Dr. Woodward acted without your authority? A.—Well, he had a perfect right to.

Q.—Is that your testimony? He had a perfect right to. Then, he was authorized to make this report? A.—I authorized him to put my name to it.

Q.—Oh. You read it, I suppose, did you not? A.—I think I must have, yes, sir.

Q.—And weren't you responsible for this little statement at the end, in writing to Dr. West, that "this Group Health Association is obnoxious to public policy, for obvious reasons"? A.—No, sir. That's not my language.

Q.—Wasn't that your idea? A.—That's not my language.

Q.—Maybe not your language. Isn't that what you wanted to stand behind as your report? A.—I would stand behind it, yes.

Q.—You would stand behind it? A.—Yes, sir.

Q.—And that is what you reported to Dr. West? A.—Yes, sir.

Mr. Kelleher:—The reference to prospectus in there.

By Mr. Lewin:

Q.—And I will ask you to look at it again and see if that is not a reference to that prospectus that you said you never connected to Group Health Association. A.—Yes, sir. The first thing.

Q.—Yes. Very first thing? A.—That's right.

Q.—It says this, doesn't it? "A prospectus for a plan for a cooperative medical service on a periodic payment basis for federal employees and their families in Washington was circulated sometime ago. The prospectus is not dated, and the time of its issue is not known. It was circulated anonymously." And then you describe the plan, don't you? A.—(The witness nodded his head.)

Q.—And that's the plan that you think is Group Health, don't you?

Mr. Richardson:—Now, you mean?

Mr. Lewin:—Then.

Mr. Richardson:—Well, say then.

Mr. Kelleher:—Oh, he understood the question.

Mr. Lewin:—I'll say now and then, both.

The Witness:—Well, I can't be sure that this cooperative-plan for cooperative medical service is the same prospectus that I received in the letter from Conklin.

Q.—Well, do you know of any other prospectus that was headed that way? A.—No, I do not.

Q.—It has the same heading, doesn't it? A.—As far as I know.

Q.—And doesn't the description you give of it fit it on all fours? A.—It fits G. H. A.

Q.—Doesn't it fit prospectuses that you had received from Conklin as early as June 5? A.—I don't remember the prospectus.

Q.—And had read before you went to Atlantic City? A.—I don't remember the prospectus.

Q.—Well, did you find it? A.—If I could see the prospectus I could tell.

Mr. Lewin:—All right. You may see it. Let's give him the prospectus.

By Mr. Lewin:

Q.—Here is a photostatic copy of the prospectus. Is that the one you received from Conklin?

Mr. Kelleher:—Where are the original exhibits?

Mr. Lewin:—I've got this. I don't know about the original.

Mr. Leahy:—Where were those original exhibits?

Mr. Lewin:—The number of this exhibit, Doctor; could I disturb you long enough to get the number off of it? 104.

Mr. Leahy:—Where is the original letter of Dr. Woodward?

Mr. Kelleher:—We can't find it.

Mr. Leahy:—It must be around here, because it has got the mark there on it telling what the prospectus is.

Mr. Kelleher:—That is why we would like to have it.

Mr. Leahy:—I can tell you what it is. It has the indication of the stenographer right on it.

Mr. Lewin:—That is going to be my next question.

Mr. Leahy:—It is not Group Health.

Mr. Kelleher:—Do you want to take the stand?

Mr. Leahy:—Sure. Do you want me to?

Mr. Kelleher:—Surely.

Mr. Leahy:—I love to talk to you.

Mr. Lewin:—Do you have that exhibit number? Do you know what it is?

THE COURT:—What are we waiting for now?

Mr. Lewin:—Waiting for the witness to answer.

The Witness:—It is still my opinion that this does not necessarily refer to Group Health Association.

By Mr. Lewin:

Q.—This is the prospectus, is it not, that you referred to in your joint report with Dr. Woodward to Dr. West, dated July 16? A.—Yes, sir.

Q.—It is. And you were reporting on Group Health at that time and intended so to report? A.—We were reporting on more than Group Health.

Q.—Were you reporting on a different plan than Group Health? A.—Reporting on information that we'd had up to date.

Q.—Well, had you had any information at that time that there was another plan other than Group Health of that same character here? A.—Apparently from this.

Q.—Well, now, you came down here on the 14th. Did you hear any discussion of another plan here? A.—We heard discussion of a plan for federal employees.

Q.—And that's what you thought was Group Health, isn't it? A.—Not necessarily. There could have been two.

Q.—Well, now, what is your testimony? Were there two that were discussed or was there one Group Health? A.—There was one about which there was a considerable amount of doubt as to whether it would merge into Group Health or whether it was another outgrowth.

Q.—You mean to say that was at this discussion with the District of Columbia doctors? A.—At a committee meeting, so far as I can recall.

Q.—There was a discussion of two plans in the District of Columbia for prepayment basis—of group practice on a prepayment basis? A.—I think I recall a discussion of a plan about which there was considerable doubt.

Q.—Well, that was Group Health Association, was it not? A.—That was another plan for group—for federal employees, of a very vague nature.

Q.—Well, whose plan was that? A.—This one here about which we have the prospectus.

Q.—Well, did you point out in your report to West that there were two plans that you considered on your trip to Washington and that conference that you had with the District Medical Society (handing an exhibit to the witness)? A.—We reported to Dr. West that there was a prospectus, and we also had certificates of incorporation of Group Health.

Q.—Well, what was the difference between the two. A.—A vast difference.

Q.—What was the difference? A.—One was a prospectus, and the other were certificates of incorporation.

MARCH 19—MORNING

(Before the Jury entered, the Court heard extended discussion on admission of evidence relative to the extent of the subsidy given by Health Economics, Inc., to Group Health Association, Inc.)

TESTIMONY OF DR. ROSCO GENUNG LELAND

CROSS EXAMINATION

By Mr. Lewin:

Q.—I don't know whether it has brought out or not that you are on a salary with the the A. M. A. A.—That is true.

Q.—And that you were a full-time employee of the A. M. A.? A.—Yes.

Q.—Would you say that you are a member of the headquarters staff of the A. M. A.? A.—Yes, that is correct.

Q.—Well, now, in addition to advising the District Medical Society with regard to Group Health Association on July 14, when you came down here with Dr. Woodward, you supplied it with facts, did you not?

Mr. Leahy:—I object to the question. There is no evidence that he advised the District Medical Society when he came here in July.

Mr. Lewin:—He so testified.

THE COURT:—Did you so testify?

The Witness:—Yes.

By Mr. Lewin:

Q.—In addition to that you also supplied them with facts at that meeting, did you not, relative to Group Health Association? A.—Not Group Health Association.

Q.—Well, with regard to the controversy that they had; that they were deliberating on, which related to Group Health Association. A.—I was here to get as much information as possible. I had so little I couldn't add very much to what they had.

Q.—Hadn't you discussed these matters with Dr. Woodward on the train coming here and with him in Chicago? A.—No, not to my recollection.

Q.—Do you mean to say he didn't tell you about the facts he had collected? A.—Previously?

Q.—You did have the charter of Group Health Association, did you not? A.—I hadn't seen it at that time, no.

Q.—You didn't see it until you got here to Washington? A.—Later.

Q.—Had he not it with him? A.—I don't know.

Q.—Had he obtained it and other papers relating to Group Health Association before that? A.—I don't know.

Q.—You will not say that he did not discuss with you the information he had either in Chicago or on the train on the way down here? A.—That is not what I said.

THE COURT:—He didn't say that.

By Mr. Lewin:

Q.—Then, Dr. Woodward discussed with you the facts he had collected? A.—At some time.

Q.—Didn't you and Dr. Woodward both contribute facts to this meeting that you attended on July 14? A.—That is about what?

Q.—About the subject matter on which you were advising them? A.—Not on Group Health Association.

Q.—What other subjects were discussed at that meeting? A.—I offered a suggestion entirely separate from Group Health for the information of those who were considering the development of a prepayment plan for the District Medical Society.

Q.—And you say that was totally disassociated from the Group Health Association question?

THE COURT:—You went all over that.

Mr. Lewin:—Yes, but he has now given me an entirely different idea.

THE COURT:—That has all been covered.

Mr. Lewin:—I thought it had been established but I now find the witness willing to give me some other slant.

THE COURT:—It is not necessary to repeat these things.

By Mr. Lewin:

Q.—Let me read you from Exhibit 186, which is in evidence, a letter from Representative Hayes in Washington, the representative of the American Medical Association in Washington, dated July 31, 1937. Do you know Mr. Hayes, by the way? A.—I do.

Q.—Now, he reported on a meeting of the District Medical Society of July 29 and he said that Dr. Sprigg had read a report reviewing the facts that had been obtained regarding Group Health Association. Nearly all his facts were substantially the facts which you and Dr. Leland had supplied to the group which attended the meeting here about two weeks before. Now, what have you to say with regard to that? Is he right? A.—I presume so, but I have no idea as to what he refers.

Q.—All right, after you were back in Chicago, did you tell Dr. Woodward that you would be willing to elaborate for the District Medical Society or its committee anything you had told them that was not clear? A.—I don't recall telling him anything in those words, but I might have.

Q.—And did you tell Dr. Woodward around Aug. 18, 1937, that you didn't at that time have any further plan for forestalling Group Health Association? A.—I don't recall any such conversation.

Q.—Would you say you hadn't told him that? A.—No.

Q.—You may have told him that? A.—My answer is the same as before.

ORGANIZATION SECTION

JOUR. A. M. A.
APRIL 12, 1941

Q.—Just what? A.—That I don't recall any conversation of that kind.

Q.—But you may have done so? A.—I don't recall it.

Q.—Let me read you Exhibit 202, which is in evidence, a letter from Dr. Woodward to Dr. Conklin, dated August 18:

"I understand from your letter that everything that was said and done by Dr. Leland and me in the course of our recent conference with the Committee then having Group Health Association under consideration is now before the committee newly appointed to study the matter. "If there is anything in what either of us said or did that was obscure or calls for explanation or elaboration, I shall be glad to undertake to explain or elaborate it for the information and guidance of the committee. "Neither of us has at the present time any further proposal looking toward forestalling the growth of the Group Health Association, or towards preventing the organization of similar groups in the District of Columbia."

Did you give Dr. Woodward the information on which he could have based that letter? A.—Let me see it. (Thereupon Court and counsel engaged in an informal conference at the bench, which was not reported.)

By Mr. Lewin:

Q.—Dr. Leland, isn't it a fact that you kept in contact with the District Medical Society or its representative with regard to Group Health during the late summer or early fall of 1937?

A.—No, sir.

Q.—Didn't you come down here some time in October and regard to Group Health Association? A.—I was in Washington some 12 or 14 times during 1937 and 1938, and all but one time of which I have any recollection now, were on other matters; other association matters.

Q.—Would you deny that you went to see Dr. Conklin in his office in October with regard to Group Health Association?

A.—I have no recollection of seeing him about Group Health, but I presume I did go to his office because that was my custom to go to the office of the secretary of the Medical Society while I was in the city.

Q.—I would ask you whether you went to see him on this subject? A.—I have no recollection.

THE COURT:—If he has no recollection then he cannot either admit or deny it. You asked him to either admit or deny it and he told you he has no recollection on the subject; therefore he cannot do it.

By Mr. Lewin:

Q.—Well, if Dr. Conklin said at a meeting of the local society, or its executive committee—I think it is a meeting of the local society—that Dr. Leland "had been in my office about ten days ago discussing the local situation," or words to that effect, you would think he was correct, wouldn't you?

Mr. Leahy:—Argumentative.

THE COURT:—Sustained.

By Mr. Lewin:

Q.—Do you know a Dr. Earl Templeton? A.—I do not.

Q.—Did you ever hear of him? A.—This is the first time I heard of him.

Q.—Didn't you know him as a member of the Executive Committee of the District Medical Society? A.—If, so, I have forgotten it.

Q.—Did you make any suggestion to Dr. Templeton in September 1937, with regard to what kind of a public relation counsel the society ought to employ because of the Group Health situation? A.—I did not.

Q.—Did you make that suggestion to any other representative of the District Medical Society about that time? A.—I don't recall ever discussing the matter of a counsel of that sort with any one of the District Medical Society.

Q.—Let me see if these excerpts from the minutes refresh your recollection at all. Dr. Conklin, speaking at the meeting of Nov. 3, 1937:

"The secretary said he knew personally that the American Medical Association authorities have been making some effort to contact the Society and have been keeping in touch with the local situation."

and I might say he was discussing Group Health at that time.

"He said that Dr. Olin West, the secretary, had called him on the telephone on several occasions; further that Dr. Leland, Director of the Bureau of Legal Medicine was in his office ten days ago discussing the local situation. The A. M. A. had a local representative."

Do you know whether the A. M. A. had any other representative at that time than Mr. Hayes? A.—No, I do not.

Mr. Lewin:

"He cited this merely to show that the society is interested in the local situation. He personally made contact with Dr. Holman Taylor."

By the way, do you know Dr. Taylor? A.—Yes.

Q.—Did you know who he was? A.—Yes.

Q.—Secretary of the State Association of Texas? A.—Yes. It refresh your recollection? A.—Only in so far as Dr. Conklin said I was in his office. Discussing the "local situation" might have been many things, and doesn't necessarily mean Group Health Association.

Q.—That is your explanation? A.—Yes.

THE COURT:—He says that is his explanation. By Mr. Lewin:

Q.—All right, your Honor. Let me read this excerpt from the minutes of October 6:

"Dr. E. R. Templeton said that Dr. Leland suggested," and this was in connection with the matter of employing a public relations counsel:

"Dr. Leland suggested that the wisest thing would be to employ a former newspaper man."

Q.—Does that refresh your recollection as to your ever having made that statement? A.—What was that?

Q.—That you suggested a former newspaper man as the one to be the Society's public relations counsel? A.—As I recall it now, the question which I discussed with some one, whom I don't recall at present, was in connection with the employment of an executive secretary, and I did make some suggestions on that.

Q.—Did you make this suggestion that Dr. Templeton said you did? A.—I don't recall that exact statement, but I did have some discussion concerning the method of going about the employment of an executive secretary for the Society.

Q.—Now, Dr. Leland, you knew in the fall of 1937, didn't you, that the Medical Society of the District of Columbia believed it to be the duty of the American Medical Association to oppose Group Health Association with all its might? A.—I don't know that I would go quite that far.

Q.—Didn't you hear that? A.—I heard them make some statement that they would like some assistance.

Q.—And that is all you heard? A.—I wouldn't be sure, but that is all I recall at the moment.

Q.—Didn't you hear them say that it was the duty of the American Medical Association to "combat" Group Health Association vigorously? A.—It is possible, but I do not recall it.

Q.—You knew it then that that was what they wanted the American Medical Association to do?

Mr. Leahy:—Didn't you know that on Nov. 6, 1937?

Mr. Lewin:—Know just what? I want to know who said it.

Mr. Leahy:—The District Medical Society said it.

Mr. Lewin:—Well, it did through its officers and committees; it passed this resolution, didn't it?

THE WITNESS:—What resolution?

By Mr. Lewin:

Q.—The resolution of the District Medical Society that they believed it to be the duty of the American Medical Association to oppose Group Health vigorously.

Mr. Leahy:—I object to the question until the resolution is identified.

Mr. Lewin:—I think I am within my rights on cross-examination.

THE COURT:—I think you might identify it, if it helps the witness.

By Mr. Lewin:

Q.—Didn't you hear this resolution read by Dr. Hooe at that meeting on November 6, which you attended with Doctors Hooe, McGovern, and Woodward:

"The Medical Society of the District of Columbia at its regular meeting held Nov. 3, 1937, adopted the following resolution:

"1. That inasmuch as the movement threatens to be nationwide in its scope, and affect every component organization of the American Medical Association, it is the duty of the American Medical Association to oppose immediately with all its might this entering and possibly illegal wedge to the socialization of medicine.

"2. That in view of the tremendous import of the Group Health Association movement to the membership of the Medical Society of the District of Columbia and also to the profession at large and to the public, it is the duty of the American Medical Association to combat vigorously Group Health Association, Incorporated."

Didn't you hear that resolution read at that meeting? A.—November 6?

Q.—Yes. A.—I think I did, yes.

Q.—And you were one of these "proper officials" of the American Medical Association that was being asked to do this?

A.—I was at the meeting.

Q.—Will you answer my question: Weren't you one of the proper officials as referred to in that resolution? A.—I think so.

Q.—And you knew also, didn't you, that there wasn't any question of the jurisdiction of the American Medical Association to interfere with the local society in this case, was there? A.—I don't quite understand the question.

Q.—Didn't you say on your direct examination that the A. M. A. held aloof and had no jurisdiction over these local bodies, wasn't that your testimony? A.—I don't think so; it might have been.

Q.—As a matter of fact, you knew at that time that the District Medical Society had expressly waived any such question and had conferred jurisdiction over this matter on the American Medical Association? A.—I didn't know that.

Q.—Didn't you know that it had passed a resolution that they waived any question of regional interference on the part of the A. M. A.? A.—I didn't know that.

Q.—What is meant by "waiving regional interference"? A.—I can't give you a legal definition.

Q.—I am not asking for that: What did it mean to you? A.—I don't recall ever hearing it read.

Q.—All right, let me continue reading it.

"Thirdly, That the Medical Society of the District of Columbia waives any question of regional interference by the American Medical Association."

"4. That the American Medical Association give a definite and immediate expression of its intended action in this matter."

Did you hear that resolution read? A.—I did.

Q.—That was the resolution that you gentlemen were assembled there to discuss? A.—In part.

Q.—And didn't you hear Dr. West speaking for you gentlemen, and the American Medical Association, say that in answer to that last request that the A. M. A. had been fighting this thing; he thought it had been fighting it even before the District Medical Association got interested, and it would continue to do so until it was called off? A.—I heard that.

Q.—Did you object to that? A.—I said nothing.

Q.—Did you intend silence to be consent? A.—There wasn't anything for me to say.

Q.—You think it was decided for you. What were you there for? Wasn't it to discuss this very question? A.—Not necessarily.

Q.—Did you tell Dr. Hooe and Dr. McGovern that you were not in sympathy with what had been expressed by Dr. Hooe and Dr. West as being the policy of the A. M. A.? A.—No.

Q.—Did you know at this time that the committee of the District of Columbia Medical Society had met and decided to bring proceedings against Drs. Lee and Scandiffo because they were members of the staff of Group Health?

Mr. Leahy:—I object to the form of the question.

Mr. Lewin:—On the ground that it is leading; this is cross-examination.

Mr. Leahy:—No, because you are not bringing in the ground on which the District Medical Society did bring these disciplinary proceedings.

Mr. Lewin:—If there is one thing that is clear in this case, that is.

THE COURT:—The question then is whether he knew they were bringing disciplinary proceedings because of their connection with Group Health?

Mr. Leahy:—It is not that at all; it is because of their violation of the articles of the constitution under which the local society regulated the conduct of its members. I object to the statement that it was because of something which is not in evidence and which is contrary to the fact and the evidence.

By Mr. Lewin:

Q.—What is your answer? A.—The first time I heard anything about or the names of these two physicians was at this meeting.

Q.—Did you hear that the committee of the District Medical Society had brought disciplinary proceedings against those two doctors because of their connection with G. H. A.? A.—Whatever was reported at that meeting I heard.

Q.—Can you answer my question? A.—I don't recall the wording.

Q.—You mean to say that idea is new to you, now? A.—He didn't say that.

Mr. Lewin:—I am asking him.

THE COURT:—Well, he didn't state that, and your question was framed in a way to indicate that he had; he didn't say what was to be inferred from your question.

By Mr. Lewin:

Q.—I would like to know whether you didn't hear and realize at that time that the committee of the District Medical

Society brought disciplinary proceedings against Drs. Lee and Scandiffo because of their connection with G. H. A. A.—I don't recall the exact language but whatever was reported by those gentlemen at that meeting I heard.

Q.—Didn't you know in substance that very thing? A.—I didn't know it.

Q.—Didn't you know it at the very start of that meeting? A.—No, sir.

Q.—Now, I am going to read you the third paragraph of that conference and see if that doesn't refresh your recollection. The first two paragraphs deal with the resolution that I have read you. Here comes the very first business of that meeting:

"The operations of Group Health Association, Inc., began on Monday last. Two men who contracted with Group Health Association, Inc. were members of the Medical Society of the District of Columbia, and the third had sent in his application which had been withdrawn in the past ten days. There is nothing to be done about this third member at the present time. The resignations of the other two were received by the Medical Society of the District of Columbia within the week. A letter was sent to each of them asking him to appear before the Compensation Contract and Industrial Medicine Committee. They didn't appear but the committee received a communication from one of them."

"The committee unanimously recommended to the executive committee of the Medical Society of the District of Columbia that disciplinary measures be taken."

Did you hear that? A.—My answer is as was stated previously. That is the first I heard anything of that instance.

Q.—You did hear it then? A.—Yes.

Q.—Did you object to it then? A.—No, sir.

Q.—Didn't that strike a responsive chord in your mind with regard to your own attitude as to such doctors? A.—I don't understand.

Q.—Didn't you believe that that statement was a wise course to pursue on the part of the District Medical Society? A.—The jurisdiction lay entirely with the District Medical Society and if they believed they had charges to prefer against any physician because of the violation of some of their regulations that was the proper thing to do.

Q.—You knew that they were there seeking your advice for their guidance? A.—Yes.

Q.—And you knew this was the first business they took up with you? A.—Yes.

Q.—And you would have said, if you said anything, that was a wise course for them to follow?

Mr. Leahy:—Objected to as argumentative.

THE COURT:—Sustained.

Q.—Didn't you regard similar proceedings against doctors similarly situated as a wise course to pursue, and hadn't you similarly instructed a local medical society to pursue the same course in that case? A.—Not that I recall.

Q.—Hadh't you been told by the local society in Cincinnati that a Dr. Cook who had been with the Ross-Loos Clinic had come back to Cincinnati and wanted to start up a similar clinic in Cincinnati? A.—I had had information to that effect, yes, sir.

Q.—Yes. And didn't that local society write you and ask you for information about the Ross-Loos Clinic and any experience which would guide them in handling this matter? A.—They asked me for information.

Q.—Well, was my statement correct (handing a photostat to the witness)? A.—Yes, sir.

Q.—And didn't you respond to that letter? A.—I did.

Q.—And didn't you tell them two things about the Ross-Loos Clinic: one, that it was your understanding that the Ross-Loos medical group is composed of a number of very competent physicians; and, as for as you know, the quality of medical care seems to be good? A.—Yes, sir.

Q.—And secondly this: it is your understanding that each member of the group concerned was required to pay a certain amount per week, prepayment plan, and you were informed that the Los Angeles County Medical Association—which, by the way, is one of your component societies, is it not? A.—Yes, sir.

Q.—objected to the operation of this plan by the Ross-Loos group, and that charges were finally preferred against Doctors Ross and Loos. You told them that, didn't you? A.—Yes, sir.

Q.—And you told them that those charges were substantiated by the council of the Los Angeles Medical Association, did you not? A.—Yes, sir.

Q.—And you told them that on appeal the California Medical Association upheld the action of the Los Angeles Medical Association whereby Doctors Ross and Loos were expelled from membership? A.—Yes, sir.

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Q.—And you told them that that had been appealed to the A. M. A., did you not? A.—Yes, sir.
Q.—And you told them that the A. M. A. had made a decision which expressed no opinion as to the guilt or innocence of the appellants in connection—
Mr. Leahy:—I object.

Q.—with any unethical practices alleged and charged against them? A.—Yes, sir.
Mr. Leahy:—I object, until entire statement is read about the A. M. A.

Mr. Lewin:—This letter has been read, and read twice.
Mr. Leahy:—Supposing you read it once more.
Mr. Lewin:—Well, I am not going to do it unless his Honor requires me to.

THE COURT:—All right.
Mr. Lewin:—I have been trying to obey his Honor's suggestion.

THE COURT:—I do not see the point in the question. You asked if he had not advised other associations in local matters. That there is simply the giving of information at the request of the secretary of that association.

Mr. Lewin:—Yes, it is, and I am coming to the point of it in just a moment. I can't do it all at once.

THE COURT:—All right. Let us stick to the point of it is what I say.

Mr. Leahy:—Well, if your Honor please, my objection was this: that he picks out half of a sentence in that letter and says, Didn't you say that half of the sentence?
Mr. Lewin:—Oh.

Mr. Kellcher:—And characterizes it perfectly.
Mr. Leahy:—And doesn't give the whole sentence.

Mr. Lewin:—I have given a very fair characterization of that. Look at it and see if I haven't.
THE COURT:—Come on. I think we are wasting time.

Mr. Lewin:—I know, but here I have had those charges made against me here.

THE COURT:—They are not charges.
Mr. Lewin:—Well, I don't like that.

THE COURT:—That sort of thing is going on between you two all the time.
Mr. Lewin:—Yes, but when I do it I don't get away with it.

Mr. Leahy:—Oh, no, he doesn't get away with it!
THE COURT:—The Judge and the jury do not think you are serious.

Mr. Lewin:—I really don't take it very seriously.
THE COURT:—It takes time. That is the only thing.

Mr. Lewin:—Yes, your Honor, and I am working along here. I haven't had this witness very long.

THE COURT:—You have been putting preliminary questions?
Mr. Lewin:—Yes.

THE COURT:—Put the question you have been leading up to.
By Mr. Lewin:

Q.—Did you intend to leave the impression with this jury yesterday, with regard to that appeal, that the American Medical Association on appeal had exonerated Ross and Loos?

A.—I intended to leave the impression that the Judicial Council of the American Medical Association had reversed the actions in so far as procedure was concerned.

Q.—Yes. Did you intend to leave the impression that they had exonerated Ross and Loos? A.—The question of ethics did not enter into the action of the Judicial Council.

Q.—Yes. It was purely a procedural question. And isn't it true that they expressed no opinion as to the guilt or innocence of those appellants? A.—That is right.

Q.—And didn't you say so in this letter? A.—I did.

Q.—All right. Now, they were the two bits of information that you supplied, are they not: first, that the Ross-Loos Clinic was giving, as far as you know, competent care of competent physicians; and, secondly, that these two men had been expelled from your local societies in California? A.—That is right.

Q.—And you gave that to them as information for guidance of the Cincinnati society, did you not? A.—I gave them information that they requested.

Q.—Yes. You were responding to his request for information to guide them, weren't you, in handling their matter? A.—That's right.

Q.—All right. A.—That's right.

Q.—Now then, weren't you informed that after they got your information they had a meeting in Cincinnati, and they decided that any member—no; they first decided that anybody who ran a clinic like the Ross-Loos Clinic would be guilty

of unethical practice and violating your Society medical ethics? Didn't you hear that? A.—I didn't hear it.

Q.—Weren't you told that— A.—No.

Q.—In the letter? A.—Yes, sir. I read it.

Q.—All right. And weren't you also told that they had passed a resolution that in that event nobody could join their society who had any connection with that kind of an organization? A.—They had taken a vote on it, yes, sir.

Q.—And you were told also that they had taken a vote on it and had passed it, that no member of their society who had anything to do with that kind of an organization could remain a member of their society? A.—That's right.

Q.—Isn't that right. A.—That's right.

Mr. Leahy:—If your Honor please, I don't see the materiality of all this side matter.

Mr. Lewin:—You went into it very fully.

Mr. Leahy:—No. You brought out the letter, and I asked him his explanation of it.

THE COURT:—Well, I am asking about the explanation. The question is off on a purely collateral question.

Mr. Leahy:—That's right.

THE COURT:—The question is whether this gentleman did anything to restrain G. H. A. by concert with the American Medical Association or the defendants. Now, what he did with respect to the Cincinnati matter is purely collateral.

Mr. Lewin:—Well, your Honor,—
THE COURT:—It was offered in evidence only to show the background.

Mr. Lewin:—Very well. Haven't I a right to cross-examine him about the background?

THE COURT:—Certainly you have.

Mr. Lewin:—All right.

THE COURT:—But this whole thing has developed because he told you that the main association had no jurisdiction over the local associations as respects local affairs.

Mr. Lewin:—Oh, no, your Honor. I am going—
THE COURT:—You say no, but I think you are wrong.

Mr. Lewin:—Well, now, your Honor, my question was whether he didn't think, at the time he heard what they were doing to Lee and Scandiffo, that that was a wise course.

THE COURT:—No.

Mr. Lewin:—When he heard—
THE COURT:—Pardon me. No; I think, if you look at the record when you get a chance, it will show that you diverted onto this Cincinnati matter because the doctor made the statement that the main association didn't have jurisdiction.

Mr. Lewin:—Well, now, your Honor, my contention is this:—

THE COURT:—The whole point is this: we have taken fifteen or twenty minutes on this one thing; and if you can continually go off on one side and the other away from the main issue in this case, it is just prolonging this interminably. I do not like to interfere with counsel on one side or the other. I mean to be entirely impartial in my criticism. I think that both sides are taking entirely too long on insignificant matters; and I wish that without my interfering you would realize, as I have realized long ago, that it is about time for us to get on with the case and get it determined.

Mr. Lewin:—May I approach the bench?
THE COURT:—May I approach the bench?

Mr. Lewin:—Not you alone.

Mr. Lewin:—I know that. May I approach the bench? Will you come up to the bench with me, please?

Mr. Leahy:—Surely.

(Counsel for both sides approached the bench and conferred with the Court, in a low tone of voice.)

(There was extended discussion with the Court on the manner of interrogating the witness and on the witnesses' replies.)

By Mr. Lewin:

Q.—Now, Dr. Leland, one more question with regard to the Cook situation: Isn't it true that when you got that information as to what the local society did in that case, you wrote back to them and said that you regarded that as wise proceedings, or words to that effect? A.—Exactly.

Q.—Now, didn't you feel the same way when you heard Dr. Hooe tell you that on somewhat similar grounds similar proceedings were being brought against Doctors Lee and Scandiffo? A.—I think the two were quite different. The one in Cincinnati was an expression of my satisfaction over the fact that the Cincinnati Academy of Medicine had investi-

gated the situation itself and had voted upon the issues and had settled them within its own jurisdiction.

Q.—Do you mean by that to say that your only interest in that thing was as to a matter of form and that as to a matter of substance? *A.*—I had interest in the substance, but the reference I made in my letter was to the matter of procedure, as I said. Had proceeded wisely.

Q.—But you did feel the same satisfaction with regard to the substance that had been achieved, didn't you? *A.*—The substance hadn't entered my—wasn't expressed in the letter at all, as far as I recall.

Q.—Although you had been asked for information and experience to guide them in what they were doing? *A.*—Well, that was prior to the Society's action.

Q.—All right, sir. Now, you learned also at that meeting, did you not, that there had been an attempt on the part of the local Society to influence the local hospitals against Group Health Association? *A.*—I learned it the first time then.

Q.—Yes. And it was discussed rather fully there, wasn't it? *A.*—I think so.

Q.—Yes. And again did you express any disapproval of that course? *A.*—I expressed no—made no expressions of any kind during the meeting.

Q.—Even though you knew those men were there to get your advice about the subject matters that they brought on? *A.*—That's what they came for.

Q.—And did you hear any criticism of it from your colleagues, Dr. West and Dr. Woodward? *A.*—I did.

Q.—And wasn't that criticism that they didn't know whether such a policy could be effected? Wasn't that Dr. West's criticism, in substance? *A.*—I think he made more criticism than that.

Q.—Yes? *A.*—As I recall it, he questioned whether it was a wise thing to do.

Q.—Now you have an independent recollection now of what transpired at that conference? *A.*—Oh, I have heard that read. I have read it several times since the trial began.

Q.—All right. You look at that. You look at this and see if this doesn't refresh your recollection (indicating an exhibit). Do you have any other information except what is contained here? *A.*—None that I recall independently.

Q.—All right. And isn't this what happened: (reading)

"Dr. Hooe: In the matter of the H. O. L. C. what is your future program?

"Dr. West: It is just exactly the same as it has been all the time. We shall continue fighting it every way we can. We are going to get all the help we can get. We are at least going to keep on until we are instructed otherwise.

"Dr. Hooe: The executive committee recommended that a letter be addressed to the medical boards of the various affiliated hospitals in Washington calling attention to the H. O. L. C. health group, insisting that the hospitals take cognizance of it and, among other things, calling attention to the fact that the physicians employed by such groups are not acceptable to the Medical Society of the District of Columbia.

"In reply to Dr. McGovern's question as to how far the Medical Society of the District of Columbia might go in controlling the hospitals, Dr. West expressed some doubt that the Society can effect such control."

Did you get anything more from Dr. West in response to that question? *A.*—I think there is more—

Q.—Is there? *A.*—later on.

Q.—Will you find it for me? *A.*—Right there (indicating).

Q.—Where? You are pointing to what Dr. Woodward said, or Dr. West? Oh, yes. (Reading)

"Dr. Hooe: Is it not in your opinion most reasonable that the hospitals should acquiesce in this matter?"

And Dr. West said, "It is reasonable that they should do it, but as to whether or not they will, that's another question. Suppose they don't?"

Is that all Dr. West said? *A.*—I don't recall any more that he said on that subject.

Q.—He didn't question the wisdom of it, did he?

Mr. Leahy:—It calls for a conclusion of the witness.

Mr. Lewin:—He said that he thought Dr. West had.

THE COURT:—Well, the paper is there. It speaks for itself.

By Mr. Lewin:

Q.—Now, did you hear Dr. Hooe say this at the end of that colloquy:

"At a meeting of the group of the Medical Society of the District of Columbia last Sunday night"—

Last Sunday would be October 31st, wouldn't it? This was November 6th. *A.*—Yes, sir.

Q.—"It was brought out that all the civilian hospitals in Washington except probably one had fallen right into line, which was very gratifying."

Now, when Dr. Hooe said that, didn't that mean to you that at least eleven private hospitals here in Washington had taken steps in line with the District Medical Society in opposition to Group Health Association?

Mr. Leahy:—I object to the question as immaterial.

Mr. Lewin:—Not very immaterial. It is one of the main issues in the case.

Mr. Leahy:—Argumentative.

THE COURT:—He may answer that. Objection overruled.

By Mr. Lewin:

Q.—What is your answer? *A.*—My conclusion on that would be that they had seen fit to arrange their affairs in accordance with the resolutions and suggestions of the Medical Society. Whether they did that in connection with G. H. A. I wouldn't know.

Q.—Well, is that quite true, Doctor? Is that fair? Was there anything else that was being discussed with regard to the hospitals except Group Health Association (handing a photostat to the witness)? *A.*—That was certainly one issue, but there may have been other issues.

Q.—There may have been. Was there any other issue? *A.*—I don't know.

Q.—You don't know of any other? *A.*—From this record, do you mean? (indicating)

Q.—No. From this record or from any independent recollection which you may have. Was there any other issue there being discussed with regard to the hospitals except to keep Group Health doctors out of them? *A.*—Well, the wording of this report doesn't indicate whether the matter was solely in connection with Group Health Association or not.

Q.—Well, now, Dr. Leland, does it indicate that there was any other subject matter except Group Health Association and the hospitals that was the subject of that colloquy? *A.*—I don't know whether there was or not.

Mr. Richardson:—I object. The document is the best evidence of its contents.

By Mr. Lewin:

Q.—All right. Now, Dr. Leland, did you attend the meeting of the secretaries of the local societies held in Chicago, November 18 and 19, I believe?

Mr. Kelleher:—1937.

By Mr. Lewin:

Q.—1937. *A.*—In Chicago?

Q.—Yes, sir. *A.*—Yes, sir.

Q.—You did? *A.*—I think so, as well as I can recall now.

Q.—And you knew that Group Health Association was to be a subject matter discussed there, didn't you? *A.*—I didn't know it in advance.

Q.—Didn't you? Didn't Dr. West say that it was going to be, at this meeting of November 6th? *A.*—Oh, yes. I recall now.

Q.—Didn't Dr. West say,

"In thirteen days there will be a conference of secretaries and editors of the constituent state medical associations, at which many other officers of constituent state and some component county societies will be present. The whole story of the H. O. L. C. movement will be brought before the conference, and the point of view of the members of the conference can be obtained and presented better than by spending money in writing material. The members of the conference will be given the entire picture, and Dr. Conklin and Dr. Yater, members of the conference, will be given full opportunity to say anything they want to say?"

A.—That is correct.

Q.—And didn't you know that Dr. West was specifically authorized by resolution of the board of trustees to explain the whole matter of the activities of Group Health Association before the conference of secretaries of constituent state medical associations and editors of state medical journals on Friday? *A.*—He was.

Q.—He was. And didn't he actually appear with you before that meeting? *A.*—I don't quite understand what you mean.

Q.—Didn't he go to the meeting with you? Wasn't he there too? *A.*—Well, I don't know that he went with me.

Q.—Oh, well. *A.*—He was at the meeting

Q.—That is right. He was at the meeting. *A.*—Yes, sir.

Q.—And didn't he discuss Group Health Association and the A. M. A.'s attitude toward it before them? *A.*—As I recall it he did.

Q.—And weren't Doctors Conklin and Yater, defendants in this case, representing the District Medical Society there? *A.*—I believe so.

Q.—Did they participate in that discussion with regard to Group Health? *A.*—As nearly as I can recall, they did.

Q.—Did you do it too? A.—I don't recall that I made any discussion.

Q.—Yes. Was Dr. Holman Taylor, this gentleman you say was secretary of the State Medical Society of Texas, there?

Mr. Leahy:—I object. It is immaterial, collateral.

Mr. Lewin:—I am leading up to something, your Honor.

THE COURT:—Of what association?

Mr. Lewin:—The State Medical Association of Texas.

Mr. Leahy:—State Medical Association of Texas.

Mr. Lewin:—Dr. Holman Taylor.

Mr. Leahy:—Holman Taylor. The State Society.

THE COURT:—He may answer that question.

The Witness:—I presume he was there. He was a very regular attendant at those meetings.

By Mr. Lewin:

Q.—And weren't you informed shortly after that that Dr. Conklin had brought Dr. Selders' connection with Group Health to the attention of the societies in Texas? A.—I have no recollection of anything of the sort.

Q.—Well, didn't you get a copy of Dr. Taylor's letter to the Board of Censors of the Harris County Medical Society (handing a photostat to the witness)? A.—Well, if I did I paid very little attention to it.

Q.—Well, did you get it? A.—The stamp of the Bureau of Medical Economics is on it.

Q.—Your name is on it up at the top, isn't it? A.—That's not my handwriting.

Q.—Well, would you say you got it or didn't get it? A.—I did get it.

Mr. Leahy:—Yes. Has this been offered in evidence?

Mr. Kelleher:—Let's see it. No.

Mr. Lewin:—Have you got the original? Have you any objection to a photostatic copy?

Mr. Leahy:—No.

By Mr. Lewin:

Q.—While counsel is looking at that let me ask you this: Didn't you believe, under your construction of the principles of medical ethics, that Drs. Lee and Scandiffo would be subject to expulsion from the District Medical Society?

Mr. Leahy:—I object to that as immaterial.

Mr. Richardson:—I object.

THE COURT:—Objection sustained.

Mr. Leahy:—Would you kindly show that to the Court, objected to as immaterial, irrelevant, collateral, offered once before, and objection.

Mr. Lewin:—It is offered now to show it was acknowledged by this witness.

Mr. Leahy:—It does not show anything.

Mr. Lewin:—I object to remarks of that character.

Mr. Leahy:—Well, I object to yours saying it does.

THE COURT:—I will sustain the objection.

Mr. Lewin:—May I question him about the contents?

THE COURT:—In so far as it may bear upon his testimony. I don't know until you put your question.

By Mr. Lewin:

Q.—Didn't you learn through Dr. Holman Taylor that Dr. Conklin, the secretary of the District Medical Society, had written there with reference to Dr. Selders' connection, and that later Dr. Conklin was going to supply the state societies in Texas with information leading to disciplinary proceedings against Dr. Selders?

Mr. Leahy:—I object.

The Witness:—May I see that?

Mr. Leahy:—As immaterial, collateral, and by indirection attempting to get into evidence a letter which your Honor has just held was not properly in evidence.

THE COURT:—Objection sustained.

Mr. Lewin:—Exception to the objection sustained.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, you were asked on cross examination as to whether you gave any advice to the local medical society with reference to public relations counsel, and you said that the advice which you gave was with reference to an executive secretary? A.—That is correct.

Q.—Was it or was it not a fact that at that time the District Medical Society was considering the appointment of an executive secretary? A.—They were.

Q.—At the meeting of November 6, in Chicago, which has been referred to, did the American Medical Association at that time, through Dr. West or yourself, indicate any action or advice to Dr. Hooe and his representative?

Mr. Lewin:—Objected to, because the document speaks for itself.

Mr. Leahy:—I think that is true, but I just did not want to go into the whole document; that is all.

Mr. Lewin:—He has no independent recollection except what is in the document.

THE COURT:—I think that is correct.

By Mr. Leahy:

Q.—I ask you, Doctor, if it is not a fact that the only advice which was given by Dr. West or Dr. Woodward at the conference of Nov. 6, 1937, was that Dr. Woodward said that both Dr. McGovern—

Mr. Lewin:—Objected to. The document speaks for itself.

Mr. Leahy:—Wait until I finish my question.

THE COURT:—That is true; and if that objection is to be carried through the case, of course all these references to documents would be improper. I have permitted counsel to refer to quite a number of documents.

Mr. Lewin:—The question is whether that is the only thing he gave them. I have already called attention to a number of things he said about it.

Mr. Leahy:—What he said in discussion.

THE COURT:—You may ask the Doctor whether or not he has any recollection of any other things being said than appear in that document.

By Mr. Leahy:

Q.—Have you any recollection of anything that was said other than what is reported in that document? Any independent recollection, I mean. A.—I have an independent recollection of some of the things that are in the document, with respect to Dr. Woodward's advice to those two gentlemen.

THE COURT:—That is not the question, Doctor. The question is whether anything was said there in addition to that which is reported in that document.

The Witness:—Nothing in addition to that which is recorded in that document.

Mr. Leahy:—I will read this, if your Honor please, from page 5 of this document (reading):

"Dr. Woodward. I suggest that you have competent legal counsel advise you. The primary move is clearly to see whether your district attorney or your corporation counsel or the Commissioners or the Board of Licensure or the Insurance Commissioners will act. Whether or not they will act cannot be determined until the facts are formally laid before them."

By Mr. Leahy:

Q.—Have you any independent recollection, Doctor, of any suggestion having been made other than that which appears in the document? A.—I have none.

Q.—Have you any independent recollection that Dr. West or Dr. Woodward at any time used the word "suggest" other than that which appears in that document? A.—I have no recollection of it.

Q.—You mentioned something about a meeting of some local societies. What meeting did you refer to, or what societies? What was the type or character of the meeting? That is what I wish you to describe. A.—I assumed reference was made to the usually annual meeting of the State Secretaries and Editors of State Journals, which meets in Chicago usually about October or November.

Q.—Of each year? A.—Not each year, because in some instances a year is skipped, because of some peculiar occasion.

Q.—Was that an ordinary regular procedure, excepting what you have just indicated, for those societies of editors to get together? A.—It was.

Q.—Did the meeting in Chicago which you attended have anything whatsoever to do, for the purpose of its call, with G. H. A.? A.—No, sir.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—Was not the subject of Group Health Association at that meeting of the secretaries given a very full hearing?

Mr. Leahy:—I object. He has already answered that.

Mr. Lewin:—No. You said there was not anything about that meeting.

Mr. Leahy:—I did not say any such thing. What I said was, was the meeting called for that purpose?

THE COURT:—Yes. I think you went into that. I think he answered the question.

Mr. Lewin:—May I ask him whether any result followed from that meeting, as to what they decided?

THE COURT:—As to G. H. A.?

Mr. Lewin:—Yes, sir.

THE COURT:—Yes; you may ask him that.

Mr. Leahy:—Exception, if the Court please, as to what happened. I think if there was a result it is in the form of a resolution.

THE COURT:—If it is, and he recalls it, he may say so.

By Mr. Lewin:

Q.—Did not this happen, that the Secretaries and Editors appeared as a unit in support of the Medical Society of the District of Columbia in suppressing this potentially dangerous institution, Group Health Association? Was not that the action? A.—I think there was a resolution presented, but I cannot recall the nature or the wording of it.

Q.—Does my question refresh your recollection that that was the consensus of opinion that was arrived at at that meeting?

Mr. Leahy:—I object, because he has already said that his best recollection was that there was a resolution. They must have it.

Mr. Lewin:—You will have to have it; it is your resolution.

THE COURT:—I think the consensus of opinion would be a proper subject of examination if there was any action taken. You may ask him.

By Mr. Lewin:

Q.—Was action of that character taken? A.—I believe a resolution was presented for action, but I do not recall whether it was passed or not.

Q.—May I refresh your recollection by showing you this letter (handing a document to the witness)? A.—I do not see that that letter says—

Q.—I did not ask you that. I asked you whether it refreshed your recollection as to what the Secretaries did? A.—No, sir.

Q.—It does not? A.—No, sir.

Mr. Lewin:—Now, with regard to these excerpts from the exhibit, do you want me to read them at this time?

THE COURT:—If there is anything that is contrary to what was indicated by Mr. Leahy or the witness, you may call it to his attention.

Mr. Lewin:—It is only contrary in the sense that there was other action taken and there were other things said besides the part that was read.

Mr. Leahy:—I admitted that there was a running conversation back and forth; but you will have to find a place in there where there was a suggestion made.

By Mr. Lewin:

Q.—Was there not a suggestion that Drs. Conklin and Yater would have full opportunity to express themselves before this meeting of the Secretaries? A.—Yes, sir.

Q.—Was there not a suggestion that that group would be opposed to the H. O. L. C. scheme and they would be asked definitely to carry on? I am pointing to the top of the page. A.—There was a suggestion there.

Q.—Was there not also a suggestion—

Mr. Leahy:—Will you kindly read it, please?

Mr. Lewin:—In regard to this conference that we have been talking about:

"What do you anticipate the reaction of the members of the conference will be?

Dr. West. Opposed to the H. O. L. C. scheme. They will be asked definitely to carry on."

Mr. Leahy:—That is characterizing the document—the very objection which was made by the other side.

Mr. Lewin:—You asked me to read it.

Mr. Leahy:—I know I did, because you asked the witness if there was a suggestion, and I asked you to read it so that the jury would know that there was not.

Mr. Lewin:—Do you have any doubt that that is there as I read it?

Mr. Leahy:—Find the word "suggest" or "suggestion."

Mr. Lewin:—Is that in there (handing paper to Mr. Leahy)?

Mr. Leahy:—Find the word "suggest" in there, other than what you have put into the mouth of the witness.

THE COURT:—Let us get along, gentlemen.

By Mr. Lewin:

Q.—Did not Dr. Hooe ask what they could say to their colleagues back home, the District Medical Society? A.—I don't remember whether he did or not.

Q.—Did he say:

"Can we say that we have the backing of the American Medical Association in that?"

A.—Yes, sir.

Q.—And did Dr. West say:

"You can say so very definitely, as that is absolutely in keeping with the policies of the organized medical profession of this country?"

A.—That was said.

Q.—Did Dr. West say this in response to Dr. McGovern:

"Dr. McGovern. There is immediate sentiment of the Medical Society of the District of Columbia to formulate some plan."

Was he not discussing some cooperative prepayment plan there?

Mr. Leahy:—I object. The paper speaks for itself.

THE COURT:—I think that is true.

By Mr. Lewin:

Q.—Did not Dr. West say this:

"I do not know whether or not you remember that I suggested, when in Washington some time ago, that you give that idea some consideration, but after thinking about it later I decided that probably I should not have offered that suggestion, because you already formulated a plan and I am not convinced that that plan did not have something to do with the stimulating of this H. O. L. C. movement. A plan almost inevitably tends to create a sentiment for the formation of other similar plans."

A.—He said that.

Q.—Did he not also say this—

THE COURT:—Are you asking him what the paper says?

Mr. Lewin:—I thought you asked me to do that.

THE COURT:—Point it out to the jury yourself. Let us not take up so much time. That is what I suggested.

Mr. Lewin:—I did not know what procedure your Honor wanted me to follow.

THE COURT:—I thought if there was anything there that was contrary to what opposing counsel said about it, you might point it out.

Mr. Lewin (reading):

"Dr. Hooe. In the matter of H. O. L. C., what is your future program?"

Mr. West. It is just exactly the same that it has been all the time. We shall continue fighting it in every way we can. We are going to get all the help we can get. We are at least going to keep on until we are instructed otherwise."

And then, after Dr. Hooe had outlined the situation, Dr. West said:

"Dr. Hooe has not made one statement of any kind that the American Medical Association has not fully considered and acted on where possible."

TESTIMONY OF DR. OLIN WEST

DIRECT EXAMINATION

Olin West said he has resided in Chicago since 1922. He was born in Alabama in 1874. He was educated in public and private schools in Alabama, Howard College and later at Vanderbilt University. He received the degree of doctor of medicine in the Medical School of Vanderbilt in 1898. Following that he worked in several capacities. During the time when he was studying he was teaching chemistry. He was in charge of the chemical laboratory with an associate. He was also instructing in physics at that time while he was taking his course. Afterward he was an assistant to the chair of chemistry; later associate professor of chemistry, and also associate professor of materia medica and therapeutics, and also at one time assistant to the chair of physiology. From the last part of 1898 until the early part of 1910 he practiced medicine in Nashville. While he was practicing medicine he served as secretary to the Tennessee State Medical Association. Later he acquired an interest in public health and became director for the state of Tennessee for the Rockefeller Sanitary Commission and was later elected and served for some years as the state health officer and secretary of the state of Tennessee board of health. In April 1922 he went to the American Medical Association as a field secretary. After a few months the secretary of the Bureau of Health and Public Instruction resigned and he was asked to take over his place. A little later on, in October, the Secretary of the Association died and he was appointed Acting Secretary until the next meeting of the House of Delegates, by the Board of Trustees. He is now the Secretary of the American Medical Association and also has been General Manager since 1924. He is secretary of the Committee on Medical Preparedness of the American Medical Association, also secretary under the provisions of the by-laws of the Association, of its Judicial Council, and secretary of the Council on Scientific Assembly.

The American Medical Association is a federation of its constituent state and territorial associations. The state and territorial associations are the constituent units of the federation. The constituent state and territorial associations are composed

of their own county or district societies. There are one or two states in which there are no county societies, but in the place of the county societies they have district societies, largely because the charters of those particular associations are very old and they did not like to depart from precedent. The American Medical Association has no jurisdiction over any constituent or component society except as they have agreed to it and have constituted such jurisdiction by the vote of their own representatives. The House of Delegates of the American Medical Association is the policy-making and legislative organization for the Association, and it is composed of delegates representing the constituent state and territorial associations, selected by those associations. In addition to the delegates from the constituent state and territorial associations, each section of the Scientific Assembly of the Association has one delegate, the Medical Corps of the United States Army is represented by one delegate, the Medical Corps of the United States Navy is represented by one delegate, and the United States Public Health Service is represented by one delegate.

Q.—How frequently does that House meet? A.—It meets annually or when special sessions are called by the Board of Trustees or on an expressed desire of a definite number of delegates.

Q.—Is there any machinery set up under which the American Medical Association is administered in between the meetings of the House of Delegates? A.—In the interim between the meetings of the House of Delegates the Board of Trustees is authorized to act for the House of Delegates.

Q.—How many are on the Board of Trustees? A.—Nine; and in addition to the nine elected members of the Board of Trustees, the President, President-Elect, and Speaker of the House of Delegates are ex officio members of the body.

Q.—From what area is the Board of Trustees drafted or drawn or appointed? A.—There is one member of the board from Oregon, one member from Maryland, one from New York and from various other states. An effort is made to have the representatives on the board represent various sections of the country.

Q.—I forgot to ask you this, Doctor. How does one become a Trustee on the Board of Trustees? A.—The members of the Board of Trustees are elected by the House of Delegates.

Q.—How frequently does that board meet? A.—The board meets regularly four times a year and occasionally at called meetings.

Q.—Is there any machinery set up in the Association for the administration of its affairs in between the periods when the Board of Trustees meets? A.—The Executive Committee of the Board of Trustees meets each month except one month during the summer or unless some circumstance arises that makes it impossible for the Executive Committee to have a meeting.

Q.—How many are there on the Executive Board? A.—Three members of the committee; and the Chairman of the Board of Trustees always attends the meetings.

Q.—How is that board elected or appointed? A.—The Executive Committee is appointed by the Chairman of the Board of Trustees with the approval of the Board; I believe, on votes, as a matter of fact.

Q.—Are you a member of the Executive Committee? A.—No, sir.

Q.—Who constitutes the Executive Committee? A.—The Executive Committee at the present time is composed of Dr. Bloss of West Virginia, Dr. Sensenich of Indiana and Dr. Irons of Illinois.

Q.—You are Secretary to the Board of Trustees? Am I correct about that? A.—No, sir. The Board of Trustees has its own secretary in the person of Dr. Irons.

Q.—What are your duties as such secretary? A.—They are clearly defined in the Constitution and By-Laws of the Association. I perform the usual duties that are generally assigned to a secretary, to report to the House of Delegates and keep the minutes of the House of Delegates, and many other duties that are stipulated in the By-Laws.

Q.—I think you stated to us that you had no vote in the House of Delegates? A.—None in the world.

Q.—As General Manager of the Association what are your duties? A.—I am a representative of the Board of Trustees to administer the affairs of the Association and its officers with the cooperation of a number of the members of the staff of the Association, the official staff.

Q.—I do not think we have heard definitely yet, Doctor—When was the American Medical Association formed? A.—In 1847. I think it was the 5th of May 1847.

Q.—What is its object? A.—Its objects are very clearly stated in its Constitution. They are to promote the art and science of medicine and the betterment of the public health.

Q.—Is that the only object? A.—Those are the only objects and they have been pursued ever since they were declared in the Constitution, and had been even before the present Constitution was written.

Q.—In the promotion of the art of medicine what does the American Medical Association do for its membership and the profession generally? A.—Well, it would take a long story, Mr. Leahy, to tell. The Association, in the first place, publishes *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* and nine other scientific journals, each devoted to some special field. At the present time it is publishing a new journal devoted to military medicine, the medicine of war, generally. It publishes the *Quarterly Cumulative Index Medicus*, which is an index of the medical literature of the world, the only publication of its kind in existence, so far as I know, and one which is published at great cost to the Association.

Mr. Kelleher:—I wonder if it is not immaterial, your Honor, so far as these other publications are concerned.

Mr. Richardson:—I think it is very material.

Mr. Kelleher:—I think *THE JOURNAL* is material, but I cannot see the materiality of the others.

THE COURT:—I think they show generally what the Association is doing in the promotion of its objects. Do not describe them.

Mr. Leahy:—I am not going into detail, if your Honor please, because it would take too long.

The Witness:—May I explain that through the publication of *THE JOURNAL* and those special journals and the publication of the *Cumulative Index* we have formed a medium for the discussion of scientific opinion not only in this country but in the world, and thereby it is attempting to promote the art and the science of medicine.

By Mr. Leahy:

Q.—Does it have any publications at all for general public distribution as distinguished from the purely scientific publications for the use of the profession? A.—It has a magazine published specifically for the public, called *Hygeia*. It was also published at a loss. It distributes leaflets and pamphlets. I think it is fair to say that it has distributed millions of them that are designed to give the public what ought to be helpful information about the prevention of disease and general subjects pertaining to health.

Q.—In the publication of these pamphlets and the other publications, Doctor, what is the type or the character of the articles which are published and distributed? I mean, more particularly with reference to whether they are factual and informative, or are they argumentative or just to advance certain ideas of the Association?

Mr. Kelleher:—What publication, please?

Mr. Leahy:—Any of them.

Mr. Lewin:—We object to that. It is too broad.

THE COURT:—I think he may say what the policy of the Association is with respect to publications of that kind.

The Witness:—In the scientific publications, Mr. Leahy, *THE JOURNAL* presents scientific articles and editorials pertaining to scientific matters. It presents abstracts from other publications about scientific medicine, and it also publishes a section devoted to medical organization. It has a department of queries and answers, so that any physician may send a question in to *THE JOURNAL*, and the necessary investigation may be made with the purpose in mind of making a helpful answer to such question. Thousands of such questions are received, but relatively few of them are published in *THE JOURNAL* except those that appear to be particularly significant at the time. We have also in *THE JOURNAL* at present, I believe, a section pertaining to the defense program. In *Hygeia* the effort is made simply to present information that will be helpful to the public. For instance, if—

THE COURT:—I would not go into detail, Doctor.

By Mr. Leahy:

Q.—Now, Doctor, in addition to the publications which you have told us about, is it or is it not a fact that inquiries are received by mail from all sections of the country? A.—We have two bureaus of the Association that answer from ten thousand to twenty thousand letters a year, received almost entirely from the public.

Q.—What are the names of those bureaus? A.—One is the Bureau of Health Education and the other is the Bureau of Investigation. In addition to that, Mr. Leahy, there is not

a department in the Association that does not answer great numbers of inquiries from the public; and an effort is made to give a helpful answer to every one of them.

Q.—With reference to the Bureau of Investigation, what is the function of that bureau, just generally, without going into too great detail? A.—The Bureau of Investigation is concerned largely with fighting frauds and quackery in medicine.

MARCH 19—AFTER RECESS

TESTIMONY OF DR. OLIN WEST

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—We had just finished, I think, the various publications of the American Medical Association. Doctor, to come directly down to Group Health Association, in the District of Columbia, do you recall when it was that you first had any knowledge whatsoever that Group Health Association, Inc., was in existence or being contemplated? A.—My first knowledge of its having been called into existence was, of course, when I learned of the charter, but my recollection is that I was informed that the organization of the plan was under consideration in May or possibly late in April, but I have no documentary evidence to that effect.

Q.—Did you at any time come to Washington or discuss with any members of the District Medical Society the matter of Group Health Association? A.—Yes.

Q.—Do you recall about when that was? A.—I am sorry; I cannot recall the date, no.

Q.—Do you recall what year it was? A.—My recollection is that it was in 1937.

Q.—Have you any recollection as to what part of the year it was? A.—I am inclined to believe that it was probably in June; possibly late in May; I am not sure about that at all.

Q.—When you got here whom did you see? A.—I met with a group of gentlemen who, according to my understanding were all members of the Medical Society of the District of Columbia; some of them, I think, were perhaps officers of that society.

Q.—Do you recall whether you had known any of those before you met them that day? A.—Yes, several of them.

Q.—Whom did you know in the group before that day? A.—Well, Dr. Hooc, Dr. Ruffin, who was present; and Dr. McGovern, I believe; and my recollection is that Dr. Macatee was there. I can't recall—and Dr. Reede was there; I had met him before. I can't recall who the others were.

Q.—Do you recall where the conference was held? A.—My recollection is that it was held at a dinner in one of the Washington clubs.

Q.—Do you remember the name of the club? A.—I can't recall it.

Q.—Does the name "Metropolitan Club" mean anything to you? A.—I think it may have been Metropolitan; as a matter of fact I am quite sure it was.

Q.—What was your occasion for being in Washington at that time? A.—I was here on official business of an entirely different nature, as I recall the matter.

Q.—Was there anybody else there besides yourself from the American Medical Association? A.—I believe not.

Q.—What came out of that conference, so far as you were concerned? A.—Well, as far as I am concerned, I probably secured some information that I may not have had before about Group Health, and other matters; but in so far as any concrete results having been obtained, I do not recall any.

Q.—Did you make any suggestion or recommendation in the matter? A.—I offered a suggestion to the effect that the Medical Society of the District of Columbia might consider the organization of a plan for providing medical service to members of the low-income groups.

Q.—Do you recall now when you made that suggestion whether you had any knowledge as to whether the District Medical Society had been contemplating such a plan? A.—My recollection is that the Medical Society of the District of Columbia had not only contemplated such a plan but had given it long consideration and, I believe, had begun the organization of a part of such a plan.

Q.—Where did you go from Washington on that occasion? A.—When I left Washington?

Q.—Yes. A.—I went back to Chicago.

Q.—Did you attend the convention of the American Medical Association in Atlantic City in June 1937? A.—Yes.

Q.—With reference to that convention, can you tell us now whether this conference you had was before or after the con-

vention? A.—I can't be sure; I am sorry, but I have an impression it was before.

Q.—Do you recall whether there was anything said at the convention by anybody with reference to G. H. A.? A.—I am not sure it was with reference to G. H. A., but with reference to the organization of a prepayment plan for medical services by some group in Washington.

Q.—Who was it made such a statement? A.—That was rather generally discussed at that meeting, that evening.

Q.—You refer now to the convention or meeting? A.—I mean the meeting in Washington, at the Metropolitan Club.

Q.—At the convention itself of the American Medical Association in Atlantic City, was anything said about G. H. A. or with reference to it by anybody? A.—My recollection is that Dr. Woodward made a statement to the Board of Trustees at its meeting held the day before the convention sessions began, and at a later time during the discussions of the House of Delegates Dr. Woodward made a statement to the House of Delegates.

Q.—Were any instructions formulated by either the House of Delegates or Board of Trustees with reference to anything that the American Medical Association should do in the premises? A.—In so far as I can now recall there were no instructions.

Q.—Were you present at the meeting of the Board of Trustees in your capacity as secretary? A.—Yes. I was not present at all the meetings of the Board of Trustees because I had the House of Delegates on my hands as its secretary, but I think I was present at the time Dr. Woodward made a statement to the Board.

Q.—Have you any recollection now, Doctor, as to when was the next time or occasion when Group Health came to your attention? A.—Well, that meeting of the House of Delegates, as I recall it was in June, and my recollection is that there were references to it in or that I received information concerning it in letters from various persons.

Q.—Did there come a time when you, as secretary, attended any meeting of the Board of Trustees in Chicago when the matter of Group Health was discussed in any manner, shape or form? A.—Yes.

Q.—When was that, Doctor? A.—I am inclined to believe that was in September.

Q.—Do you recall whether or not any action was taken or resolution passed at that time? A.—At that particular meeting of the Board of Trustees, I have in mind, Dr. Fishbein and I were instructed to develop the facts and make publication concerning the facts.

Q.—And concerning the facts about what? A.—The operations of G. H. A. as an organization and incorporation to provide medical service pursuant to its contract.

Q.—Now, in pursuance of that resolution, what did you do? A.—We developed all the information we could, and Dr. Woodward, who had been instrumental in getting a very considerable part of the information we had, was asked to prepare a statement for publication in THE JOURNAL.

Q.—Did there come a time when Dr. Woodward did prepare such a statement? A.—Yes.

Q.—Without going into the details of the statement now, do you identify that as the statement which was published in the Oct. 2, 1937, issue of THE JOURNAL? A.—My recollection is that it was so published.

Q.—What part did you play personally in the preparation of that statement? A.—None whatever, in the original preparation.

Q.—What advice did you give with reference to it, if any? A.—I think the only action I took in the matter at all was to go over the statement and, I think, it is possible that I suggested that one or two sentences, perhaps paragraphs, might be changed or removed.

Q.—Up to the time the statement was submitted to you had you any knowledge whatsoever as to what the statement contained? A.—No, sir.

Q.—What effort had you made to obtain information about G. H. A., if any? A.—I had made inquiries in Washington. I had been given information voluntarily, supposedly voluntary information from persons, I think; most of which came by telephonic communication. I had visited certain persons in official position in Washington and had attempted to secure the facts and present them to the medical profession and, as far as that was concerned, to the public.

Q.—Do you recall whom you saw in the attempt to get the facts: who it was in Washington? A.—I talked with the gentlemen I have already referred to. I had talks, I believe, with Dr. Conklin; very short conversations. I attempted to

see him once or twice and couldn't. I had on two occasions conferred with Senator Copeland and with one other member of the Senate at the time I was called to Washington to appear before a committee of the Senate.

Q.—At the time you saw Senator Copeland or any other Senator, what was the information you were attempting to obtain? A.—I was trying to secure a copy of the contract that was supposed to have been entered into between Group Health Association and those who purchased its services.

Q.—And of what importance to your mind at that time was this contract which you were seeking to get? A.—I thought it was highly important to know whether the contract, whether what was promised by Group Health Association could be delivered to those who bought those contracts; whether the plan was sound and whether it was to render medical service as an incorporation, which we believed to be an illegal thing; and whether it would have an adequate staff, so far as qualifications and numbers were concerned to provide a good medical service, and provide it in quantities indicated in its contract.

Q.—What was the result of your efforts to obtain the contract? A.—Absolutely none; we couldn't secure that through any sources available to us.

Q.—Do you recall now whether after this preparation of the article and the efforts you state you made to get the facts with reference to G. H. A., anything happened in so far as you and Group Health Association were concerned between that time and Nov. 6, 1937, when you were present at a conference in Chicago attended by Drs. McGovern, Hooe, Leland, Woodward and yourself? A.—Yes, I received a telegram which, as I recall, was signed by Dr. Hooe asking that he and Dr. McGovern, asking if he and Dr. McGovern would see me and Dr. Woodward and Dr. Leland in Chicago on a certain date.

Q.—And in pursuance of that telegram was such a conference arranged? A.—Yes.

Q.—And you attended that conference? A.—Yes.

Q.—And Dr. Leland and Dr. Woodward? A.—Dr. Woodward and Dr. Leland were both there; Dr. Hooe and Dr. McGovern.

Q.—That conference, or the report of it, you have heard read here in evidence? A.—I heard an abstract of what was said, what was supposed to have been said at that conference, prepared by a stenographer in my office. It is not a verbatim report by any means.

Q.—We will come to certain portions of it in a moment, Doctor. Do you recall whether now, following that conference on November 6 in Chicago, there was anything else in connection with Group Health Association which came to your attention? A.—Well, there were a good many things which came to my attention, but I was a very busy man, with a good many things to do. My time was not devoted entirely to trying to develop the facts with reference to Group Health, and I wouldn't recall to mind offhand the times and occasions when some comment or thing with respect to that organization was brought to my attention.

Q.—Did you ever at any time attend any meetings with the District Medical Society? A.—I can't recall that I ever attended but one meeting in the District Medical Society, and that was many years ago.

Q.—Then it is your answer that you never attended any meeting whatsoever with reference to Group Health? A.—No, sir.

Q.—Did you ever attend any meeting at which any members of the District Medical Society were present other than the ones you have brought to our attention, in the club and also in Chicago on November 6? A.—I visited the offices of the Medical Society of the District of Columbia on one, or possibly two, maybe three occasions: not specifically for the purpose of discussing Group Health Association, however, although I think it is quite possible it was discussed.

Q.—Have you any recollection now of the fact that it was discussed? A.—Well, I do recall on one visit I made to the offices of the District Medical Association, Mr. Wiprud, secretary of the Society at that time, and I talked about the matter; and my recollection is at a later time Dr. McGovern came in, either came in the office or I saw him later somewhere, incidentally, and I think it may have been talked about at that time, but I never attended any meetings called for that purpose at any time.

Q.—When you visited the offices of the District Medical Society on the occasions which you did, was your purpose in going there to discuss G. H. A.? A.—No, that was not my primary purpose at all.

Q.—Did you ever at any time meet any committee of the District Medical Society on any of the other occasions than the

ones you have indicated in your testimony? A.—None, other than as I have already referred to, so far as my recollection goes.

Q.—What discussions did you have with Dr. Cutter with reference to Group Health Association, if any? A.—I don't think, Mr. Leahy, that I ever had any discussion with Dr. Cutter about Group Health Association until purely incidental discussions much later or considerably after the time of its organization and the announcement of the beginning of its plan.

Q.—What discussions did you ever have with Dr. Leland with reference to G. H. A.? A.—I don't recall that I ever mentioned the matter to Dr. Leland until about probably after the time of the Atlantic City session at which the matter was discussed.

Q.—Now, in your discussion with Dr. Leland at this much later date what was the substance of such conversation? A.—Purely incidental discussion.

Q.—Have you any recollection now as to what it was that was discussed? A.—No, I do know though, because of the nature of such discussions, that any discussion I had with Dr. Leland was not until a much later time; until long after the organization of the group, and was purely incidental in nature.

Q.—Now, after Group Health began its operations, did you then have any discussions with Dr. Leland? A.—Yes, and with many other persons, because newspapers were full of it; it was published generally. There were references of all kinds to it, and a little later on, as I already stated, we were instructed to develop the facts and publish them in the bureau publication.

Q.—Do you recall about what date it was those instructions were given? A.—My recollection is that it was at the September meeting of the Board of Trustees.

Q.—Now, with reference to Dr. Cutter, have you any information now that Dr. Cutter ever entered into any conference with you or with those whom you were with at any time about Group Health Association? A.—You mean during the year 1937?

Q.—And 1938, down to December 20? A.—I don't recall any conference that I ever had with Dr. Cutter about the matter at all.

Q.—Do you recall now, Doctor, the various minutes of the meetings of the District Medical Society, that is to say, the minutes of the Society itself, minutes of its executive committee meetings, both regular and special meetings. They were introduced here in evidence in this case? A.—I knew nothing about the minutes of the Medical Society of the District of Columbia.

Q.—When did you first see them, or hear about the matters and things discussed therein? A.—I am sorry I cannot tell you the exact date I first heard about it.

Q.—Did you know about that before you heard them read in the court room, as to what the minutes purported to state? A.—I think it is probable that I may have seen extracts from the minutes of the Medical Society of the District of Columbia that were sent to our offices. As to whether they were sent to me or sent to somebody else in the office, I don't know, but I think it is quite probable that I may have seen extracts or perhaps a resolution; something of that kind.

Q.—Other than those sent in the shape and manner in which you just indicated, what information had you with reference to any of the matters and things contained in the minutes introduced here? A.—I don't think I had any information about it. It was not my business.

Q.—And with reference to letters other than those which were introduced as having been received or written by you, prior to their introduction here in evidence what knowledge have you of them? A.—I think I may have seen some of them, but I can't recall which ones.

Q.—What was the practice in the American Medical Association at the time, Doctor, when letters came into the Association? A.—You mean the general mail?

Q.—Yes. A.—All the mail that comes into our office is carried to a mailing department and is all opened there except such items as are marked "Personal," and the mail is then distributed all over the building from that central place.

Now, there are times when very heavy mail makes it impossible for the mailing department to open it promptly enough to get the mail to the various desks in the building and then it is sent unopened to the various departments, but generally speaking it is all opened at the central office.

Q.—There were certain letters introduced which I am going to show you in a minute; some of them would bear your name, and then there are copies sent to you, Dr. Leland or Dr. Cutter. Who would determine whether copies of such letters should go

to any one other than the ones to whom the letter was addressed? *A.*—They were sent from the central distributing point where the mail was opened to whomsoever addressed.

Q.—How would the copies be provided for others in the offices? *A.*—You mean copies which originated in our offices?

Q.—Yes. *A.*—Well, a letter would come to me that I thought concerned another department, and unless there was some reason why it should have my personal attention I would refer it to the department to which it should be properly referred.

Q.—Would that be true in reference to a letter which went to another department and with respect to which if the addressee said it interested or concerned your department: would he do likewise? *A.*—It is very frequently done.

Q.—Now, there were some letters introduced here, Doctor, to which I want to draw your attention. I am going to show you first, a letter dated the 19th day of October, 1932, Exhibit for the Government 144. Will you glance at that letter now and see if you have any distinct recollection of it, or any sort of a recollection? *A.*—I think that was a letter I wrote, as Secretary of the Judicial Council.

Q.—Now, you say in that, as Secretary of the Judicial Council:

"I have been instructed to send you a copy of the decision of the Judicial Council of the American Medical Association in the appeal of Dr. R. W. Baird, et al. from the decision of the Board of Councilors of the State Medical Association of Texas, this appeal having been heard by the judicial council in Chicago on Sept. 21, 1932. This decision is as follows:"

Do you recall on whose instructions that was sent?

A.—Sent on the instructions of the Judicial Council issued me as Secretary of the Council.

Q.—Did you at the time have any independent knowledge as to the facts which entered into the decision of the Judicial Council? *A.*—None whatever other than that I had heard the discussions at the time the Judicial Council gave it official consideration; this appeal.

Q.—And did you have any independent recollection of the facts on which the decision of the Judicial Council was based? *A.*—I didn't, no.

Q.—All you did, therefore, was under the instructions of the Judicial Council, send a copy of this decision? *A.*—I think that is all that is in that communication; the only other thing besides that is the notation in which I say that copy of the decision is forwarded to the secretary of the state association.

Q.—Doctor, as Secretary of the Judicial Council, what part did you play back in 1932, if any, in the deliberations of the Council? *A.*—None, whatever, unless I was asked to speak to some question that the Judicial Council thought I could answer about some matter brought up. I had nothing whatever to do except serve as Secretary and perform the functions of that office. I had no vote.

Mr. Leahy:

"DECISION BY THE JUDICIAL COUNCIL

"EXHIBIT 144

"The fundamental issue in dispute in this case is the ethical character of certain contracts held by the appellants to give medical service to groups of people on a monthly per capita plan of payment. No essential facts of the contracts were in dispute.

"It is contended by the appellants that these contracts are not in violation of all or any of five conditions which the Judicial Council has declared at various times are conditions which, obtaining, make a contract unethical. The Dallas County Medical Society which sentenced these appellants to suspension contended that these contracts violated all five of these conditions. When, in its constitutional function as authority over ethical matters, the Judicial Council expounds the subject of contract practice and lays down certain principles which when present create an unethical contract it is not to be assumed that those are the only principles which may have that effect. A fundamental of medical ethics is that anything which in effect is opposed to the ultimate good of the people at large is against sound public policy and therefore unethical. On the five points mentioned the appellants presented a strong argument which might be convincing if a narrow or local view only is considered. Nevertheless the Judicial Council is of the unanimous opinion that this type of contract is unethical on the basis of being contrary to sound public policy.

"The appellants were at the same time convicted of violation of a by-law of the society forbidding the holding of certain contracts and pleaded error in the trial on a technical procedure. This phase of the appeal was not pressed by either side but from such records as were submitted to the Council it is of the opinion that no reversible error was proven."

Q.—Do you recall how many there were on the Judicial Council in 1932? *A.*—There were five members.

Q.—And from whence are they drawn? *A.*—They are elected by the House of Delegates.

Q.—I now show you Exhibit 138, dated Jan. 31, 1935. I will ask you to look that over, Doctor, and tell us whether or not you have any recollection now as to whether that is a carbon copy of an original letter which you sent on that date to the addressee therein named. *A.*—I think I wrote that letter.

Q.—Have you any independent recollection now of having done so? *A.*—I wouldn't have recalled it unless it had been brought to my attention.

Q.—At this time if the initials in the corner "O. W." didn't appear thereon, is there anything in the contents of the letter itself which refreshes your recollection of the fact that it had been dictated by you? *A.*—Well, I wouldn't say that I might have recognized it as one of my productions.

Q.—I call your attention to the opening paragraph of the letter, which is addressed to Dr. Angus McLean, Detroit, Mich.

U. S. EXHIBIT 138

"Dear Dr. McLean:

"I regret exceedingly that because of the tremendous press of work, a massive correspondence and unusual demands on my time, I have found it utterly impossible to make prompt replies to many letters that have come to me within the last six weeks. Among those that have unavoidably accumulated on my desk is your letter of January 10."

By Mr. Leahy:

Q.—Doctor, what occasion had you for writing this letter other than the letter written to you by Dr. McLean? *A.*—None, sir.

Mr. Leahy:

"The Ross-Loos Clinic in Los Angeles was established some years ago and operated in the usual manner as a clinic quite similar to numerous other groups of physicians in various parts of the country. A year or two ago, more or less, this clinic group entered in agreements with the employees of certain organizations, or with the organizations themselves, whereby the clinic agreed to provide necessary medical service for stipulated sums, the idea being, as I understand it, that each employee concerned should pay a certain amount each month into a common fund and that the clinic should be paid on the basis of the number of employees concerned in the various groups. Among the groups that entered into this arrangement, as I am informed, was the group composed of firemen employed by the city of Los Angeles.

"It is claimed by the Ross-Loos Clinic and, according to my information, by the members of the groups who have arranged to secure medical service through that clinic that the plan has been mutually satisfactory. The Los Angeles County Medical Association, however, appears to have considered the scheme to be unethical. Doctors Ross and Loos were cited to appear before the proper official body of the Los Angeles County Medical Association and were dropped from membership in that organization after a hearing of the charges preferred against them. Drs. Ross and Loos appealed from the decision of the Los Angeles County Medical Association to the Council of the California Medical Association, and that Council upheld the decision of the county society. I understand that Drs. Ross and Loos intend to appeal to the Judicial Council of the American Medical Association, but up to this time no appeal has been filed.

"I can offer you nothing more than my personal opinion concerning contracts of the kind which seem to have been made between the Ross-Loos Clinic and various groups. That opinion is to the effect that all such arrangements are potentially dangerous to medicine and are not in the public interest. I am quite sure that some of the professional groups that have entered into such contracts are thoroughly capable and that they have no doubt given good service under these contracts. In my opinion, the weaknesses and dangers of contract practice are, however, inherent in all of these plans. When one such group of physicians appears to have succeeded financially in an undertaking of this kind, their success will almost surely stimulate the development of similar schemes under the direction and control of less competent and less responsible persons with the result that a vicious circle of underbidding will be established, and inevitable deterioration in the quality of medical service will result.

"I am asking our Bureau of Medical Economics to send you some printed material having a bearing on this general subject."

By Mr. Leahy:

Q.—Doctor, so far as the facts which you stated in regard to the Ross-Loos Clinic in that particular letter are concerned, did they or did they not reflect the information you had with reference to the facts you disclosed? *A.*—Yes, they did.

Q.—Do you recall whether the appeal which you mentioned in this letter of Jan. 31, 1935, finally came to the Judicial Council for its decision? *A.*—Yes, it did.

Q.—And with what result? *A.*—Well, the appeal came from the decision of the Council of the California Medical Association. Dr. Ross and Dr. Loos had appealed to the Council of the California Medical Association, which is the state association, from a decision of the Los Angeles County Medical Society.

Q.—Is that a county association? *A.*—The Los Angeles County Medical Society, which is a component unit of the California State Medical Society, and then they appealed, that is Dr. Ross and Dr. Loos appealed to the Judicial Council of the American Medical Association from the decision of the Council of the California Medical Association, and that appeal was heard by the Judicial Council and reversed in accordance with or on the grounds of errors in procedure, and failure to be guided by the organization's law of the Los Angeles Medical Society, and the California State Medical Association, one or both.

THE COURT:—Is it necessary to go into the details?

Mr. Leahy:—This is just corroborative of the testimony of Dr. Leland. I asked him if that appeal was heard.

Q.—Now, you stated that the appeal was reversed on procedural grounds. I want to ask you, briefly, what other jurisdiction has the Judicial Council on an appeal to it from any constituent state association, than procedural jurisdiction? *A.*—Those matters are covered by the provisions of the constitution and by-laws of the association, and it is specifically stipulated that the jurisdiction of the Judicial Council in such appeals be only with respect to questions of law and procedure; that is, organization law and procedure.

Q.—In other words, has the Judicial Council, or had the Judicial Council, in the Ross-Loos case any jurisdiction to determine the merits of the controversy between Drs. Ross and Loos, and the County Medical Society? *A.*—No, sir, under the by-laws the decision was based on the rulings on law and procedure.

Q.—I will ask you, whether following the reversal by the Judicial Council of the Ross-Loos case, that particular case has ever come before the Judicial Council again? *A.*—No.

Q.—Are Drs. Loos and Ross members of the American Medical Association now? *A.*—They are, unless their membership has recently been terminated in Los Angeles, by the Los Angeles Medical Association and the California State Association.

Q.—When was the last time to your knowledge they were members of the American Medical Association? *A.*—I haven't made any particular investigation of it, but we have monthly reports from each constituent state association; they are received some time during each month.

Q.—And have you received any information that Drs. Ross and Loos have ever been stricken from the rolls of the Los Angeles Medical Association or the California State Association? *A.*—I think they were temporarily, but I think their names were restored, perhaps after the appeal to the Council; that is however not a matter of actual knowledge, so far as I am concerned.

Q.—Now, you stated in the paragraph of your letter that you could offer nothing more than your personal opinion concerning contracts of the kind which seem to have been made between the Ross-Loos Clinic and these various groups. When you stated that you offered only your personal opinion, to what did you refer? *A.*—I referred to my belief that many of the schemes of this particular class are potentially dangerous, and that belief is founded on long observation and experience, not only on my own, but on the experience of the medical profession.

Q.—Have schemes of group practice been numerous, or otherwise, throughout the United States?

Mr. Kelleher:—Objected to as irrelevant unless he further defines what he means by group practice, your Honor.

By Mr. Leahy:

Q.—I will clear that up. Would you kindly tell us what you mean by group practice? *A.*—Well, I think that because of common usage of words and language that you could get several definitions of group practice, but in my own conception of group practice I would generally consider it as a practice carried on by a group of physicians, acting on their responsibilities, and not responsible to any one else who band together for the purpose of furnishing complete medical service—complete as possible, depending on the number in the group and the kind of work the members did.

Q.—Within the definition just given, can you tell us whether there have been various such groups throughout the United States who have banded themselves together for the carrying on of such practice?

Mr. Kelleher:—Group practice, not prepayment.

THE COURT:—What does your allegation in the indictment say?

Mr. Kelleher:—It says group practice on a prepayment basis.

Mr. Leahy:—We have had in here this decision; it doesn't say what kind of practice it is.

Mr. Kelleher:—May I read. It is from Exhibit 144: "The fundamental issue in dispute in this case is the ethical character of certain contracts held by the appellants to give medical service to groups of people on a monthly per capita plan of payment."

THE COURT:—What I have in mind is this: A great many documents have been offered solely on the ground, as a matter of background, among which were letters indicating that the American Medical Association and its officers had been opposing these plans which, if my recollection is clear, refers purely to group health prepayment plan.

Mr. Kelleher:—I really think our evidence is limited to group practice prepayment plans. We make no contention that the American Medical Association has opposed all the group plans. I think all our documents relate to group prepayment plans.

THE COURT:—If that is true I think it ought to be limited accordingly.

Mr. Leahy:—I don't think that is the situation. I don't agree with counsel, because I think the letters introduced here, as having been written by Mr. Laux, letters written by Mr. Simons, and from Dr. Leland's department; also Dr. Leland's letters, were offered in evidence to the point that just as your Honor stated, the American Medical Association was opposed to all kinds of group practice in medicine. They have laid emphasis wherever they could find it in a letter on "contract practice of medicine," "group practice," giving the impression that the American Medical Association was opposed to all kinds of practice in which contracts were involved, whether in groups of doctors or individuals; whether producer groups or consumer groups, as they have been designated here in the trial; and I just want to show it is not the fact; that the American Medical Association has never opposed group practice as group practice, or contract practice as contract practice; and I want to show very definitely the type and character of both group and contract practice which the American Medical Association has opposed and fought.

THE COURT:—I think they may show that if confined to practice of a particular kind, as distinguished from any general collective practice, either through groups of doctors or consumers. Objection overruled.

By Mr. Leahy:

Q.—Doctor, I will put the question again, instead of looking back for it.

What have you to say as to groups, both consumer and producer groups of doctors and individuals: Have they been organized in the United States and throughout the United States to a great or small extent? *A.*—In a very great number.

Q.—With respect to such groups has the American Medical Association at any time determined upon any policy with regard to them? *A.*—The House of Delegates of the American Medical Association at a session held in Cleveland, I believe, in 1934, outlined and adopted a set of principles that were intended to serve for the guidance of prepayment group plans; that is, plans for the provision of medical services; also income groups.

Q.—I want to ask you the question directly whether the American Medical Association has been opposed, as a general policy, to all group practice, whether prepayment or otherwise, in the United States? *A.*—No, sir.

Mr. Kelleher:—Just a moment, I think that question should be broken down, first as to group practice.

By Mr. Leahy:

Q.—I will break it. I will ask this, Doctor: Has the American Medical Association ever declared a policy of being opposed to all so-called producer groups of practice of medicine in the United States? *A.*—You will have to define what you mean by "producer groups."

Q.—The producer group as represented by the clinic wherein groups of doctors have come together in order to render complete medical service to those it seeks to serve.

Mr. Levin:—That description fits Group Health Association, which is certainly not a producer group.

THE COURT:—Well, the doctor stated that these principles adopted, I think he said at Cleveland, were for the purpose of suggesting or guiding the attitude of the American Medical Association members with reference to prepayment plans of medical care. That, of course, would include such groups from the viewpoint of the doctors, as well as the patients. He has spoken of it in a general way. I think the subject should be dealt with in a general way, rather than broken down. Put your next question and I can rule on it.

By Mr. Leahy:

Q.—Doctor, has the American Medical Association ever declared any policy against group practice of medicine as such? *A.*—No.

Q.—What type or character of group practice has the American Medical Association opposed itself to in the past? *A.*—It has opposed and it is opposed to any group practice which offers to do more than it is believed can be done under the terms under which its services are to be delivered. It has opposed group practice that is controlled by corporations, because it believes that a corporation cannot engage in the practice of medicine; cannot qualify to engage in the practice of medicine. Those are two of the general grounds. It is also opposed to group practice where conducted by men who are known to be disreputable or irresponsible, and who have established a record of irresponsibility and for lack of professional qualifications and lack of appreciation of professional ethics.

Q.—Where a group is practicing who are qualified so to do, and rendering complete medical care in accordance with the contract offered, what has been the attitude of the American Medical Association toward them? A.—The American Medical Association has had no attitude toward it, other than to offer principles for the guidance of the nature of its work.

Q.—And are there today members of the American Medical Association who are engaged in the group practice of medicine? A.—Many of them.

Mr. Lewin:—Which type are you talking about?

Mr. Leahy:—Any type.

The Witness:—Many of them.

By Mr. Leahy:

Q.—And have been over a period of years? A.—Yes.

Q.—Now, when you referred in letter, which you just identified, to the statement,

"When one such group of physicians appears to have succeeded financially in an undertaking of this kind, their success will almost surely stimulate the development of similar schemes under the direction and control of less competent and less responsible persons with the result that a vicious circle of underbidding will be established."

had you anything in your own experience in mind, Doctor? A.—Yes, definitely. About the time this letter was written, and more particularly in the years preceding it, a great number of contract and group plans of various kinds had developed, some of which offered far more than they could possibly deliver and some of which, according to our best information, had no intention of doing it; and, in several instances—I have one in mind at the moment—where an organization of this kind was developed by responsible groups, irresponsible groups developed the same sort of a program, offering far more for far less, when anybody who knew anything at all about the facts knew it would be impossible for it to give good medical service.

By the way, there is another ground of opposition to any kind of group practice that delivers service, and that is the kind concerning which the American Medical Association, or the District Society, can develop evidence showing that the service is poor and is apt to be as harmful as helpful. Certainly it opposes it.

Q.—What character of opposition does the American Medical Association institute as to such groups as you mention? A.—None, other than to attempt to develop the facts and make them known.

Q.—And through what medium are the facts investigated? A.—Through any honorable medium we can find.

Q.—And through what medium are they made known? A.—Through the publication in the Association's own publication and to some extent through communications, and in reply to letters received, communications received; not always letters—telephone messages.

Q.—Does the American Medical Association institute any other methods of opposition than the ones you have just mentioned? A.—I would say no; that whatever it does is intended to carry out the purposes I have indicated.

By Mr. Leahy:

Q.—Doctor, the very opening sentence of your letter, as shown by the carbon copy under date of Feb. 6, 1936, is:

"Your letter of February 4 has just come to hand."

What other occasion had you for writing than the fact that you had just received a letter when you wrote No. 141, the carbon of which you hold in your hand? A.—I presume you want me to refer to any circumstances that may have occurred before I received this letter? I received a letter from Dr. Frieburg to whom my letter is addressed.

Q.—Doctor, in this letter you state as follows:

"I am sorry indeed to know that anybody in Cincinnati is preparing to begin operations of a plan made more or less famous, or infamous, according to the point of view, by Drs. Ross and Loos in Los Angeles. I am quite convinced that the Ross-Loos scheme is a violation of the principles laid down by the courts of California which have repeatedly insisted that the corporate practice of medicine is illegal in that state. I am just as strongly convinced that it is relatively easy to evade the law. What is in effect a corporation may be organized under the designation of partnership. I believe that schemes of the Ross-Loos type will inevitably tend to the creation of a demand for the solicitation of medical practice, and I am quite convinced that the operation of such schemes will inevitably cut the ground from under the feet of the private practitioner."

When you stated that "schemes of the Ross-Loos type will inevitably tend to the creation of a demand for the solicitation of medical practice," to what did you refer? A.—I referred to the fact that, as I stated a few minutes ago, the operation of such plans very frequently leads to the development of other plans by less responsible persons, in many instances, who do not hesitate to resort to any method that may be available to them for securing practice.

Q.—When you said "solicitation" what did you refer to by that? A.—I meant asking patients to come to an individual or to a clinic or anything else, whether it be an institution or an individual.

Q.—Is the American Medical Association opposed to the solicitation of patients? A.—The principles of medical ethics of the American Medical Association, which have been adopted independently by the constituent territorial associations, with perhaps one association that has adopted it in a way, but which has its own code of ethics also, distinctly declare that the solicitation of patients is an unprofessional procedure.

Q.—What is the basis of the principle of ethics that solicitation is an unethical procedure? A.—Just a common basis, that a man who goes out and begs patients to come to him and offers some attraction to come to him is guilty of an unethical practice. He has nothing to sell other than his own qualifications and knowledge and ability as a practitioner; and it certainly is not the part of an ethical physician to glorify himself to patients and to solicit by patronage.

Q.—In the experience of yourself as the manager of the American Medical Association, what had you observed with reference to certain groups practicing medicine in relation to the solicitation of patients to come to those groups?

Mr. Lewin:—We object to that.

THE COURT:—Read the question, Mr. Reporter.

(The pending question was read by the reporter as above recorded.)

Mr. Leahy:—I will complete it by saying "and which you had in mind, if you did have it in mind when you wrote the letter which is numbered 141."

Mr. Lewin:—That is argumentative.

THE COURT:—You may ask him if he was speaking from personal knowledge. You see what it means: you open up each particular case for collateral inquiry. I want to avoid that if possible.

Mr. Leahy:—I will do that, your Honor.

By Mr. Leahy:

Q.—Were you speaking from personal knowledge, or otherwise, Doctor, when you made that statement in the letter to which I have just drawn your attention? A.—I was speaking entirely from the results of my own personal observation.

Q.—You wrote in that same letter:

"I am informed that Drs. Ross and Loos are thoroughly competent physicians and that they have associated with them young men who are well qualified. I have heard from various sources that the Ross-Loos clinic actually delivers good medical service. These two facts, of course, operate very strongly against any movement designed to put a stop to the utilization of mass production methods in the practice of medicine and to preserve the individual private practitioner as the most important entity in the field of medicine. It would take a great deal of argument to convince me that any scheme to use mass production methods will operate to the advantage of scientific medicine or in the interest of sound public policy."

Doctor, to what did you refer when you stated that mass production methods in the practice of medicine were not in accordance with what you believed to be good, sound public policy? A.—Of course I meant exactly what I said, that I did not believe it is possible to practice medicine on a mass production basis and do justice to the patient or to deliver the best quality of medical service under any such conditions.

Q.—Why is that, Doctor? A.—Simply because one individual patient may require three hours for proper attention and another may require ten minutes; and what is good for one patient may not be good for another who has exactly the same diseased condition. They have got to be handled separately and examined separately, and all the factors that enter into the diagnosis and treatment have to be individually considered.

Q.—When you stated to Dr. Frieburg that you had information that Drs. Ross and Loos were both able and qualified men and that they had about them a staff of qualified physicians, were you giving the correct information that you had at hand at the time? A.—Yes; and I would like to say, if I may be permitted to do so, that this letter was written in 1936, and that in a letter, or maybe one or two letters, that I had previously written I had not made the same statements, for the reason that I did not then have that information.

Q.—In other words, the information which you gave to Dr. Frieburg in 1936 was based on information which had come to you in between the time of previous correspondence and this? A.—It had come later. I had written some of the other letters in which I did not make a similar statement. I tried to be perfectly fair to those men. I had lines from men who knew the quality of their practice, and I had conferred with Dr. Loos himself, and I did not hesitate to make the statement that I made in that letter, that I had information that they were com-

petent physicians. I believe I stated in one place that they had surrounded themselves with a staff of competent physicians. I certainly had no idea of doing them any injustice, and I tried to do them full justice.

Q.—(Reading further):

"I am rather inclined to the opinion that each separate county medical society will have to deal with the questions involved and the matters referred to in your letter on the basis of conditions that actually exist in its own community, and I am sorry that I cannot offer you any very helpful suggestion.

"With my sincere good wishes I am

"Very truly yours."

What did you refer to, Doctor, when you made the statement in the letter that "each separate county medical society will have to deal with the questions involved on the basis of conditions that actually exist in its own community"?

Mr. Lewin:—Is there any ambiguity about that?

Mr. Leahy:—Yes. It is very important.

Mr. Lewin:—I object to it.

THE COURT:—I think you may ask him to state his reasons for that statement.

By Mr. Leahy:

Q.—Will you state the reasons for that statement? Or, in other words, Doctor, what is there about the practice of medicine as it refers to group practice that is different in one community from conditions existing in another community? A.—The American Medical Association has been rather severely criticized for not having produced a plan of private medical service for the members of low-income groups in all the United States. The American Medical Association has made a very determined, persistent, and honest effort to develop such a plan, but it becomes perfectly apparent on a study of the situation that it cannot be done. A plan that would serve satisfactorily in an industrial state, like New Jersey or Pennsylvania, could not possibly be applied successfully in an agricultural state like Mississippi. As a matter of fact, no single plan can be prepared or operated by anybody that will work with equal success in all parts of an individual large state; and we have become thoroughly convinced of that after careful and conscientious consideration of the factors involved. Moreover, the American Medical Association believes that it is the right and the duty of the component county medical societies to take the leadership and deal with affairs within their own jurisdictions; and the American Medical Association has no intention or desire to dictate to a component county medical society or state medical association what it shall do or shall not do. Its only purpose is to be helpful, simply to carry out the purposes declared in its constitution, to promote the art and science of medicine and the betterment of the public health. That can be done by the extension of medical service and by the protection of the quality of medical service; and that is all it can do.

Q.—Is Dr. Baker a friend of yours? A.—Dr. Baker is the executive officer of the State Board of Health of the State of Alabama. I have known him for many years.

Q.—You state, Doctor:

"I am greatly obliged to you for your kindness in sending me a copy of a communication dated February 25, addressed to the presidents of certain county medical societies in Alabama and to the chairman and members of the Committee on Public Relations of the Medical Society"—I guess that is "Association" written over—"of the State of Alabama.

"I am glad indeed to know that the Tennessee Valley Authority is in no way officially concerned with the problem of medical care. I sincerely hope that the county medical societies in the counties directly interested will give most careful and exhaustive consideration to any plans that may be proposed for providing medical service on a group basis. Confidentially I may say to you that the more I hear and think about many of the experimental plans now in operation the more concerned I become. I cannot but feel that there are grave dangers inherent in practically all of them and that they tend toward the development of a sentiment for state control of medical practice. I wonder if any of them have a sound actuarial basis. I wonder if it is wise to teach people that it is possible to render really good medical or really good hospital service for a nominal sum. Personally I do not believe that it is possible, whether it be done on a group basis or otherwise. I am very much afraid that a tendency has already developed to raise the ante, so to speak, in many of these experimental plans, either by increasing the income limit so that the supposed benefits of the plan may be made available to those groups the incomes of the members of which are large enough to enable them to pay for needed medical service, or by increasing the membership fee. Moreover, I am fearful that the group hospital plans which are rapidly developing and which in many places are being tied up with other plans for providing medical service, may result in putting the hospitals directly into the practice of medicine. There is no doubt in my mind that this very development is now in progress, and I am almost willing to predict that it will not be very long in some places before the professional members of hospital staffs will find themselves dictated to by lay boards and lay administrators as to what they shall do and what they shall not do.

"Please understand that this letter is in the nature of a purely personal chat. I do not of course wish to discourage the efforts of any medical society that has given full consideration to the problems that have arisen within its own jurisdiction and that has become convinced that some sort of experimental plan is necessary."

When you wrote that last paragraph, Doctor—

"I do not of course wish to discourage the efforts of any medical society that has given full consideration to the problems that have arisen within its own jurisdiction"—

were you then referring to the statement which you gave us a moment ago that each local medical association should determine the problems within its own jurisdiction? A.—Yes; I was referring to that. I was also referring to the fact that the House of Delegates of the American Medical Association had encouraged societies that, after careful investigation of the facts on the basis of their best judgment, believed that it was necessary to develop some sort of unusual plan to provide service for the members of low-income groups and should undertake it on an experimental basis; and a number of societies in various parts of the country had initiated such plans after they had studied conditions within their own jurisdictions.

Q.—Were they group plans? A.—They were plans that were organized by the medical societies themselves, and every member of which, that was willing to participate in it, was available for any person that desired his services.

Q.—Were they on a prepayment basis? A.—I think most of them were. Some of them, according to my recollection, were not.

Q.—Doctor, is it your custom and has it been since you have been secretary and manager of the American Medical Association, to attend each and every convention of the American Medical Association? A.—Not only my custom; it is my duty.

Q.—In accordance with that duty did you attend a convention of the American Medical Association when a resolution was adopted or action taken by the House of Delegates with reference to hospitals practicing medicine? A.—I think I recall a resolution or an action of that sort; yes.

Q.—I do not want to take the time to find it, but do you recall that in two of the reports of the House of Delegates action of that sort was referred to the attention of Dr. Cutter when he was on the stand? A.—I do not know what resolutions you have in mind. Do you mean, referred to Dr. Cutter during the hearing of this case?

Q.—Yes, when he was on the stand. A.—Yes. I heard what went on when he was on the stand.

Q.—Do you recall the resolutions which were adopted, or some action looking toward the end I am about to mention, by the House of Delegates, wherein it was suggested that there be cooperation between the Judicial Council and Dr. Cutter's bureau with reference to certain evils existing? A.—Yes, sir.

Q.—I will ask you if you can now recall what date it was or what year it was that the action was taken? A.—I am sorry, but I cannot remember.

Q.—What have you to say, Doctor, with reference to the statement made in your letter on hospitals practicing medicine? In your judgment, is that or is that not in the public interest?

Mr. Kelleher:—Objected to, your Honor, as immaterial.

THE COURT:—I think so.

Mr. Leahy:—No. 142 is dated March 14, 1936, directed to Dr. West, the American Medical Association, Dearborn Street, Chicago, and reads as follows:

"This is merely a personal note to you for your information and use as you may think best. It may be known to you that Dr. George N. Cooke has been and is trying to organize a group clinic in Cincinnati on the identical plan of the Ross-Loos clinic in Los Angeles. Dr. Cooke is a member of the Butler County Medical Society but not of the Cincinnati-Hamilton County Academy of Medicine. Cooke addressed the Council of the Academy asking what would be its attitude towards members joining his group. The Council referred this to the committee on the Costs of Medical Care of which I am chairman. This committee advised the Council that no reply to such a question was coming to any one not a member. Upon advice of the committee the Council submitted the matter with full information regarding all of the circumstances to the Academy as the special order of business of March 10. They submitted three questions to which they requested specific replies. In substance these were (1) Does practice under such a prepayment group plan constitute a violation of Article 6, Section 2, of the Principles of Medical Ethics? (2) Should membership in the Academy be withheld from practitioners who are practicing in such violation? (3) Shall practice by members of the Academy in such violation be considered sufficient ground for the termination of membership?

"The meeting was well attended and the vote was in the affirmative, with only four dissenting. There was ample discussion with but one speaking for the negative. The meeting was not executive purposely. There was some adverse newspaper comment with the usual misunderstanding of the real issue.

"It is the object of this letter to furnish you with this information to invite your frank comment and to suggest that if you wish full information you write to the secretary of the Academy requesting it.

"With very kind personal regards, I am"—

To which Dr. West replied on March 18, 1936, Exhibit 143:

"My dear Doctor Frieberg:

"I am greatly obliged to you for your personal letter of March 14. I am glad indeed to have the information submitted. I sincerely hope, of course, that the Cincinnati Academy of Medicine will be able to head off the establishment of all sorts of group schemes of the nature referred to in your letter, because I am quite convinced that these schemes do not operate to the advantage of medicine or the medical profession or of the public. I do believe that they are opposed to public policy. While I have frequently heard that the clinic mentioned in the first paragraph of your letter, which has been operating in Los Angeles for some time, has heretofore been rendering good medical service, I have heard it intimated within the last week that the quality of the service rendered by that concern is gradually deteriorating. As far as I am personally concerned, I am quite convinced that this is an inevitable result of the operation of such schemes.

"If I secure any further information from authentic sources I shall pass it on to you.

"With most cordial good wishes I am

"Very truly yours."

By Mr. Leahy:

Q.—Doctor, when you wrote that you "have heard it intimated within the last week that the quality of the service rendered by that concern is gradually deteriorating," were you or were you not expressing the information that you had at the time truthfully and correctly? A.—I was; yes. I might say, if it is permissible, that I had other communications from Dr. Frieberg by telephone and by personal visit that presented information that was not contained in his letter.

Q.—Do you recall, with reference to the writing of the letter to Dr. Frieberg, when it was you received information that the quality of medical care which the Ross-Loos clinic was giving was beginning to deteriorate? A.—It was within a week of the time that letter was written, whatever that date is. But I will, in order to be perfectly fair to everybody concerned, be glad to state openly here that I later heard from quite as reliable sources that the Ross-Loos clinic was continuing to render good medical service. I have no intention or desire to be unjust to anybody and I do not want to do anybody any harm, and I would be glad to make amends for any statement, even though I considered it to be reliable and authentic, that was later refuted by another statement from equally reliable and authentic sources.

Q.—Doctor, there is a rather long exhibit here which I am not going to bother to read, but I do want to ask you if you will look at Exhibit 104, and I will ask you if you received that letter, Exhibit 104, and the exhibit attached thereto? A.—Yes, sir; I did.

Q.—Do you recall the occasion for the receipt of the letter, if there was any, so far as you were concerned? A.—I cannot definitely recall the circumstances involved in this matter, Mr. Leahy.

Q.—All right. A.—I can give you my best recollection, if that will serve.

Q.—What is your best recollection, Doctor? A.—My best recollection is that Mr. Hendricks, the gentleman who wrote this letter, had heard something of these plans and had talked to me either over the telephone or in a personal visit, about the plans referred to in that statement.

Q.—Who was this Mr. Hendricks? A.—Mr. Thomas A. Hendricks, the executive secretary of the Indiana State Medical Association.

Q.—Is he a personal friend of yours? A.—I have known him ever since he has been connected with the Indiana State Medical Association, which I should say has now been some twelve or fifteen years.

Mr. Leahy:—Ladies and gentlemen, this is a letter dated June 22, 1937, on the official stationery of the Indiana State Medical Association, in which Thomas A. Hendricks, Executive Secretary, says to Dr. West:

"We enclose a copy of the confidential report which gives details of the plan for a cooperative medical service in Washington for Federal employees."

The enclosure is a rather long one, marked "Confidential. For Private Circulation Only," and entitled "A Plan for a Cooperative Medical Service on a Periodic Payment Basis for Federal Employees and Their Families in Washington." I shall not take the time to read that exhibit, because it is a bit lengthy.

By Mr. Leahy:

Q.—I am going to show you, Doctor, however, Exhibit 103, dated June 23, 1937, and ask you if you can identify that? A.—Yes, sir; I can.

Q.—Is the Mr. Thomas A. Hendricks to whom you addressed this letter the same Mr. Thomas A. Hendricks you just spoke about? A.—Yes, sir.

Mr. Leahy:—The letter is dated June 23, 1937:

"I am very greatly obliged to you for your letter of June 22, for the memorandum attached to it, and for the copy of a plan for a cooperative medical service on a periodic payment basis for Federal employees and their families in Washington.

"While we already had a copy of this plan and practically all of the information submitted in the memorandum attached to your letter, we are nevertheless grateful to you for sending us the material that accompanied your letter, and especially for the information pertaining to the small group in Washington that seems to be acting as a steering committee for the organization of cooperative medical services among various governmental departments. We had not been able to secure this particular piece of information. We had information for two or three months that a movement had been started to organize medical service plans for government employees. We have made very diligent efforts to ascertain all the facts, and we are still persisting in those efforts.

"Since the Atlantic City session Dr. Woodward has been in Washington for a large part of the time and has had interviews with officials of the H. O. L. C., the Resettlement Administration, the Brookings Institute, and numerous others. The one thing we have tried very hard to secure is a copy of the contract to be entered into between the cooperatives and their members. Our own efforts as well as the efforts of persons in high official positions in Washington have been altogether unavailing, and we have not been able to secure a copy of the contract or any specific information about its provisions. If you can succeed in securing any additional information we shall appreciate it if you will pass it on to us, just as we have fully appreciated your helpfulness in connection with other matters in the past.

"Very sincerely yours."

By Mr. Leahy:

Q.—Doctor, when you mentioned in your letter that you had made "efforts as well as the efforts of persons in high official positions in Washington," to whom were you referring? A.—I think I referred at that time to Senator Copeland and to Mr. Rayburn who, I believe, is now Speaker of the House of Representatives, and possibly to Senator Connally of Texas. I should like to say that I had no personal contact in this matter with either Mr. Rayburn or Senator Connally, but the chairman of the committee of the American Medical Association had communicated with them and had sought their help in securing a copy of the contract. I did visit personally Senator Copeland on two occasions, and I think there are letters in the files now in possession of the Government—I do not know whether they have been presented here in this trial or not—from Senator Copeland to me and perhaps one or two that I may have written him.

Q.—I think you mentioned the chairman of the committee. Who was he? A.—Dr. E. H. Carey of Dallas, Texas.

Q.—Of what committee was he the chairman? A.—He had been president of the American Medical Association, and at that particular time was chairman of the Committee on Legislative Activities.

Q.—Doctor, I want to show you Exhibit 106, which is a letter from Dr. William P. Herbst addressed to you, and ask you if that came to your attention? A.—Yes, sir.

Q.—Do you recall whether you wrote any reply to that letter? A.—I do not recall. I think it is quite possible that I did, because I try to reply to every letter I receive or that for any reason at all needs to be replied to.

Q.—I am going to show you Exhibit 105 and ask you if you can identify the carbon copy as being a carbon copy of the original which you wrote? A.—Yes, sir. I think I wrote that letter.

Mr. Leahy:—Exhibit 106, the letter which has been identified as from Dr. Herbst to Dr. West—omitting a paragraph which has nothing to do with the matter in hand, and reading only so much thereof as refers to this matter, to the effect that Group Health Association of the Home Owners Loan Corporation

"has already been incorporated, and our Executive Committee had a meeting with some of their representatives last night and it certainly looks bad.

"It was brought out that it is possible for them to borrow money from the Home Owners Loan Corporation when and if necessary at any time for any purpose. It was also brought out that there were about two hundred branches scattered throughout the United States which maintain emergency rooms with nurses, which are directly under the central office here in Washington. Just what is going to come out of the whole affair it is impossible to predict at this time, but there are going to be some conferences and attempts to go along with this outfit if it is possible to do so and retain our faces.

"I am on my way up to the A. M. A. in Minneapolis, and if I can steal any time on my way up or on my way back I will give you a call. I trust it will be possible to have a little visit with you."

To which Dr. West replied on June 28, 1937:

"I am greatly obliged to you for your letter of June 25. We have been considerably perturbed over the scheme that is being promoted under the auspices of the Home Owners Loan Corporation and have made very earnest efforts to develop dependable information through authentic sources. While we have secured some very interesting information, we have not been able to secure other information of an absolutely essential character. The way in which this matter has been promoted in Washington is rather typical. We are grateful indeed to you for the information offered in your letter. I shall hope to see you when you are in Chicago.

"With most cordial good wishes, I am"—

Mr. Leahy:—What he has stated there, that the American Medical Association had made careful study of the compulsory insurance idea and did not believe that it was in accordance with the public interest, and that is what he meant when he wrote what he did to Dr. Conklin—

THE COURT:—I think that appears from the letter. You are just opening up an issue for cross examination.

Mr. Leahy:—No; I am not going any further on it at all, if your Honor please.

THE COURT:—I think it is better to strike it out.

Mr. Leahy:—Then may I move to strike the letter?

THE COURT:—The whole letter? You can withdraw it.

Mr. Leahy:—They have offered the letter.

Mr. Lewin:—We wanted it for certain parts of it.

Mr. Leahy:—There are no "certain parts." The letter goes in or out.

Mr. Lewin:—We offered the letter for certain statements in it that we thought were relevant to the case. We did not think we could offer the letter piecemeal, and that is why the whole thing was offered. We are perfectly willing to have the immaterial portions stricken.

THE COURT:—I think Dr. West's statement—I do not mean to cut out every reference to it—may stand to the extent that that was a matter that had been under consideration by the American Medical Association and which they were opposed to. But it is the extensive explanation of these things that is likely to draw a lot of cross examination on collateral matters.

Mr. Leahy:—May I show this letter to your Honor?

THE COURT:—I think I will let it stand and let Dr. West's testimony stand, so far as I have indicated, for that purpose only.

Mr. Leahy:—That is the only purpose. I did not mean to introduce anything else. The last thing I want to do is to get into an argument about compulsory insurance.

Mr. Kelleher:—Your Honor, I want to be clear about how far Dr. West's statement is in.

THE COURT:—Simply to the point that it was a subject which had been under investigation by the Association.

Mr. Leahy:—I do not want to be captious, if your Honor please, but does it mean also so much of the statement that after the investigation the American Medical Association found it was not in accordance with the public interest, in their judgment?

Mr. Lewin:—I think that should be stricken. What difference does it make what they found out about compulsory insurance?

THE COURT:—He stated that. You might just as well try to put the sunlight out of the room here. It probably would have been better if I had not said anything about it, but I thought it might develop some collateral question. Let the whole thing stand as it is.

Mr. Leahy:—Exhibit No. 111 has been identified by the witness, dated October 9, as a letter which he received from Dr. Conklin. I think that letter has been read before, and I am not going to take the time of the jury to read it again. It is a letter from Dr. Conklin in which he encloses a copy of a resolution, or, rather, quotes a resolution that the Medical Society of the District of Columbia passed, and caused a copy of the report of the Bureau of Legal Medicine and Legislation to be sent to each of its members.

THE COURT:—That has been read.

Mr. Leahy:—I think it has been read before.

By Mr. Leahy:

Q.—That acknowledges, does it not, Doctor, the receipt of Dr. Conklin's letter of October 9, which is Exhibit No. 111? *A.*—Yes, sir.

Mr. Leahy:

"I am greatly obliged to you for your letter of October 9 in which you present the resolution adopted by the Medical Society of the District of Columbia at the meeting of October 6. I am of course greatly pleased at the decision of the Society. I am looking forward with pleasure to seeing you here at the annual conference of secretaries of constituent state medical associations on November 19 and 20."

By Mr. Leahy:

Q.—Doctor, what is the annual conference of Secretaries of constituent state medical societies? *A.*—It is a conference which is held at the office of the American Medical Association each year unless there is some special reason for postponing the conference for one year, to which the Secretaries of all constituent state associations are invited along with the editors of all state medical journals and the officers of constituent state medical associations.

Q.—Now, what is the purpose of the conference? *A.*—The purpose of the conference is to give the secretaries and editors of the various state associations an opportunity to become acquainted with the actions of the American Medical Association; to confer among themselves, and with the official representatives of the Association, including the heads of departments and the members of the Board of Trustees as to matters of common interest relative to the organization sources and the work of the state organizations in relation to the work of the American Medical Association, or their relation to other medical organizations.

Mr. Leahy:—Exhibit 108 is a letter from Dr. Conklin to Dr. Fishbein:

"Dear Dr. Fishbein:

"The Medical Society of the District of Columbia desires 1,000 reprints of the article which appears in the Oct. 2, 1937, issue of THE JOURNAL, Organization Section, pp. 393-46B, entitled 'Group Health Association, Incorporated,' for distribution to its members. We should appreciate your informing us of the cost and of the earliest probable time for delivery.

"Thanking you, I am

"Very truly yours."

The reply written by Dr. West is dated Oct. 19, 1937, addressed to Dr. Conklin. It is Exhibit 109.

"We shall send you at once printed copies of the article that appeared in THE JOURNAL of October 2 entitled 'Group Health Association, Incorporated.'

"I am not definitely sure that we can send as many as 1,000 copies but if they are available the full number will go forward as soon as possible and any deficiencies will be made up later.

"Very sincerely yours,"

By Mr. Leahy:

Q.—Who is Dr. Tibbals? *A.*—He is not Doctor; he is Mr. Tibbals, and he is the secretary of the Utah State Medical Association.

Q.—Is he a personal friend of yours? *A.*—I have only known him for a year or two.

Q.—Did you have any other occasion than that indicated in the first part of your letter, "I have before me your letter of October 26," for writing this letter? *A.*—None that I can recall. I know of no reason why I should have written him otherwise.

Mr. Leahy:

"The American Medical Association has very actively opposed the plans of Group Health Association, Incorporated, as has the Medical Society of the District of Columbia, but, in spite of all the efforts that have been put forth, I have within the last thirty minutes received information from Washington to the effect that the Group Health Association, Incorporated, has announced the names of its medical staff and that the Home Loan Bank Board has agreed to provide \$20,000 a year for two years to finance that association. If you will be good enough to examine THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for October 2, you will find an article dealing with this matter.

"We have taken the position that since the practice of medicine by corporations has been declared to be illegal by many states, no agency of the federal government is justified in using federal funds to finance a corporation that intends to engage in the practice of medicine. I understand that some of the promoters of Group Health Association, Incorporated, have taken the position that since licensed physicians are to be employed who will provide medical service for the members of that corporation, the corporation can not be considered as practicing medicine. That contention has, of course, no merit whatever.

"I regret exceedingly that because of a number of meetings of various kinds that have been held here within the last two or three weeks, which has resulted in most of my time being taken up in attending these meetings and in important conferences, I unavoidably got far behind with correspondence and thus is explained my failure to make prompt reply to your first letter.

"I am glad indeed to know that Doctor Edmunds intends to be present at the Secretaries' Conference and I hope that we shall also have the pleasure of having you with us on that occasion."

By Mr. Leahy:

Q.—Doctor, when you made the statement:

"The American Medical Association has very actively opposed the plans of Group Health Association, Incorporated,"

to what did you refer as the opposition contained therein? *A.*—Our efforts to develop all the facts that could be had in order that they might be published for the information of the profession; the various medical organs of the country, and who else might be interested.

Q.—What other form of opposition up to that time had been instituted in regard to anything connected with Group Health Association? *A.*—Nothing other than was incidental to efforts to collect the facts for the purposes indicated.

Q.—Have you any independent recollection now of what inquiry was made by Mr. Tibbals, which elicited the answer which you just made? *A.*—I couldn't recall; I couldn't give you a definite answer to that question.

Mr. Leahy:

"I have just been informed that the Group Health Association has announced the names of the members of its professional staff, as follows: Dr. Brown; Dr. Raymond E. Selders; Dr. Allan E. Lee; Dr. Edmond D. Wells; Dr. R. Stephen Hulbert, and Dr. M. Scandiffo. Our records indicate that only two of these men are members of the American Medical Association, namely, Drs. Allan Edward Lee and Mario Victor Scandiffo. Both of these men have been reported as members in good standing in the Medical Society of the District of Columbia and Dr. Scandiffo has qualified as a Fellow of the American Medical Association.

"I am informed that the Home Loan Bank Board has agreed to provide \$20,000 a year for two years for the use of the Group Health Association.

"All of this makes it appear that both the Group Health Association and the Home Loan Bank Board have definitely determined to proceed with their plans in spite of all protests that have been lodged against such procedure.

"Very sincerely yours."

By Mr. Leahy:

Q.—Doctor, from your examination of this exhibit has your recollection been refreshed to the degree that you can now state what was the source of the information which you stated you had just received? A.—My recollection is that that information came to us through a telegram received in the office from Mr. John S. Hayes, who was for some years the representative of THE JOURNAL in Washington.

Q.—And without taking the time to read these, because I am sure they have been read before—do I identify them correctly as being telegrams following which the conference of November 6 was held in Chicago between you and Dr. Hooe and Dr. McGovern; Dr. Leland and Dr. Woodward? A.—Yes.

Q.—Have you any independent recollection now of what the original of the letter was which you received from Mr. Tibbals, to which this Exhibit 113 is a reply? A.—My recollection is that he wrote a letter to me asking for information about the matter referred to herein, and I had this additional information which I had not included in a letter written to him several days previously, which I then passed on to him in this letter.

Mr. Leahy:

"I am very glad indeed to have your letter of November 4."

"Since I wrote you last, the Group Health Association, Inc., has begun operations. The Home Loan Bank Board has agreed to finance the movement by providing \$20,000 a year from its funds for two years. The names of the medical staff, composed of six or seven men, have been announced. Only two are members of any component county medical society or any constituent state medical association. The American Medical Association and the Medical Society of the District of Columbia have opposed the movement to the fullest possible extent but without success.

"Under the circumstances, we shall take care of the necessary travel expense incurred by you in attending the Annual Conference of Secretaries of Constituent State Medical Associations."

Mr. Leahy:—I ask you this: that statement was not made in any way in connection with Group Health?

The Witness:—No, not in the world.

By Mr. Leahy:

Q.—I now show you Exhibit 117, which purports to be a résumé of a conference which was held November 6. See if you identify that as such, because we have read that and referred to it again and again.

THE COURT:—Is that the conference of the Hooe committee?

Mr. Leahy:—Yes.

The Witness:—I recognize that as an excerpt or abstract, whichever you want to call it—of what occurred at the time. I don't identify it as a verbatim statement of it.

Mr. Leahy:—I am not going to take the time to read that; we have read a photostatic copy of it before.

By Mr. Leahy:

Q.—Doctor, have you read over this abstract of what occurred at the meeting of November 6 in Chicago, so that you can now state that the abstract correctly reports what was said by you?

THE COURT:—Indicate to the doctor the part that you wish to refer to.

The Witness:—Well, as I recall this, I heard a statement when it was read, a statement attributed to me to the effect that I considered a certain proposition as a reasonable proposition.

By Mr. Leahy:

Q.—On page 7, I direct your attention to the statement made by Dr. Hooe, and the statement made by Dr. West. Did you hear those statements read as from that abstract, Doctor? A.—I think I heard it read here.

Q.—Does that abstract correctly report what you said on that occasion? A.—No, it doesn't.

THE COURT:—You may take the opportunity of reading that part of it.

The Witness:—I don't know whether it is a matter of great importance; it does support my statement that it is not a verbatim report. It says:

"Dr. Hooe: Is it not, in your opinion, most reasonable that the hospitals should acquiesce in this matter?"

"Dr. West: It is reasonable that they should do it, but as to whether or not they will, that's another question. Suppose they don't?"

Now, I am quite sure that I did not express a definite opinion as to whether it was reasonable, but I raised the question as to whether it would do any good to attempt what was proposed. As a matter of fact, I believed the hospitals should control their own affairs.

MARCH 20—MORNING

TESTIMONY OF DR. OLIN WEST

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Who was Dr. Knopf? A.—He was an old and distinguished physician who resided in New York City, who had taken special interest in general medical affairs and was especially interested scientifically in tuberculosis.

Q.—I notice that in your letter you begin "I am greatly pleased to have your letter of November 3." Do you recall whether there was any other occasion to write to Dr. Knopf than his letter which he sent to you? A.—None in the world, so far as I can recall, sir.

Mr. Leahy:—Exhibit 161 is dated Nov. 8, 1937 and addressed to Dr. Knopf:

"I am greatly pleased to have your letter of November 3 to which is attached a copy of a letter addressed by you to Mr. Robert L. Hill, a charter member of Group Health Association, Inc., in Washington. I am of course greatly pleased that you approve the official attitude of the American Medical Association toward such movements as the Group Health Association, Inc. When one considers the facts with respect to the number of Government employees in Washington and in one or two other centers in the United States, one is compelled to wonder what will become of the private practice of medicine in those centers if the Government is to subsidize cut-rate medical schemes under which corporations are to engage in the practice of medicine, in spite of the fact that the practice of medicine by corporations has been repeatedly declared to be illegal in one state after another. Even in the city of Washington at least one opinion has been submitted by a duly appointed public official clearly indicating a definite view to the effect that such decisions as have been handed down by a number of courts in various parts of the United States to the effect that practice of medicine by corporations is illegal are in accord with the law. In so far as I know, no public legal authority in Washington has definitely expressed an official opinion concerning the legality or illegality of the practice of medicine by a corporation, but I am specifically informed that the principle involved has been fully covered in a legal opinion uttered by an official of the Government of the District of Columbia or an official of the Federal Government in Washington. However all this may be, it is nevertheless a fact that the Group Health Association, Inc., has begun operations and that under the provisions of its by-laws and of its charter Government officials who are paid such salaries as to remove them entirely from the category of the low income group are in position to receive medical service to be provided for them on a cut-rate basis by a corporation engaged in the practice of medicine and actually subsidized by an official agency of the Federal Government.

"I am grateful indeed to you for your kindness in sending me a copy of your little book, 'Child Labor and the Nation's Health.' I appreciate this thoughtful gift all the more because it is an autographed copy, and I am grateful to you for the kindly sentiment expressed in the inscription which you were good enough to make.

"With assurances of my sincere respect and esteem and with my very best wishes for your health and happiness, I am

"Very truly yours."

By Mr. Leahy:

Mr. Leahy:—It is dated Nov. 9, 1937, addressed to Dr. Robert A. Hooe, 1746 K Street N.W., Washington, D. C.:

"My Dear Dr. Hooe:

"I am sending you herewith by air mail special delivery two copies of an abstract of the notes taken at the conference held in my office on last Saturday. I am also sending you a copy of this abstract by registered mail.

"We were greatly pleased to have a visit from you and Dr. McGovern, and I hope that matters will be satisfactorily adjusted."

By Mr. Leahy:

Q.—Doctor, do you recall to what abstract you were referring when you said you were sending two copies of an abstract of notes taken at a conference? A.—Yes, sir. That was an abstract prepared by a stenographer in my office of the conversations that took place at a conference attended by Dr. Hooe and Dr. McGovern of Washington, and Dr. Woodward, Dr. Leland and myself.

Q.—Was that the abstract which you identified yesterday, of the November 6 conference? A.—Yes, sir.

The witness identified exhibits relating to the correspondence with Dr. Joseph S. Wall covering Dr. Richard Cabot's address in Washington.

By Mr. Leahy:

Q.—Doctor, referring to the letter which I have just read, you stated that a report on this matter was submitted to the Board of Trustees at Atlantic City. Is that the same report which you told us yesterday about, when the matter of Group Health was reported to the Board of Trustees and the House of Delegates at Atlantic City? *A.*—I think it is, Mr. Leahy. However, the minutes of the Board of Trustees that were shown to me yesterday were not dated, and I am not clear whether that particular report was submitted to the Board of Trustees at Atlantic City or whether it was done at the September meeting of the Board. I think I stated yesterday that my recollection was that it had been submitted to the Board of Trustees at its meeting in September. This letter would seem to indicate that it had been done at the time of the Atlantic City session.

Q.—You stated, further, that instructions issued by the Board of Trustees at that time had been carried out as fully as possible. Do you recall now just what the instructions were, in substance? *A.*—The instructions, as I recall, and if I have the correct matter in mind—

Mr. Lewin:—Would you find out whether the instructions were in writing?

By Mr. Leahy:

Q.—Do you recall, Doctor, whether the instructions were in writing? *A.*—They were, according to my recollection, in the minutes of the Board of Trustees.

Mr. Lewin:—I would like to object, then.

By Mr. Leahy:

Q.—What is your best recollection? We will get those minutes out and see if they refresh your recollection, because we did not read them yesterday. *A.*—My best recollection, as a matter of fact, until this letter was read, was that the action was taken by the Board of Trustees at the September meeting, though, as I definitely stated yesterday, that is simply my best recollection.

By Mr. Leahy:

Q.—Do they or do they not refresh your recollection? *A.*—They refresh my recollection to some degree, though I already knew that these are the instructions that the Board of Trustees gave by official action.

Q.—To what particular part of the minutes do you refer when you say they constitute instructions? *A.*—“That Drs. Woodward and Leland be requested to go to Washington to see what they can learn and try to advise the Medical Society of the District of Columbia if that Society is willing to accept advice.”

Q.—In the letter where it is stated that the instructions had been carried out does that refer to the trip which Dr. Woodward and Dr. Leland had made to Washington? *A.*—Yes; I think that is correct, sir. There were other instructions, later, and it may have been that I confused the two in some statement that I have made.

Q.—What were the other instructions? *A.*—The other instructions were at a meeting of the Board of Trustees where Dr. Fishbein, as Editor of THE JOURNAL, and I, as Secretary and General Manager of the Association, were instructed, as I recall it, to develop the facts so far as we could about Group Health Association and have a statement prepared for publication in THE JOURNAL.

By Mr. Leahy:

Q.—I show you Exhibit 120, which is a carbon copy of a letter from Dr. West to Dr. Walter D. Wise, dated Nov. 16, 1937. *A.*—That is a copy of a letter which I addressed to Dr. Wise.

Q.—Doctor, I notice that you begin your letter by stating “While I am delighted to have your letter of November 12”—

I will ask you whether there was any other occasion for writing to Dr. Wise that you can now recall than to answer the letter which he wrote to you? *A.*—None in the world, that I know of, sir.

Q.—By the way: let me ask you this. In the preparation of your replies to letters which you received from various individuals, did you in any way collaborate with any of your fellow officers of the American Medical Association? *A.*—In writing letters signed by me?

Q.—Yes. *A.*—No, sir; I did not, except perhaps if I wanted information that I did not have I may have asked them for it before I wrote the letter.

Mr. Leahy:—I will read the portions of the minutes of the meeting of the Judicial Council of Nov. 12, 1937, which were offered in evidence:

“Dr. Richard C. Cabot and the Group Health Association meeting: Several letters of complaint against Dr. Richard C. Cabot, Boston, Mass., were presented to the Council. These complaints had to do with Dr. Cabot's address under the auspices of the Home Loan Bank Board's Group Health Association as reported in newspapers. After consideration of the matter it was moved by Dr. Burns, seconded and carried, that the secretary of the Judicial Council be requested to bring the matter to the attention of the Massachusetts Medical Society through its secretary and to write Dr. Cabot that before the Judicial Council considers any action in the matter it would like to know whether or not he said the things he is reported in newspapers to have said in his address at the meeting held under the auspices of the Home Loan Bank Board.”

By Mr. Leahy:

Q.—Have you any independent recollection of having been present at that meeting of the Judicial Council? *A.*—Yes, sir.

Q.—Were you at that time the secretary of the Judicial Council? *A.*—Yes, sir.

Q.—Were those minutes prepared by you or under your supervision? *A.*—Yes, sir.

Q.—Was it or was it not a fact that several letters of complaint against Dr. Richard C. Cabot of Boston were presented to the Council? *A.*—I don't know how many were presented to the Council. There were a number that had been received. I don't remember how many—several. The routine was followed and those matters were referred to the Judicial Council for such official disposition as they wished to indicate.

Q.—Is the Dr. Richard C. Cabot mentioned here the same Dr. Cabot who appeared on the stand in this case? *A.*—No, sir; he is a brother.

Q.—What jurisdiction did the Judicial Council have in the premises where complaints of this character were referred to it? *A.*—Apparently it thought it had no jurisdiction, because I was instructed to refer them to the secretary of the State Society of which he was a member.

Q.—Do you now have any recollection as to whether or not anything further happened to it? *A.*—As far as I recall, no action was taken by the Massachusetts Medical Society.

Q.—That was the end of the matter? *A.*—So far as my memory goes; yes, sir.

Mr. Leahy:

“Definitions requested by Dr. Kingsley Roberts: The secretary presented the request of Dr. Kingsley Roberts, Medical Director of the Bureau of Cooperative Medicine of the Cooperative League of the United States of America, for definitions of solicitation, advertising, and contrary to good public policy. No definite action was taken by the Council, but there was no objection to giving Dr. Roberts the definition of solicitation as adopted by the Judicial Council. The Judicial Council has never defined the terms ‘advertising’ or ‘contrary to good public policy.’”

By Mr. Leahy:

Mr. Leahy:—This is addressed to Dr. Walter D. Wise, Secretary of the Medical and Chirurgical Faculty of the State of Maryland, Baltimore:

“Dear Dr. Wise:

“While I am delighted to have your letter of November 12, I am sorry indeed that you will not be with us at the annual conference of secretaries of constituent state medical associations. I think that some of the matters that will be discussed at the conference are of tremendous importance and in some particulars are probably more important than any other matters that have ever been considered at similar meetings.

“We have done all we could to oppose the Group Health Association, Inc., in Washington, but in spite of our best efforts the scheme has gone into operation. We have worked as closely as possible with the Medical Society of the District of Columbia. As a matter of fact, our efforts began before the Medical Society of the District of Columbia became very active. It is my purely personal opinion that it is an outrage that an agency of the Federal Government should finance a corporation that is engaged in the practice of medicine in the face of the fact that the laws of most of the states specifically declare all corporate practice of medicine to be illegal.

“I respectfully suggest that the Medical and Chirurgical Faculty of the State of Maryland make proper representations to the members of Congress from Maryland with respect to this matter.”

By Mr. Leahy:

Q.—Doctor, when you stated that you had worked as closely as possible with the Medical Society of the District of Columbia, to what did you refer? *A.*—Well, the American Medical Association worked as closely as possible in cooperation with all constituent state and territorial associations, but I suspect that in this particular instance I had some reference to the matters that were at the time of interest in Washington.

Q.—Do you recall now what you referred to when you stated that your efforts began before the Medical Society of the

District of Columbia became very active? *A.*—I think that is true. I think we began an effort to develop the facts about this matter before the Medical Society of the District of Columbia began any action whatever, possibly before they were informed about it. I am not sure of that, but I think it is quite possible.

Q.—And those were the efforts which you told us about yesterday? *A.*—To some extent; yes, sir.

Q.—Were there any others which you can recall which related to other matters than the collection of data? *A.*—As I stated yesterday, anything that transpired was incidental to our efforts to develop the facts.

Q.—I am now showing you, Doctor, Government's Exhibit 136, purporting to be the minutes of the Board of Trustees of the A. M. A. dated Nov. 18 and 19, 1937, pages 156 and 157. Will you kindly look that photostatic copy over and see if it refreshes your recollection so that you can identify the same? *A.*—That appears to be an extract taken from the minutes of the Board of Trustees of the American Medical Association.

Q.—Do you have any independent recollection now, Doctor, as to whether you were present at the meeting? *A.*—I was.

Q.—In what capacity? *A.*—As Secretary and General Manager of the American Medical Association.

Mr. Leahy:—It is entitled "Group Health Association, Inc.":

"As has been previously explained, the Federal Home Owners Loan Corporation has granted \$20,000 a year for two years to the Group Health Association, Inc., to aid it in getting started and to provide the expensive modern equipment which will be used in the clinic. Thus the Federal Government is providing funds to finance a corporation that is engaged in the practice of medicine, in spite of the fact that corporation practice has been declared to be illegal in numerous court decisions, including decisions handed down by Federal courts.

"Dr. West reported that a committee of the Medical Society of the District of Columbia had visited the headquarters office early in the month for the purpose of conferring with him, Dr. Woodward and Dr. Leland with respect to the Group Health Association, Inc.; that he had brought what apparently amounted to a demand to the Association to devise further means and ways of opposing the continued operation of the Group Health Association, Inc., and that it had been intimated that the American Medical Association had not concerned itself with anything but scientific matters, in spite of the fact that he and Dr. Woodward had conferred with the District Society in Washington on instructions from the Board; that a write-up had appeared in *THE JOURNAL* concerning the matter; that diligent efforts had been made to develop information concerning Group Health Association, Inc., and to procure a copy of its contract, and in spite of the fact that the headquarters office on instructions of the Board of Trustees had done everything it could to combat the movement on the basis of the fact that it is contrary to the policies of the House of Delegates.

"In this connection Dr. West presented a newspaper account of a meeting held at the Mayflower Hotel on October 30 to usher in the Group Health Association, Inc., which, it was stated, would open its clinic on the following day, by members of the Federal Home Loan Bank Board and affiliated agencies. The newspaper contained a statement given out by Dr. Richard C. Cabot lauding group medical practice and criticizing the medical profession. This matter, he stated, was referred to the Judicial Council, which had requested him to contact Dr. Cabot to ascertain whether or not he was incorrectly quoted in the newspaper item. A letter has been written to Dr. Cabot, but thus far no reply has been received.

"Dr. Cullen moved that Dr. West be requested to explain the whole matter of the activities of the Group Health Association, Inc., before the Conference of Secretaries of Constituent State Medical Associations and Editors of State Medical Journals on Friday. Dr. Hayden seconded the motion and it was carried."

By Mr. Leahy:

Q.—Doctor, do you recall now whether or not you had written a letter to Dr. Richard C. Cabot asking him if the newspapers had correctly quoted him in the matter of his speech at the Mayflower Hotel on October 30? *A.*—I now recall that I did. The purpose of that, as I understand it, was to let Dr. Cabot know that this matter had been brought to the attention of the Judicial Council and to give him an opportunity to make any such statement as he might want to make.

Q.—Did you receive any reply? *A.*—To this good day I think no reply has ever been received.

Mr. Lewin:—He is dead, is he not?

By Mr. Leahy:

Q.—Is Dr. Cabot dead now? *A.*—I think he died very recently, within the last two or three months, I think.

Q.—I do not suppose the shock of receiving that letter killed him. *A.*—I hope not.

Q.—Doctor, do you recall now whether or not the American Medical Association had done anything further than what is reported in these minutes? *A.*—With respect to Dr. Cabot's statement?

Q.—No; with respect, now, to Group Health Association. *A.*—In a general way, no; it had done nothing further. It had

pursued the same procedures all the way through, simply in an effort to develop the facts and to make ready to publish the facts.

(The witness then went over his correspondence with Dr. Robert B. Poling, secretary of the Mahoning County Medical Society of Youngstown, Ohio.)

(In response to inquiry from Dr. Poling, Dr. West wrote in part:)

"The American Medical Association has done everything that it could do to oppose the organization and operation of the Group Health Association, Inc., in the District of Columbia. I think I am safe in saying that the American Medical Association became active in this matter before the Medical Society of the District of Columbia began its efforts in opposition."

(Then he had given the information relative to the relationship of H. O. L. C. and the difficulty of securing copy of the contract. He spoke also of the doubt of the legality.)

By Mr. Leahy:

Q.—Doctor, I now show you exhibit 145, which appears to be an opinion of the Judicial Council of the A. M. A. I will ask you if you can identify that. *A.*—I think that is an opinion of the Judicial Council, signed by the individual members of the Council.

Mr. Leahy:—This appears to be an opinion on an appeal to the Judicial Council of the American Medical Association by Drs. Curtin, et al., quite a few names, Rueth, Sullivan, Walters, Dallwig.

It reads:

"In 1935, at a meeting of the State Medical Society of Wisconsin, action was taken disapproving the establishment of any plan for the medical care of low income groups by persons not representing the State or County societies.

"On Feb. 8, 1936, a special meeting of the Board of Directors of the Medical Society of Milwaukee County was called to discuss a plan for the care of the employees of the International Harvester Company proposed by Drs. Curtin, Rueth and others. Drs. Rueth, Curtin and Dallwig were present. The essential features of the plan as presented by this group were as follows:

"1. Unlimited medical and surgical service for \$1 per month for a single man; \$2 per month for man and wife; \$3 per month for man, wife and family.

"2. Only diseases excluded from the plan—mental and contagious. Hospitalization not included.

"3. There would be no solicitation of patients.

"4. All physicians who joined the clinic would benefit from any profits.

"5. Patients may select any physician on the staff.

"6. Preventive treatment not included in the plan.

"7. No written contract between patient and clinic. Participants in plan restricted to those with income of \$200 or less per month.

"It was stated that plans to remodel proposed offices had been made, a lease had been signed, but no equipment had been purchased.

"Between Feb. 10, 1936 and February 14, meetings of the Public Policy Committee and the Board of Directors were held and Drs. Curtin, Rueth and Dallwig notified by letter that the plan was disapproved. At the February 14 meeting the Board of Directors directed letters requesting resignation from the society be sent to the doctors proposing the plan. These letters were sent February 18 and were in the form of charges citing nine offenses.

"Late in February, on the advice of counsel the doctors proceeded with their plan and on February 26th announced that the clinic would open for business April 1, 1936. In their letter of announcement they stated that subscribers 'must come of their own free will and without solicitation,' making it very plain that the doctors as physicians were so restricted by the Principles of Medical Ethics.

"March 1936. About the middle of March the International Harvester Council (an employees' organization) prepared 'Instructions to Patients,' of which the clinic doctors had one thousand copies printed to be given out in the plant to those subscribing to the plan.

"March 17 the doctors by letter refused to resign from the medical society denying all charges contained in the letter requesting their resignation. March 20 at a special meeting the Board of Directors formally preferred charges and directed that an answer be filed by March 27. The doctors made answer and a hearing was had March 30. At this hearing the accused were found guilty and expelled on three counts, viz:

"1. Violation of chapter XI, Sec. 3, By-laws of the State Society (conduct tending to defeat the purposes of the society).

"2. Violation of Chapter III, Art. 1, Sec. 4, Principles of Medical Ethics (Solicitation of patients, advertising).

"3. Violation of Chapter III, Art. VI (Revised), Sec. 3. Principles of Medical Ethics (contract practice contrary to sound public policy).

"Appeal from the action of the board of directors of the Medical Society of Milwaukee County to the Council of the State Medical Society of Wisconsin and from the decision of that Council approving the action of the county society to the Judicial Council of the American Medical Association was duly made and heard. The claim was made by the appellants before the Judicial Council that they had not had a fair trial before the Council of the State Medical Society of Wisconsin by reason of the fact that the executive secretary of the state association had furnished legal counsel at the trial of the appellants before the board of directors of the Medical Society of Milwaukee County, thus prejudicing the council of the State Medical Society of Wisconsin against their cause on appeal. The Judicial Council finds no evidence supporting such claim. It believes that such employment was customary and only for the purpose of protection of both sides of controversies by assuring that procedure should be correct and each side protected in its rights. The

counsel was discharged on the completion of the trial before the board of directors of the county society and had no connection with any further procedures.

"The Judicial Council affirms the action of the council of the State Medical Society of Wisconsin in respect to the charge of violation of Chapter III, Art. I, Sec. 4, of the Principles of Medical Ethics (solicitation of patients, advertising). The board of directors of the county society found these appellants guilty on this charge. The council of the state society affirmed that decision. The Judicial Council finds no error in the interpretation of the Principles of Medical Ethics by either of these bodies, nor error in procedure.

"The Judicial Council affirms the action of the Council of the State Medical Society of Wisconsin in respect to the charges of violation of Chapter III, Art. VI (Revised), Sec. 3, Principles of Medical Ethics (contract practice contrary to sound public policy). The appellants claim that at the time charges were preferred against them (March 20, 1936) and they were expelled (March 30, 1936) they were not operating under the plan and engaging in contract practice; that their practice under the plan did not begin until April 1, at which time the clinic was opened; that therefore they were not guilty when and as charged.

"The fact that no medical care had as yet been given at the time charges were preferred is not a reversible error in procedure. The appellants had abundant warning that the plan under which they proposed to operate was disapproved by the board of directors of the county society. They officially presented their plan to the board on Feb. 8, 1936. On February 14, after disapproval of the plan, and after statements by the appellants to the board of directors that they would prosecute the plan even though disapproved, they were officially notified of disapproval and request for their resignation was made, which request was refused.

"That at the time charges were preferred against them they had not as yet treated a patient under the plan is inconsequential. Certain preliminary preparations to treat patients necessarily had to be made before giving service but such preparations would not be made unless assurance were had by either written or verbal agreement or understanding which constituted a contract. The appellants were therefore engaged in contract practice from the time the agreement was made notwithstanding the fact that the preparations to treat patients had not been completed.

"The Judicial Council is distinctly of the opinion that practice under the terms and conditions to which these appellants have agreed with the employees of the International Harvester Company constitutes a violation of Chapter III, Art. VI (Revised), Sec. 3, of the Principles of Medical Ethics (contract practice contrary to sound public policy).

"In respect to the charge that the appellants violated Chapter XI, Sec. 3, By-laws of the State Medical Society of Wisconsin, the Judicial Council makes no pronouncement. It is not necessary that an accused shall be guilty on all charges made. If an accused is guilty on one or more major charges and no reversible error in the procedure of the trial is found, the Judicial Council will not interfere in the verdict pronounced by the county society and upheld by the state association. These appellants were found guilty by the board of directors of the Medical Society of Milwaukee County on two major charges of violation of the Principles of Medical Ethics of the American Medical Association, which action was sustained by the council of the State Medical Society of Wisconsin. There was no reversible error in the proceedings.

"The action of the board of directors of the Medical Society of Milwaukee County and of the council of the State Medical Society of Wisconsin is approved."

Then there appear, Doctor, five names. Are you familiar with those parties whose names appear on this document? A.—Yes.

Q.—Who is the first? A.—John H. O'Shea, Spokane.

Q.—The second? A.—John W. Burns, now deceased.

Q.—Walter F. Donaldson. A.—Walter F. Donaldson, of Pittsburgh.

Q.—Edward R. Cunniffe. A.—Yes, Edward R. Cunniffe, of New York.

Q.—And George Edward Follansbee. A.—George Edward Follansbee, of Cleveland, Ohio.

Q.—Were you present in any capacity at that time, at the time this particular appeal was heard by these five members of the Council? A.—I was there during part of the hearing of the matter by the Judicial Council. That hearing was held in Atlantic City, at which time I was busily engaged in the House of Delegates and attended the meetings as much as I could.

Q.—Government's Exhibit 24, I should say 124, is identified as "Talley to West," Feb. 16, 1938. Will you look at that letter and see if you can identify it as one having been received by you? A.—Yes, I received that letter.

Here followed the complete correspondence with A. T. Talley and Drs. Walter A. Coole, Conklin and Follansbee covering the matter of Raymond Selders and his membership in the Harris County Medical Society.

Q.—At the time you wrote this letter to Dr. Follansbee, were you Secretary of the Judicial Council of the American Medical Association? A.—Yes.

Q.—And when you wrote this letter of April 21, 1938 to Dr. Follansbee, will you explain why in connection with enclosing the telegram of Dr. Talley you also stated the fact which you set forth in that letter? A.—Simply for the information of Dr. Follansbee; he may not have had certain of that information and I transmitted it for what purpose it might serve. If it is permissible or admissible, I think it is possible that there is a mistaken statement in this letter.

Q.—Will you generally refer to the one you think is error? A.—The statement:

"We were definitely informed that the United States Attorney for the District of Columbia has ruled that the Home Loan Bank Board had no legal authority for providing funds for the support of the Group Health Association, Inc."

I am not at all sure that it was the District Attorney of the District of Columbia that made that ruling; my recollection is that—

Mr. Kelleher:—We object to this.

Mr. Leahy:—What was that, Doctor?

Mr. Lewin:—He has corrected the error.

Mr. Leahy:—Don't you want to hear the correction?

Mr. Lewin:—No.

Mr. Leahy:—He is going to show whose name should have been in there. Well, was the error as to the fact or as to the name?

The Witness:—It is an error, if it is an error at all, in the designation of the official. I have no disposition except to be fair in the matter.

By Mr. Leahy:

Mr. Leahy:—Directed to Dr. West on the official stationery of the American Medical Association. It reads:

"Dear Dr. West:

"Acknowledging receipt of yours of April 21 concerning the situation of Dr. Raymond E. Selders and the Harris County Medical Society of Texas.

"The telegram of A. T. Talley, Chairman of the Board of Censors, Harris County Medical Society, asking for an official opinion and ruling by the Council, is a rather mixed-up situation, on which I would not express an opinion without further information. Upon receipt of your letter of April 21 I immediately wired Dr. Talley as follows:

"Is Selders in good standing in County Society? Has error procedure been strictly followed? Send air mail constitution and by-laws county and state."

"Up to this afternoon I have received no reply whatsoever. There would be a question in my mind of the jurisdiction of the Harris County Society to the extent of expelling a man for actions occurring so far away from the County Society as to be difficult of proof and also difficult to permit a defense by the accused. The statement in the telegram that the County Society would put this entire matter up to the Judicial Council of the American Medical Association as a primary organization for action, I believe, is not provided for in our constitution except on investigation of the circumstances by the Judicial Council and request by them for action by the president. The telegram also says that the trial comes up on the 27th of this month, which is today. It seems strange to me that they should go so far as to be up against the actual trial of the man before they come to the Judicial Council for advice. It looks to me like a very precipitated action, a situation in which I am not satisfied to place the Judicial Council in any position where just criticism can be brought before them. I have not replied to Dr. Talley's telegram and will not until I receive further word from him.

"If you have any further information or any suggestions on this case I shall be pleased to receive them.

"Sincerely yours,

"George Edward Follansbee,

"Chairman."

Here there was read into the evidence a complete statement by Dr. Walter A. Coole in the case of Raymond Selders and the Harris County Medical Society.

By Mr. Leahy:—

Q.—Doctor, have you any independent recollection now of having had any further correspondence with the Harris County Medical Society or the Judicial Council of the American Medical Association in reference to this matter? A.—My recollection is, Mr. Leahy, this matter received official consideration by the Judicial Council, and I think it is quite probable I communicated with the Harris County Medical Society to advise them of any conclusion that may have been reached by the Judicial Council.

Q.—How often did the Judicial Council of the American Medical Association meet regularly? A.—Well, it now, I believe, meets three times a year; they have three different meetings during the year, generally, as I recall, in the early part of the year; and it meets daily during the annual session of the Association, and has a third meeting later on in the year.

Q.—When you say at the "annual meeting of the Association," do you refer to the meeting of the House of Delegates? A.—It is the annual session of the Association at which the House of Delegates convenes and transacts its business.

Q.—Does the American Medical Association membership, as such, meet annually, as distinct from the House of Delegates? A.—They have a scientific program, scientific exhibits, technical exhibits.

Q.—And how often does the membership of the American Medical Association meet? A.—The scientific assembly is the scientific part of the organization, which meets during the week of the annual session.

Q.—And what do you refer to when you talk about these exhibits? A.—The Scientific Exhibit is probably the largest and

most instructive of its kind ever developed by any organization. It is an exhibit in which scientific advancement in research and development in research; scientific advancement in the methods of treatment, diagnosis of disease, matters of that kind, are illustrated and demonstrated by those really responsible for the exhibit. Many times the most outstanding men in that particular field.

By Mr. Leahy:

Q.—Doctor, this exhibit seems to close the correspondence between you and Dr. Follansbee, or the Board of Censors of the Harris County Medical Association. Do you recall whether the Judicial Council of the American Medical Association ever took any action with reference to Dr. Selders' membership, referred to in this correspondence, which we have just read? A.—I don't think it took any action with respect to Dr. Selders' membership. It is my recollection that it finally decided that it had no jurisdiction of the matter as it then stood. That is my recollection.

Q.—And nothing further was done about it? A.—I think—if I am correct in my recollection of the affair—that nothing further was done by it except to notify the Harris County Medical Society that the Judicial Council had no jurisdiction in the matter, as it stood.

Q.—Can you tell us who Dr. Erskine is? A.—He is a physician who resides in Cedar Rapids and who is, I believe, engaged in the practice of medicine in that community.

Q.—After having glanced at the first sentence of this exhibit, can you tell us now, Doctor, whether you had any other occasion for the writing of the exhibit than what is expressed in that first sentence? A.—None in the world.

Mr. Leahy:

"Dear Dr. Erskine:

"I have before me a copy of your letter of September 9 addressed to Dr. Fishbein.

"I gather from your letter that you do not understand that the Group Health Association in Washington is a corporation engaging in the practice of medicine. Inasmuch as our information has been to the effect that the practice of medicine by a corporation is illegal under the laws of many states and that many court decisions have been handed down declaring the practice of medicine by corporations to be illegal, and because the American Medical Association has opposed illegal practice as well as for other reasons perfectly obvious to those who are familiar with the facts, the American Medical Association has opposed the Group Health Association, Inc. The opposition of the American Medical Association has been based on the policies established by its House of Delegates, in which all constituent state medical associations are represented by their own duly elected delegates. Incidentally, there has been a very persistent effort on the part of certain agencies and groups to make it appear that members of the administrative personnel of the American Medical Association had presumed to attempt to define the policies of the Association which, of course, is quite untrue. The officers and members of the official bodies and members of the administrative personnel of the Association have done nothing more nor less than try to comply with official instructions received from the House of Delegates and to maintain and carry out the policies established by that body.

"With most cordial good wishes, I am

"Very truly yours,"

Q.—Is it or is it not a fact that the administrative heads of the American Medical Association have no control over establishing policies of the American Medical Association? A.—It is a fact that they have nothing to do with the establishment of the policies of the American Medical Association. Those policies are established by the House of Delegates.

Q.—What jurisdiction have the administrative personnel of the American Medical Association with respect to the policies other than to carry out the directions given by the House of Delegates? A.—Well, it is their simple duty to do what they can to maintain and carry out the policies established by the House of Delegates. It is a fact, of course, that under the constitution and by-laws the board of trustees is empowered to act for the House of Delegates in the interim between meetings of the House, and in certain instances matters have arisen in which action was essential and the Board of Trustees has then given instructions to the administrative personnel as to what should be done.

Q.—Would you kindly look at the exhibit which I show you, Doctor, and see if you can identify it? A.—That is a copy of a letter which I addressed to Dr. Arthur W. Erskine under date of Sept. 29, 1938.

Q.—Doctor, in the first sentence of this exhibit, which is No. 129, dated Sept. 29, 1938, you said:

"I have before me your letter of September 9 addressed to Dr. Fishbein to which is attached a copy of a letter addressed to you by Dr. A. H. Woods."

Do you recall any other occasion for writing this exhibit 129 than to answer the letter of September 9 which you therein mention? A.—I do not; no, sir.

Mr. Leahy:

"It seems evident to me that neither you nor Dr. Woods understand the situation that has developed in Washington. In the first place, Group Health Association, Inc., is a corporation engaged in the practice of medicine. The laws of many of the states and of the District of Columbia itself contain provisions declaring practice by corporations to be illegal. While it is true that one of the Judges of the United States District Court for the District of Columbia, a trial court, not an appellate court, has handed down a decision declaring Group Health Association, Inc., to be legal, the fact remains that the United States District Attorney for the District of Columbia specifically ruled that Group Health Association, Inc., was a corporation illegally engaged in the practice of medicine, and the Corporation Counsel of the District of Columbia expressed his opinion to the effect that Group Health Association, Inc., was unlawfully engaged in the insurance business. Since the decision of the United States District Court for the District of Columbia a suit has been instigated by individual physicians in Washington seeking a decision from a higher court as to the legality of the activities of the Group Health Association, Inc.

"With respect to the activities of the Department of Justice pertaining to the American Medical Association, I am sure that you will be interested to know that we have never had any communication whatever from the Department of Justice with respect to this matter, although various newspaper statements have been released by an official of the Department of Justice which, designedly or not, have undoubtedly poisoned the public mind against the organized profession in the United States. The timing of these newspaper releases has been a most interesting factor in the situation. The facts about these matters were submitted to the House of Delegates at San Francisco as well as to the House of Delegates at the special session held in Chicago last week, and the officers and members of the administrative personnel of the Association have been given definite instructions by the House of Delegates, which is the policy-making body of the Association.

"The American Medical Association has announced that it has no objection whatever to any fair and reasonably conducted investigation of its affairs by any official agency. As a matter of fact, an agent of the Federal Bureau of Investigation has recently visited the offices of the Association and has been shown everything that he asked to see. In my opinion it is highly important to remember that the Department of Justice has sent no communication about the matter to the officers of the American Medical Association, nor did it make any effort whatever to ascertain from the Association itself any facts pertaining to the matters referred to in these newspaper releases."

By Mr. Leahy:

Q.—Have you any independent recollection, Doctor, of what the Erskine letter was, other than what is indicated in your reply thereto, in this exhibit? A.—I have no definite recollection about it, Mr. Leahy. That is, I have no recollection that is clear enough to attempt to recite what was in the letter, but I take it that that is an effort to answer any statements that may have been made in the two letters, one, I believe, from Dr. Erskine, and the other from Dr. Woods.

Q.—Do you know who Dr. Erskine is? A.—Yes. I have met him, I think, several times. He is a practicing physician in Iowa.

Q.—Do you know Dr. A. H. Woods? A.—If I do, I do not now recall him.

Q.—Do you recall now, Doctor, whether it was or was not a fact that agents of the Federal Bureau of Investigation were in the offices of the American Medical Association at or about this time? A.—Yes, sir.

Q.—What opportunity were they given to inspect the files of the American Medical Association? A.—There were several of them there at various times, and I think they were all told they were quite at liberty to see anything that was in the office.

Q.—Do you recall whether or not any communication was ever received from any official of the Department of Justice to "ascertain from the Association itself any facts pertaining to the matters referred to in these newspaper releases"?

Mr. Kelleher:—I object to that. It is immaterial.

THE COURT:—I think you have a right to ask him whether the facts stated in there are true. I do not see any reason for taking it up in detail.

Mr. Leahy:—No; I am not going to, your Honor.

THE COURT:—Will you read the question, Mr. Reporter?

(The pending question was read by the reporter as above recorded.)

The Witness:—Shall I answer that?

THE COURT:—I have stated that the witness may state whether the facts stated therein are correct.

Mr. Leahy:—That is a quotation from the letter.

The Witness:—If any communication was ever received from the Department of Justice it certainly never came to my attention—that is, pertaining to the facts of the situation as it had developed. We had communications in the form of subpoenas, plenty of them.

By Mr. Leahy:

Q.—I show you now Exhibit 132, which is dated Oct. 8, 1938 and appears to be a carbon copy of a letter again to Dr. Erskine, president of the Iowa State Medical Society, and I ask you if

you can identify that? *A.*—Yes, sir. I identify that as a letter which I addressed to Dr. Erskine under date of Oct. 8, 1938.

Q.—I will ask you, Doctor, if the first sentence of this letter indicates the receipt of any letter by you to which that was a reply? *A.*—It indicates the receipt of a letter from him under date of Sept. 30, 1938.

Q.—Do you recall now whether you had any occasion to write this exhibit 132 other than in reply to his letter of September 30? *A.*—No, sir; none whatever.

Mr. Leahy:

"Your letter of September 30 was received in due time. I do not know how I can convince you that the statements made in my letter are not mistakes, other than to assure you that I know exactly what I said and I know that the situation is as stated."

(The rest of this letter again discussed fully the record and the question of the legality of G. H. A.)

By Mr. Leahy:

Q.—Doctor, I am now showing you Exhibit 133, which is dated Oct. 12, 1938 and appears to be a carbon copy of an original directed to one Dr. Fred Hammerly, Long Island College Hospital, Brooklyn. Will you kindly glance through that exhibit and see if you can identify it for us? *A.*—Yes, sir. I identify it as a copy of a letter which I addressed to Dr. Fred Hammerly under date of Oct. 12, 1938.

Q.—Doctor, what occasion had you for writing this letter other than in reply to a letter received by you from Dr. Hammerly dated September 24? *A.*—None in the world. My recollection is that a letter came to me that was addressed to Dr. Fishbein and was referred to me for reply, and I replied.

Mr. Leahy:—It is directed to the address indicated on the date already mentioned, and it reads as follows:

"I have before me your letter of September 24 addressed to Dr. Morris Fishbein and referred to me for reply.

"My information is to the effect that Group Health Association, Inc., in Washington, D. C., is a corporation established for the purpose of providing medical service to its members through the instrumentality of an employed group of physicians.

"Very truly yours."

(The rest of this letter was like previous letters.)

By Mr. Leahy:

Q.—Doctor, in writing this letter to Dr. Hammerly, which I have just read, did you or did you not state truthfully and accurately what information you had with reference to the matters and things about which you wrote? *A.*—Surely I did.

Q.—Have you any independent recollection now of the occasion for writing those facts? *A.*—My recollection is that in this letter of Dr. Hammerly he asked for information about Group Health Association, and I have a more or less distinct recollection to the effect that he was contemplating possible connection with that organization, and I simply stated to him the facts as I knew them, as I believed I knew them, and I offered him no suggestion whatever, other than to state the facts as I believed I had them.

Q.—I will now show you Exhibit 149, which appears to be a carbon copy of a letter which you wrote to Dr. Holman Taylor on Nov. 9, 1938. Will you kindly look at that and see if you can identify it to be as described? *A.*—I think I wrote this letter to Dr. Holman Taylor under date of Nov. 9, 1938.

Mr. Leahy:—It is dated and addressed as indicated:

"I am very greatly obliged to you for your kindness in sending me a copy of your letter addressed to Dr. Walter A. Coole, Secretary of the Harris County Medical Society, and a copy of the letter addressed to you by Mr. C. T. Freeman. I do not have available a copy of the constitution and by-laws of the Harris County Medical Society, but, generally speaking, there is a provision in the constitution and by-laws of many component county medical societies that membership in these societies shall be limited to local registered reputable physicians who reside and practice within the counties immediately concerned.

"It is my understanding that the gentleman referred to in the correspondence which you sent me is not engaged in practice in Harris County, but that he is actually engaged in the service of a corporation in a jurisdiction entirely outside the state of Texas.

"The by-laws of the American Medical Association specifically provide that—

"'A member of a constituent association who removes to and engages in the practice of medicine at a location in another state in which there is a constituent association shall forfeit his membership in this Association and the secretary shall remove his name from the roster of the members of the American Medical Association unless within one year after such change of residence he becomes a member of the constituent association in the state to which he has moved.'

"With most cordial good wishes, I am"—

By Mr. Leahy:

Q.—Doctor, have you any independent recollection of the occasion for writing the letter which I have just read? *A.*—Well, apparently I had received from Dr. Holman Taylor a copy of

a letter which he had addressed to Dr. Coole, Secretary of the Harris County Medical Society, and a copy of a letter addressed to Dr. Taylor by Mr. C. T. Freeman, and this letter was written in reply to those communications, in so far as it applies; and it does apply.

Q.—Do you recall now whether or not the letters to which this was a reply called for information or something of that character? *A.*—I think they must have done so, since I quote the by-laws of the Association with respect to membership in a constituent association after a certain period of time, as it relates to membership in the American Medical Association.

Q.—Doctor, can you tell us now whether or not your connection with or relation to Group Health Association is pretty well indicated by these letters which we have just asked you about? *A.*—I am not sure that I understand your question.

Q.—Can you recall now whether or not you performed any other acts or did anything else concerning Group Health Association other than what has already been brought to your attention? *A.*—No; I cannot; other than as I have testified on this stand.

Q.—I mean, in general, from reading all of these letters. If you can, would you kindly indicate anything which may have escaped my attention in trying to refresh your recollection? If there was any act done or statement made to any one on any occasion with reference to G. H. A., if you can recall it will you kindly state it? *A.*—All I can say in reply to that question, Mr. Leahy, as I have already stated, is that what I did was concerned with the collection of facts for the purpose of publishing the facts, and of course these letters speak for themselves.

Q.—Now, Doctor, I want to ask you if in doing what we have just reviewed with you, you combined and conspired together with any one for the purpose of restraining trade in the District of Columbia? *A.*—I never conspired with any one consciously in my life, for any purpose that I know of.

Q.—(reading from indictment):

"(1) For the purpose of restraining Group Health Association, Inc., in its business of arranging for the provision of medical care and hospitalization to its members and their dependents on a risk-sharing prepayment basis?"

A.—I never conspired for that purpose, either.

Q.—

"(2) For the purpose of restraining the members of Group Health Association, Inc., in obtaining, by cooperative efforts, adequate medical care for themselves and their dependents from doctors engaged in group medical practice on a risk-sharing prepayment basis?"

A.—No, Sir.

Q.—

"(3) For the purpose of restraining the doctors serving on the medical staff of said Group Health Association, Inc., in the pursuit of their callings?"

A.—No, Sir.

Q.—

"(4) For the purpose of restraining doctors (not on the medical staff of Group Health Association, Inc.) practicing in the District of Columbia, including the doctors so practicing who are made defendants herein, in the pursuit of their callings?"

A.—No, Sir.

Q.—

"(5) For the purpose of restraining the Washington hospitals in the business of operating such hospitals?"

A.—No, Sir.

Q.—Doctor, what information had you, if any, with reference to what was being done with regard to Washington hospitals during this period we have been inquiring about, more particularly from Jan. 1, 1937 down to Dec. 20, 1938? *A.*—I had absolutely no information about it, unless it was purely incidental to statements that I may have seen in newspapers, particularly in Washington newspapers.

Q.—You will recall that on yesterday afternoon, in looking at the abstract of the minutes of the meeting of November 6 in Chicago, you stated that the abstract did not correctly quote you as to what in accordance with your best recollection you stated with regard to a question put to you therein by Dr. Hooe to the effect—

"Do you not think it is reasonable for the Washington hospitals to agree with the opinion which Dr. Hooe then expressed?"

Mr. Lewin:—Did we not have this yesterday?

Mr. Leahy:—No; I am just asking about it now.

By Mr. Leahy:

Q.—Do you recall to what I refer, Doctor? *A.*—Yes, sir.

Q.—Did you or did you not, when that statement was made, have any reference to agreeing with Dr. Hooe or Dr. McGovern or anybody else in that conference to restrain Washington hospitals? *A.*—Never in the world. I think even that statement that is attributed to me indicates that I clearly felt that the hospitals had the right and the duty to choose their own staffs.

Q.—I want to ask you, Doctor, whether under these rules—and these rules refer to the Principles of Medical Ethics of the American Medical Association—so interpreted, that is, as interpreted and applied by the American Medical Association and its affiliated and constituent and component societies, that the defendant American Medical Association and its affiliated constituent and component societies can and frequently do condemn as unethical group medical practice on a risk-sharing prepayment basis principally because such practice is in business competition with and threatens the income of doctors engaged in practice on a fee-for-service basis, and particularly doctors so practicing who are members of the defendant American Medical Association and its affiliated constituent and component societies. *A.*—I deny that statement absolutely. There is no such purpose in the mind of the American Medical Association.

Q.—Doctor, in the declaration or interpretation of Principles of Medical Ethics by the American Medical Association and its affiliated constituent and component societies does it, in that interpretation, take into consideration that risk sharing prepayment group medical practice threatens the incomes of doctors engaged in practice on a fee-for-service basis? *A.*—Well, I think it is true that in some instances they have threatened the income, but that is not the purpose of the American Medical Association in opposing such plans as it has opposed.

Q.—Is the opposition of the American Medical Association to schemes of group practice, prepayment or otherwise, based upon any competition in dollars and cents between the members of the American Medical Association and those groups? *A.*—If it is, I have never heard of it, sir.

Q.—What is the basis of the opposition of the American Medical Association to those group plans? *A.*—The basis of the opposition of the American Medical Association to such schemes as it has opposed has been due in practically all instances to the unsoundness of the plan—

THE COURT:—I think you went into this yesterday.

Mr. Leahy:—Did I, your Honor?

THE COURT:—I think you did.

Mr. Leahy:—Then I do not want to repeat.

By Mr. Leahy:

Q.—Could you tell us, please, to clear up a point that seems to be a bit obscure in our minds just how are the principles of ethics of the American Medical Association controlling, if they are, on constituent or component societies? *A.*—I think it is true, Mr. Leahy, that every constituent state and territorial association, with one exception, has fully adopted the Principles of Medical Ethics of the American Medical Association as the principles of medical ethics of its own, and I think it is true that in practically every instance component county societies of the constituent associations have likewise adopted the Principles of Medical Ethics of the American Medical Association.

Q.—Will you tell us whether such adoption is voluntary or obligatory? *A.*—So far as I know, sir, it is voluntary. There is one state association that has its own code of ethics. However, it is quite similar to the Principles of Medical Ethics of the American Medical Association. I have recently been informed by one of its most active members who has occupied an official position, that it also observes the Principles of Medical Ethics of the American Medical Association. That is the Medical Society of the State of New York, so that you may know definitely what it is.

Q.—Doctor, do you consider that the Principles of Medical Ethics are reasonable regulations of professional conduct in the practice of medicine?

Mr. Lewin:—Objected to as argumentative.

Mr. Kelleher:—And it calls for a conclusion.

Mr. Leahy:—Oh, no. This man is thoroughly familiar with those principles. He is an expert.

MARCH 20—AFTER RECESS

TESTIMONY OF DR. OLIN WEST

DIRECT EXAMINATION (RESUMED)

Mr. Leahy:—There was a pending question, if your Honor please, as to reasonable regulations of professional conduct in the practice of medicine.

THE COURT:—He may answer.

The Witness:—I consider them to be so, yes.

CROSS EXAMINATION

By Mr. Kelleher:

Q.—Let me show you what appears to be a photostatic copy of the minutes of the Board of Trustees for Sept. 15-17, 1938. Will you identify that document? *A.*—I think that is a photostatic copy of a section of the minutes of the Board of Trustees.

Mr. Kelleher:—I offer that in evidence.

Mr. Leahy:—Is there any way of fixing the date of that, Mr. Kelleher?

Mr. Kelleher:—The document shows it is from the minutes of September 15-17. Any objection?

Mr. Leahy:—No special objection, your Honor.

THE COURT:—It will be admitted.

Mr. Kelleher:—This document reads as follows:

THE COURT:—What is the number of that?

Mr. Kelleher:—658. "Sept. 15-17, 1938.

"Representatives of the Medical Society of the District of Columbia: The representatives of the Medical Society of the District of Columbia came before the Board and presented information relative to the situation in Washington. No action was taken."

By Mr. Kelleher:

Q.—Dr. West, do the minutes correctly reflect who were present at this meeting? *A.*—I don't think there are any names mentioned.

Q.—At the top it says

"At the meeting of the Board of September 15-17—Present,"

and then are listed those present. *A.*—Yes, all whose names are there are members of the Board, are ex officio members of the Board, or members of the administrative staff of the American Medical Association.

Q.—And they were present at this meeting? *A.*—I presume they were, because the minutes show it.

Q.—You kept the minutes? *A.*—No, the Secretary of the Board did that.

Q.—Do you recall this meeting? *A.*—I have no recollection of it, as to who was there.

Q.—Do you recall who came there as representatives of the District Medical Society? *A.*—No.

Q.—Is it true that whoever appeared reported on the Group Health Association at that time on the controversy here in the District of Columbia? *A.*—According to the minutes.

Q.—Is it true that the report made by the representatives of the Society was concerning Group Health Association and the controversy between it and the Society? *A.*—The minutes so state, I believe.

Q.—Well, the minutes state "relative to the situation in Washington, D. C.": I presume that was Group Health? *A.*—I presume it was.

Q.—You will recall, Dr. West, that this morning it appeared from the minutes of the meeting of the Board of Trustees that you were authorized to present the facts concerning Group Health to the Secretaries and Editors' Conference? *A.*—Yes.

Q.—And you did so? *A.*—Yes, in a very general way.

Q.—Now, does that Conference meet yearly? *A.*—It meets every year unless there are some circumstances arising to prevent it; it didn't meet this year.

Q.—And does that Conference include the editors of all state societies; and the secretaries? *A.*—Yes.

Q.—And I suppose Dr. Fishbein attends, because he is Editor of THE JOURNAL? *A.*—He does if he is in Chicago.

Q.—Who was E. A. Hines in 1937? *A.*—Dr. E. A. Hines, who recently died, was for some thirty-five years, I think I am correct in stating, the secretary of the Medical Society of North Carolina.

Q.—And was he chairman of the Secretaries' Conference in 1937? *A.*—I can't recall that; I don't remember.

Q.—It is customary for that Conference to elect a chairman? *A.*—Yes, somebody nominates one and he is elected.

Q.—How about other officers? *A.*—They do not elect any other officers than the chairman.

Q.—Do they keep minutes? *A.*—No, they usually have a stenographic report of the conference. For many years the proceedings of that conference were published almost in full, but they do not do that any more.

Q.—They were published in THE JOURNAL? *A.*—No, published originally in the American Medical Association Bulletin.

Q.—And when the Bulletin was taken over by THE JOURNAL, the proceedings of that conference were published in THE JOURNAL? *A.*—It was not taken over by THE JOURNAL; it stopped.

Q.—And whatever publicity functions the Bulletin performed were performed thereafter by THE JOURNAL? *A.*—Not all of them, but within the last year or two,—I don't recall just how long—there has been an organizational section of THE JOURNAL in which such matters formerly discussed in the Bulletin are discussed.

Q.—Do you recall that a stenographic report of the meeting of the Secretaries' Conference in 1937 was kept? A.—I think there was a stenographic statement of the Conference.

Q.—Now, Dr. West, as I understand your testimony, it is that the Principles of Medical Ethics, a copy of which I have in my hand, has been adopted by every state society in the country except one and are binding upon the society and its members? A.—I think I said that is true.

Q.—And I believe you also testified that every constituent society or component society rather, has done likewise? A.—I think that is true; practically all of them.

Q.—And isn't it true also that every member of the American Medical Association is bound by these principles of ethics? A.—Yes, supposed to be.

Q.—And isn't it also true that the American Medical Association expects that the component or constituent societies will discipline members of the American Medical Association who violate these principles of ethics? A.—It is expected that they do so if they think it is justified.

Q.—But if there is a violation of the principles of ethics, medical ethics, the American Medical Association expects its constituent or component societies to institute disciplinary proceedings for such violation, does it not? A.—It expects the component state and county societies to do what ought to be done.

Q.—But isn't it true that the American Medical Association expects the local societies to enforce these principles of medical ethics? A.—It is so provided in the constitution and by-laws of the societies themselves, to a certain degree at least.

Q.—And doesn't the American Medical Association expect the societies to do that? A.—The American Medical Association brings no compulsion—

Q.—I am not asking you that: I am asking you whether the American Medical Association doesn't expect its societies, component and constituents, to enforce the principles of medical ethics. A.—In so far as they should be enforced I should say so, yes, in a way.

Q.—I think it is true, is it not, that whenever you offered any advice in these letters which you wrote, and which Mr. Leahy went over with you this morning and yesterday, you wrote consistently with the policy of the American Medical Association. A.—I wrote consistently with what I understood to be the policy of the American Medical Association, yes.

Q.—And the same thing is true as to what you did in relation to Group Health Association? A.—Yes.

Q.—Now you testified yesterday that the Judicial Council of the American Medical Association had jurisdiction only to pass upon matters of law and procedure, is that true? A.—In appeals.

Q.—In appeals, yes. A.—Yes.

Q.—Isn't it also true that the Judicial Council also has jurisdiction over all matters of ethics? A.—The by-laws, if you will get me a copy—I have a copy if you will permit me to read it. Here it is in the by-laws. Can I read from this copy?

Q.—What page are you on? Page 22, I believe, is the section that is relevant. A.—This is Chapter IX of the by-laws, Section 1.

"Duties of Standing Committee or Councils.

"Section 1. The Judicial Council. The judicial power of the Association shall be vested in the Judicial Council, whose decision shall be final. This power shall extend to and include:

"(1) All questions involving fellowship in scientific assembly or the obligations, rights and privileges of fellowship.

"(2) All controversies arising under this constitution and by-laws, and under the principles of medical ethics, to which the American Medical Association is a party; and

"(3) (a) Between two or more recognized constituent associations, (b) between a constituent association and a component society or societies of another constituent association or associations or a member or members of another constituent association or other constituent associations and—"

THE COURT:—Doctor, the question is merely as to the jurisdiction of the Council as to medical ethics. I think he has read that.

Mr. Kelleher:—Which is in the second complete paragraph on page 22.

The Witness:—There is another section, I presume, that is admissible under your question which says:

"The Judicial Council shall have jurisdiction on all questions of ethics, and in the interpretation of the laws of the organization."

By Mr. Kelleher:

Q.—Yes, so that it is true, is it not, that the question of whether any particular act as found to have been done by a local society violates the principles of medical ethics ultimately depends upon the Judicial Council of the American Medical Association? A.—I presume that is true, but I have never known

in all my experience any times when any questions have been brought before the Judicial Council—probably one or two exceptions—of the nature or kind implied in your question.

Q.—It is true, however, when you say that the Judicial Council passes on legal questions only, that it does pass— A.—On appeals.

Q.—Yes, on appeals, that part of the legal question is the question of whether a given state of facts violates the principles of medical ethics of the American Medical Association? A.—Well, I offer it as my opinion that the Judicial Council may find it necessary to hear statements concerning what is involved in an appeal in order that it may determine whether or not the procedure was properly taken.

Q.—I want to leave the question of procedure out of it. Suppose, taking the Ross-Loos case, suppose the American Medical Association had found that Drs. Ross and Loos had received a fair hearing by the County Society in California, and the State Society, wouldn't it have then been necessary for the Judicial Council to determine whether the conduct of those doctors, Ross and Loos, violated the principles of medical ethics of the American Medical Association? A.—I think that would depend altogether on the nature of the appeal, the question involved.

Q.—I understand. Suppose the appeal was such that it would be possible for the Judicial Council to pass on the question as to whether or not these principles of medical ethics had been violated: wouldn't it do so? A.—If it was required in passing on the appeal to do so, I assume the Council would.

Q.—And as a matter of fact in the Baird case, known as the Texas Street Railway case, the Judicial Council thought the conduct of these Texas doctors violated the principle of medical ethics of the American Medical Association and—

Mr. Leahy:—I object; the opinion speaks for itself.

THE COURT:—If the opinion is here, let's have it.

Mr. Kelleher:—I am not going to read the opinion; I just want to point something out to the witness.

THE COURT:—Is there anything, any evidence in the record concerning that case?

Mr. Kelleher:—The opinion is in.

Mr. Leahy:—No evidence.

Mr. Kelleher:—The opinion, it is in evidence.

THE COURT:—That is what I refer to. You might call his attention to some particular paragraph if you desire.

By Mr. Kelleher:

Q.—Isn't it true that the Judicial Council in the decision contained in Exhibit 144, held that the plan of the Texas doctors was contrary to sound public policy and therefore violated the principles of ethics of the American Medical Association? A.—I haven't seen this that I can recall in a long, long time.

Q.—Mr. Leahy showed it to you yesterday.

Mr. Leahy:—Is that away back in 1932?

The Witness:—1932, yes.

Q.—Will you answer my question now, didn't the Judicial Council conclude that the conduct of the Texas doctors involved in this case, the opinion of which is contained in Exhibit 144: Didn't the Judicial Council conclude that the conduct was unethical, because contrary to sound public policy?

Mr. Leahy:—I submit it speaks for itself.

Mr. Kelleher:—I am cross examining him on his statement yesterday that the Judicial Council passed only on questions of law and procedure.

Mr. Leahy:—It still speaks for itself.

THE COURT:—Yes, it does, but I don't intend to have it all read.

Mr. Leahy:—He is asking for an opinion as to what the document holds.

THE COURT:—The question was whether the Council in that case put their decision upon the construction of medical ethics. He can answer that; he has the decision before him.

The Witness:—That decision, as I read it, contains a statement to the effect that "the Judicial Council is of the unanimous opinion that this type of contract is unethical on the basis of being contrary to sound public policy."

By Mr. Kelleher:

Q.—So in that case, the Judicial Council did pass upon the ethics of these particular doctors.

THE COURT:—That is argumentative.

By Mr. Kelleher:

Q.—All right, your Honor. Isn't it true that the Judicial Council is the final authority on the interpretation of the principles of legal medical ethics as pronounced by the House of Delegates? If there has been an appeal from findings and decision of a local society, that is true, isn't it? A.—It is so stated in the by-laws which are read to you.

Q.—That is correct. A.—That is what the by-laws say.

Q.—So that if, as a matter of fact, the principles of medical ethics, as interpreted by the Judicial Council prohibited, as unethical conduct, group practice on a prepayment basis, isn't it true that the Judicial Council would finally pass upon such matters?

Mr. Leahy:—Objected to as argumentative.

THE COURT:—It is quite argumentative.

By Mr. Kelleher:

Q.—All right, your Honor, I will come to something more concrete. Yesterday, I believe you testified that there was no general policy of opposition to group practice on the part of A. M. A., is that true? A.—I did.

Q.—And group practice doesn't necessarily involve prepayment, does it? A.—No.

Q.—There may be a group of doctors associating themselves together to supply medical care on a fee-for-service basis? A.—That is correct, and I understand that there are plans for providing medical service that are not even prepayment plans.

Q.—I am now addressing your mind to group practice on a fee-for-service basis? A.—There are a number of such plans.

Q.—And so long as the doctors in those plans conform to the principles of medical ethics, of course, the A. M. A. has no policy of opposition toward such plans? A.—The A. M. A. —as I testified yesterday—adopted at Cleveland—

Q.—I don't mean to interrupt you, Doctor: I now would like to find out, break down this group practice. A.—I think the matter of professional ethics would be involved, yes.

Q.—But so long as the doctors were engaged in group practice on a fee-for-service basis, and so long as those doctors are otherwise ethical, the A. M. A. doesn't oppose such plans? A.—It doesn't oppose them unless it should be convinced by an investigation of the facts that the quality of services rendered is of an unworthy or unsatisfactory nature. That is covered by the rules and principles of ethics.

Q.—But so long as the quality of care is adequate, and the doctors are ethical, there is no opposition to group practice on a fee-for-service basis? A.—No.

Q.—Isn't it also true that within the last two years medical societies have sponsored prepayment plans which are approved by the American Medical Association? A.—Absolutely, and that is why those principles were adopted at the Cleveland session.

Q.—And so long as those plans, those prepayment plans, are sponsored by societies and permit all members of the society to participate, they conform with the standards of the American Medical Association? A.—If they are established after an investigation of the needs for such plans, and if they conform to the ten principles adopted by the House of Delegates for the guidance of such societies, why they are; and there is no objection; they are understood to be experimental.

Q.—And those prepayment plans sponsored by the local societies, to which the American Medical Association voices no opposition, do not involve group practice, do they? A.—That would depend on the interpretation of group practice. They do not involve group practice in the general acceptance of the term.

Q.—As a matter of fact in those plans every member of the society who so desires may participate? A.—Yes.

Q.—I now want to address your mind to group practice on a prepayment basis. I think it is true, is it not, that the Ross-Loos Clinic in Los Angeles is engaged in group practice on a prepayment basis? A.—It is engaged in operating a medical service plan on a prepayment basis.

Q.—But doesn't it involve group practice? A.—That organization was originally engaged in group practice as other physicians have been engaged in group practice, and then they altered their procedure by adopting a plan whereby contracts for medical services were sold.

Q.—But I am now trying to address your mind to the relationship of the staff: Is that not group practice? A.—It is group practice in the sense they have a number of physicians who are in the organization.

Q.—And they have physicians for the various specialties and general practitioners, isn't that true? A.—I don't know how many specialties are represented; I think they do have some specialists.

Q.—And within the common acceptance of the term they are engaged in group practice, are they not? A.—They are engaged in the operation of a medical service plan.

Q.—Isn't it group practice? A.—It wouldn't be in the general acceptance as applied to physicians who are not selling contracts.

Q.—Is it your testimony that the only thing which is group practice within the general acceptance of the term is practiced by a group on a fee-for-service basis? A.—The general

acceptation of group practice is where a group of practicing physicians grouped together for the purpose of improving their own services and do not sell contracts; and those groups who engage in and operate a plan for medical services under contracts are usually called medical service plans.

Q.—So that your testimony yesterday that there was no opposition by the American Medical Association to group practice had no reference to plans which involve a group of doctors who sold their services on a contract basis? A.—No, there are such plans as that.

Q.—I want to know whether your testimony yesterday that the American Medical Association didn't oppose group practice was addressed to plans of this kind; those plans, involving prepayment, by a group of doctors who contract to supply the services to a group of individuals? A.—I can probably answer your question better by telling you that there are plans, medical service plans—consumer if you prefer—that are in operation today that have been approved and have never been objected to, in so far as I have knowledge, operated by societies in the counties in which they are located; and I can name some of them if you want me to.

Q.—I want to know whether your testimony yesterday that the American Medical Association had no policy of opposition to group practice, whether that testimony was intended to apply to plans like the Ross-Loos Clinic, and plans like Group Health. A.—It would depend entirely on whether they came within the principles adopted by the House of Delegates and principles of ethics.

Q.—Of course, that is the ultimate criterion. Now, isn't it true that the American Medical Association doesn't believe that plans like the Ross-Loos Clinic, like Group Health Association, do not fall within the principles of medical ethics of the American Medical Association? A.—I don't believe I can safely answer that question for the American Medical Association, in so far as the Ross-Loos is concerned.

Q.—I want your testimony as general manager, then. A.—My own opinion is, as I have stated in the letters presented yesterday, that there is danger in such plans, in many of such plans.

Q.—And don't you feel that such plans as the Ross-Loos Clinic are unethical because contrary to sound public policy?

A.—Mr. Kelleher, I wouldn't say what my opinion about that is today, because I don't know what their procedure is now, but there was a time when I didn't hesitate to say that I thought they were unethical.

Q.—About 1936? A.—I can't tell you about that.

Q.—But at some time between 1930 and 1941, you did consider it unethical? A.—Yes.

Q.—Even though its quality of medical care was good? A.—At that time I didn't believe the quality of medical care which was being furnished was good.

Q.—Didn't you believe the quality of medical care was good in 1936, as supplied by the Ross-Loos Clinic? A.—I think; I have no faculty for remembering dates.

Q.—Let me see if I can refresh you. A.—I think there was a letter in which I expressed the opinion on the basis of information then before me that the services rendered by that particular group was good service.

Q.—That was in your correspondence with Dr. Freiberg?

Mr. Leahy:—What exhibit is that?

Mr. Kelleher:—141, addressed to Dr. Freiberg.

"I am informed that Doctors Ross and Loos are thoroughly competent physicians and that they have associated with them young men who are well qualified. I have heard from various sources that the Ross-Loos Clinic actually delivers good medical service."

You wrote that letter? A.—Yes, and I stand squarely behind it.

Q.—And that was on Feb. 6, 1936? A.—Yes, that was the information that I had at that time.

Q.—And at that time didn't you still consider it was nevertheless unethical because contrary to sound public policy? A.—I don't think I expressed any opinion as to the ethics of the thing since that time. If I knew what the Ross-Loos people were doing; how they were operating at this time I could tell you—

Q.—I am talking about 1936. Didn't you at that time advise Dr. Freiberg that you considered that the Ross-Loos Clinic was unethical, as being opposed to sound public policy?

Mr. Leahy:—I object; if it is in the letter show him the letter.

Mr. Lewin:—He has the letter.

THE COURT:—Point out the part to him.

The Witness:—There isn't a word in that paragraph about the Ross-Loos Clinic, sir, that I can see.

By Mr. Kelleher:

Q.—Isn't there a reference to the Ross-Loos Clinic in the second paragraph? A.—That is not the paragraph you directed my attention to.

Q.—All right, read the second paragraph then. A.—I stated in this letter that while I had frequently heard that the clinic mentioned—and somebody has written in there "Ross-Loos."

Q.—Whose handwriting is that; isn't that your secretary? A.—Not that I know of.

Q.—Well, you were talking about the Ross-Loos Clinic, were you not? A.—I couldn't tell you that unless I had the whole correspondence.

Q.—Well, here it is (handing document to the witness). A.—Here is a letter of Feb. 6, 1936, I wrote to Dr. Freiberg.

Q.—In that letter didn't you discuss the Ross-Loos Clinic? A.—Yes, the Ross-Loos Clinic is mentioned.

Q.—That was Feb. 6, 1936, and in March didn't you hear from Dr. Freiberg that a doctor in Cincinnati was considering starting a clinic like the Ross-Loos Clinic, and that the Cincinnati Academy of Medicine had decided that such a plan was unethical? A.—I had some telephone conversations with Dr. Freiberg, and then he came to my office at that time and told me of the nature of the clinic that Dr. Cook was preparing to establish in Cincinnati.

Q.—It was a clinic like the Ross-Loos? A.—In part, but we had discussed it at some length.

Q.—Do you refer to anything else in this letter; do you say anything about it being different from the Ross-Loos? A.—I had in mind when I wrote to him what he had told me on the telephone.

Q.—And that doesn't appear in the letter? A.—There was a mention of the Ross-Loos.

Q.—In Exhibit 141, dated Feb. 6, 1936, you make the statement that the doctors in the Ross-Loos Clinic are thoroughly competent; that they have associated with them young men who are well qualified, and that the Ross-Loos Clinic delivers good medical service. You said that, did you not?

THE COURT:—He answered that.

The Witness:—That was my understanding at the time.

By Mr. Kelleher:

Q.—And then on March 18, 1936, if you had learned from Dr. Freiberg, that the Cincinnati Academy had adopted a resolution that a plan like the Ross-Loos Clinic to be started in Cincinnati was unethical, you wrote him again on March 18, 1936. That is the letter you just read, isn't it? A.—Let me see that. Yes, I wrote him again, and I stated—if you will permit me to read it, that I was glad to have the information submitted in his letter.

"I sincerely hope, of course, that the Cincinnati Academy will be able to head off the establishment of all sorts of group schemes of the nature referred to in your letter, because I am quite convinced that these schemes do not operate to the advantage of medicine, or the medical profession, or the public. I do believe that they are opposed to public policy."

That statement was based in part on personal statements made to me by Dr. Freiberg at the time of his visit to my office.

Q.—You say in the letter "Clinics of the kind described in your letter." A.—Yes, it was described in that letter.

Q.—And didn't he say: "It may be known to you that Dr. George H. Cook has been and is trying to organize a group clinic in Cincinnati on the identical plan of the Ross-Loos?" A.—He said that in the letter, but he told me other things personally.

Q.—So that there were other things mentioned which you did not incorporate in your letter? A.—No, nor did he say anything about them in his letter.

Q.—He didn't mention it in his letter and you didn't in yours? A.—No.

Q.—Now, isn't it true that in 1935 the American Medical Association adopted these ten principles— A.—I think it was 1934.

Q.—Well, 1934—to govern prepayment plans? A.—I didn't say to govern; they were principles believed to be useful for the guidance of those societies who wanted to start prepayment plans.

Q.—Isn't it also true that the principles that were adopted were to control, govern, all types of experimentation to provide medical care for persons in the low income group? A.—They were not to control anybody.

Q.—Were they designed to govern such plans? A.—They were designed for the guidance of those who wished to start such plans. The American Medical Association has never controlled anything. The state and county societies which have started these plans, sponsored them, have controlled them.

Q.—Do you recall a report of the Board of Trustees at the special session of 1935? A.—I recall that there was a special session; I believe in 1935.

Q.—In that report the following appeared, and I am referring to the last paragraph. A.—Let me see it. Yes, the word "govern" is used there, but it is not used in the sense of establishing control by the American Medical Association.

Q.—But the idea of the principle as adopted is that any prepayment plan should conform with the ten principles announced as of that date? A.—It was hoped that they would, but I insist that the word "govern" there is not used in the manner of establishing control by the American Medical Association.

Q.—But the Board of Trustees has said that these ten principles do govern such experiments? A.—It says that these principles did govern, but it is intended not in the sense in which you imply it.

Q.—Now, at least, I think you testified it was the intention of the House of Delegates on the whole that the plans would conform with these principles laid down in 1934. A.—I think it was the intention of the House of Delegates to adopt principles that would be helpful to state and county medical societies or, for that matter, other groups, in drawing plans for providing medical service for the low-income groups.

Q.—And it was hoped all plans would conform with these principles? A.—I suppose so, certainly; otherwise they wouldn't establish those principles if they didn't think they would be helpful.

Q.—And isn't it also true that the sixth principle—I believe it is—requires that any form of medical service should include within its scope all legally qualified doctors in the locality to be served by the plan? A.—I can't recall that.

Q.—It is the eighth; I show you on page 55, and ask you whether that is not the eighth principle. A.—It says "Any form of medical service should include within its scope all legally qualified doctors of medicine in the locality covered by its operation who wish to give service under the conditions established."

Q.—Yes, isn't it, true that that means that any plan that doesn't permit all doctors of the local society to participate, if they desire to do so, violates the ten principles, one of the ten principles, adopted in 1934? A.—There was one of those principles that was changed.

Q.—That was the one on payment? A.—I don't recall.

Q.—But you don't recall No. 8 being changed? A.—I can't recall.

Q.—It was No. 6? A.—That is my recollection.

THE COURT:—Your question is directed to a specific principle, No. 8. Put another question.

By Mr. Kelleher:

Q.—Address your mind to No. 8, and tell us whether if a plan for providing medical service to low-income groups doesn't permit all members of the local society to participate in it, if they desire to do so, that plan doesn't violate one of the ten principles adopted in 1934? A.—I would have to read this whole business through to answer that question satisfactorily. In my opinion Section 8 of these principles expressed the opinion of the House of Delegates that in the formation of these plans by the Society they should include within their scope all legally qualified doctors of medicine in the locality covered by its operation who wish to give service under the conditions established. Now, I would have to read this carefully to—

Q.—Well, you are familiar with it, are you not; you saw it yesterday? A.—Mr. Kelleher, I have lots to do; I can't read these every day; and I would have to establish in my mind whether this was intended to apply to these plans believed necessary, and which were to be operated under the auspices of the Medical Society.

Q.—Isn't it a fact that the only plan that the American Medical Association would permit were those plans which conformed with the ten principles adopted at that session in 1934? A.—Mr. Kelleher, there are many plans in operation that the American Medical Association would not approve, but it is not a matter of their permission.

Q.—Is it not true that you would not approve any plan which did not conform with these principles? A.—I think not; I think they would not be approved by the American Medical Association, but the American Medical Association doesn't have to approve them.

Q.—But wouldn't you oppose any plan if it didn't conform with these principles? A.—I don't know that the American Medical Association would condemn it on the basis of being unethical for that reason; it might on the basis of its being an unsound plan. I can tell you this, though: I don't believe the American Medical Association would approve it if it involved control by a corporation.

Q.—I am not asking you that. I would now like to know if the American Medical Association would not oppose any plan to provide medical care to people of low income on a prepayment basis if such plan didn't permit all of the qualified physicians in the locality to be served to participate in the plan? A.—That is a question which would have to be determined on the basis of actual fact.

Q.—You are familiar with the various plans which have been adopted within the past few years? A.—I am familiar with some of them.

Q.—Some of those plans, like the Ross-Loos Clinic, do not permit all physicians in the locality served by the plan to participate, do they? A.—I don't think they do.

Q.—And therefore, isn't it true, that they do not comply with the general principles adopted in 1934 by the Association? A.—That depends entirely on whether those ten principles are for the guidance of the county and state societies who wanted to organize, alone, or generally.

Q.—But you weren't setting up standards for state and county societies which were more rigorous than the standards you applied to organizations not sponsored by such state and county societies, were you? A.—That would depend on the circumstances; I think you might reasonably expect, in some particulars, more of a medical society than of other groups.

Q.—Suppose you take a plan which involves group practice: that is a group of doctors who associate themselves together; and suppose that the plan offers medical care to people of low income on a prepayment basis. Does that plan conform to the principles of medical ethics of the American Medical Association, assuming that it is ethical in all other respects? A.—You have a long question there. Ask it again and I will try to answer it. Of course, it presupposes that a person who offers medical service is going to render good medical service. I think I know of men who are not particularly capable but who are quite ethical.

Q.—I want you to assume that this group offers the same type of service as does the Ross-Loos Clinic. A.—I would say that if that group was approved by the local county medical society and by the state medical association, the American Medical Association would not offer any opposition whatsoever.

Q.—Suppose, though, that the local medical society and the state medical society neither approved or disapproved?

Mr. Leahy:—What do you want to know?

Mr. Kelleher:—I want the answer to my question.

Mr. Levin:—The question is perfectly clear.

The Witness:—It is not very clear to me.

Mr. Leahy:—I don't know what it is.

By Mr. Kelleher:

Q.—I will ask it again. Suppose that a group of doctors offer medical care to low income groups on a prepayment basis; suppose that the group is ethical in all other respects; suppose the doctors are qualified, and that the medical care offered is the same offered by the Ross-Loos Clinic, and suppose that the local medical society and the state medical society neither approve or disapprove of that plan. Is such a plan ethical?

Mr. Leahy:—Objected to as immaterial; a hypothetical question without any hypothesis in the evidence.

THE COURT:—You opened it up; you asked him about his opinion about the principles of ethics of the American Medical Association. Overruled.

Mr. Leahy:—Exception, your Honor.

The Witness:—I think no objection would be offered to it if it were not otherwise in conflict with the constitution, by-laws, ethics and traditions of the American Medical Association.

Q.—And such a plan would not be unethical, would it, because it didn't permit free choice of physicians? A.—Not necessarily, because the hospitals do not offer free choice of physicians in all particulars; neither do other groups.

Q.—And if in that plan the choice of the patient was limited to the doctors on the staff of the organization there would be no infractions of that section of the principles of medical ethics that require free choice of physicians? A.—Providing there was nothing else involved, and providing it was not disapproved or approved by the local society and the state society.

Q.—Now, let us get to the second matter: if the local society disapproves of that plan solely because it involves prepayment by a group of doctors, the American Medical Association would oppose the plan, would it not? A.—Not if I understand your question correctly; the answer is "No," but I am not sure I understand it.

Q.—I will try to clarify it. If the medical society, local society, disapproved of the plan which I have described, and disapproved for the sole reason the plan involved group practice

on a prepayment basis, the American Medical Association would also disapprove of it, would it not? A.—The American Medical Association would not take any action unless it was officially brought to its attention, and action on the part of the American Medical Association requested.

Q.—Suppose it were officially brought to its attention? A.—There was more to my answer. It was officially brought to the attention and action was requested.

Q.—Let us suppose it were officially brought to its attention and action requested. A.—It would be referred to the Judicial Council.

Q.—Would not the American Medical Association oppose such a plan for that reason? A.—For what reason?

Q.—Because the local society disapproved of the plan. A.—Not necessarily, Mr. Kelleher. The American Medical Association might take no action whatever.

Q.—Even if invited in? A.—It might not make any decision in the case that would involve official action.

Q.—As a matter of fact, the American Medical Association was invited in, in connection with G. H. A., was it not? A.—The American Medical Association undertook to develop the facts about G. H. A. before it was ever invited to do anything; and G. H. A., if I may say so, is not at all—

Q.—Please confine yourself to my question, if you do not mind, Dr. West. The American Medical Association was asked to come into the G. H. A. matter, was it not? A.—The American Medical Association was requested by the District of Columbia Medical Society, through its representatives as a committee, to interest itself in this matter long after it had already interested itself in it.

Q.—Is it not also true that Dr. Verbrycke wrote Dr. Woodward and asked the American Medical Association to become interested in the matter? A.—He asked the Bureau of Legal Medicine and Legislation, I believe.

Q.—And as a result of that it was decided that Dr. Woodward should go to Washington, was it not? A.—I do not know, to my own knowledge. I cannot answer that definitely, but maybe so.

Q.—Did you hear Dr. Woodward's testimony? A.—I have heard lots of testimony. I cannot remember it all.

Q.—Do you not recall that he testified that after conferring with you it was decided that he should go to Washington?

A.—If he did, that was actually so.

Q.—Is it not also true that you were interested in Group Health Association before the Medical Society of the District of Columbia became interested? A.—I think that is true, but I cannot produce any documentary evidence on that.

Q.—You think it is true? A.—I think it is true, and I said so, and I believe it.

Q.—Whatever you were doing in connection with Group Health Association you were doing to oppose Group Health Association, were you not? A.—I was doing it to develop the facts.

Q.—Yes; but were you not developing the facts and doing everything else— A.—Mr. Kelleher—

Q.—Let me finish my question—for the purpose of opposing Group Health Association? A.—It has long been the policy of the organized medical profession of the United States to oppose corporation practice, and this association happened to be a corporation engaged in the practice of medicine.

Q.—And therefore, as a matter of fact, you were opposed to it? A.—Personally, I certainly was.

Q.—Was not the American Medical Association opposed to it? A.—I think that it is contrary to the policy of the American Medical Association for a corporation to enter into the practice of medicine.

Q.—And therefore the American Medical Association and you were opposed to Group Health Association? A.—We were opposed to any corporation engaging in the practice of medicine.

Q.—Were you opposed to Group Health Association? A.—When we found out what the facts were, I was.

Q.—Was not the American Medical Association opposed to it? A.—I think it was entirely contrary to the policies of the American Medical Association.

Q.—And to the policies of the House of Delegates? A.—Yes, sir; I think so.

Q.—And whatever you did in connection with G. H. A. you did to oppose the growth of Group Health Association, did you not? A.—I don't know about opposing the growth. I opposed the principle of the Group Health Association.

Q.—And did you not desire to put a stop to its operation if you could? A.—I didn't do anything to stop it, but I did make my position known, and I expressed my opinion to the effect that it was a corporation practicing medicine and believed to be illegal, and I opposed it on that account.

Q.—Is it not also true that you and the American Medical Association did everything you could to combat G. H. A.? A.—Yes, to combat it in the sense that we did everything we could to develop the facts and make them known. Now, Mr. Kelleher, I never had one word of conversation with anybody in G. H. A. that I know of.

Q.—I am not suggesting that at all. A.—I think it is fair for me to say that if I had been going to actively oppose the actual organization of the thing I would have gone to them and opposed it.

Q.—How would you have done that? A.—By doing everything I could to persuade them that they were doing the wrong thing.

Q.—But there were other ways of opposing it. A.—Yes; and there were other ways to make the attitude of the American Medical Association known.

Q.—And it is also true that there were ways of affecting Group Health Association's growth through the local hospitals; is not that a fact? A.—So far as I know, the American Medical Association never attempted to control the action of any hospital with respect to Group Health Association.

Q.—Is not this true— A.—(Continuing) I never communicated with a Washington hospital in my life, so far as I know.

Q.—In the minutes of the Board of Trustees of November 18 and 19, 1937 appears the following:

"Dr. West reported that a committee of the Medical Society of the District of Columbia had visited the headquarters offices early in the month for the purpose of conferring with him, Dr. Woodward and Dr. Leland with respect to the Group Health Association, Inc.; that he had brought what apparently amounted to a demand to the Association to devise further means and ways of opposing the continued operation of Group Health Association, Inc., and that it was intimated that the American Medical Association had not concerned itself with anything but scientific matters, in spite of the fact that he and Dr. Woodward had conferred with the District Society in Washington on instructions from the board."

Is it true that in connection with G. H. A. you conferred with the District Society in Washington on instructions from the Board of Trustees of the American Medical Association? A.—I do not recall that I ever attended a meeting of the District Society during all the life of the Group Health Association.

Q.—Did you confer with representatives of the Society on instructions from the Board of Trustees? A.—No. I think Dr. Woodward and Dr. Leland conferred on instructions from the Board of Trustees.

Q.—Did you not say that you and Dr. Woodward did confer with the District Society on instructions from the Board of Trustees? A.—I don't recall the Board of Trustees giving Dr. Woodward and me any instructions to confer.

Q.—Would you say this is wrong? A.—Well, I don't know. I am not going to say it is wrong, but I do say that I don't recall it myself, that specific instructions were issued to Dr. Woodward and me at any one time.

Q.—You came here in July 1937 for the very purpose of consulting the representatives of the Society concerning G. H. A., did you not? A.—I came for that purpose among others, Mr. Kelleher.

Q.—If you were ordered by the— A.—As a matter of fact, if you will permit me to answer that question, my recollection is that—and I am not absolutely sure about it—that I was invited to confer with them after I got here. I can't be sure about that, but that is my recollection.

Q.—If you said in November 1937 that you had gone to Washington as a result of instructions from the Board of Trustees, don't you think that was correct? A.—I would have to see the preceding minutes of the Board of Trustees to know if I had had instructions.

Q.—You saw them this morning. Do you not recall that you were shown— A.—My dear man, I saw an extract from the minutes this morning, a digest of the minutes. I didn't see all the minutes.

Q.—I think you have told us that you and the American Medical Association were opposed to G. H. A., did you not? A.—I said I was opposed to the principle of the thing, and I thought it was not in keeping with the policies of the American Medical Association.

THE COURT:—You have been all over that.

Mr. Kelleher:—I was just leading up to something else, your Honor.

By Mr. Kelleher:

Q.—Is it not true that the American Medical Association was opposed to G. H. A. because, in its view, G. H. A. was unethical? A.—Mr. Kelleher, I have already stated that the American Medical Association was opposed to G. H. A. because

it was a corporation engaged in the practice of medicine, and it was believed to be illegal and it had been so decided in many instances.

Q.—And was it not opposed, therefore, because it was unethical for a doctor to associate himself with that association? A.—I will give you my personal opinion. I think it would be unethical for a physician to engage himself with an illegal corporation of any kind.

Q.—And you felt that way in 1937? A.—I felt that way all my life.

Q.—And you felt that way in 1937 concerning Group Health? A.—I feel that way today.

Q.—And you felt that way in 1937? A.—All my life.

Q.—Did you not know that if the local society had the same view that you had, that G. H. A. was unethical, that a doctor, a member of the Society, associating himself with G. H. A. would be subject to disciplinary proceedings by the local society? A.—If that local society wanted to institute proceedings, yes. But, Mr. Kelleher, I must insist—and I hope it is not out of the way for me to do so—that the American Medical Association has no jurisdiction over membership of local societies.

THE COURT:—I thought we had been all over that.

The Witness:—And it does not attempt to exercise it.

THE COURT:—We have been over that. Do not pursue it any further. I would rather not get back to that.

Mr. Kelleher:—All right, your Honor.

By Mr. Kelleher:

Q.—Did you not believe in 1937 that any member of the local society who became associated with Group Health Association would be subject to disciplinary proceedings by the Medical Society of the District of Columbia?

Mr. Richardson:—Objected to as repetitious.

Mr. Kelleher:—No, it is not.

Mr. Richardson:—Word for word.

THE COURT:—He has answered that question. Put another question. Objection sustained.

By Mr. Kelleher:

Q.—On October 29 you wrote the local society notifying them that Drs. Lee and Scandiffo were on the staff of G. H. A., did you not? A.—I don't know whether it was October 29 or not. I wrote them and told them that I had that information.

Q.—You learned that from Mr. Hayes, did you not? A.—My recollection is that either I or somebody at our office received a telegram from Mr. Hayes giving the names of those who had been announced as members of the staff of G. H. A.

Q.—And on the same day you wrote a letter to the Society notifying the Society that two of its members were on the staff of G. H. A., did you not? A.—I don't know whether it was the same day or not. I do remember writing a letter in which I stated that two members of the staff were members of the District of Columbia Society, and that one, I believe, was a member and Fellow of the American Medical Association.

Q.—And a few days later, at the November 6 conference, you learned that the Society had instituted disciplinary proceedings against Drs. Lee and Scandiffo? A.—I learned—I don't know whether it was a few days later or not, but some time later I learned through a newspaper statement.

Q.—Did you not hear about it at this November 6 conference, through Dr. Hooe? A.—I believe it was mentioned; yes.

Q.—Dr. Hooe explained that two members had been cited by the C. C. and I. M. committee; do you recall that? A.—I think I probably had information before that conference.

Q.—You had heard it before that? A.—I do not know about its being a few days after I wrote that letter.

Q.—Were you surprised to hear that these two doctors about whom you had written on October 29 were now cited by the C. C. and I. M. committee?

Mr. Leahy:—I object as immaterial, if your Honor please, whether he was surprised or not.

THE COURT:—Objection sustained.

By Mr. Kelleher:

Q.—Did you not expect, when you notified the Society on October 29 that two of its members were on the staff of G. H. A., that that Society would institute proceedings against those two doctors? A.—Mr. Kelleher, I didn't notify the Society. I informed the Society that that was the information I had.

Q.—And when you so informed the Society did you not believe then that proceedings would be instituted by that society? A.—I didn't think about whether they would be or not. If you are trying to make the implication that I wrote that letter for the purpose of inciting action by the Society, you are altogether wrong.

Q.—Why did you give the Society that information? *A.*—Just as a matter of interest.

Q.—Purely casually? *A.*—If I were to get a telegram announcing that certain doctors had been appointed on any commission by the United States Government, as a matter of interest I would look to see if they were members of the American Medical Association or not.

Q.—All right. As a matter of fact, Dr. Scandiffio was expelled from the Society, was he not? *A.*—So I am informed.

Q.—Did you not also, in response to a request from the Harris County Society, advise that Society that in your opinion if any member of that Society were associated with Group Health Association that was unethical conduct? *A.*—I don't know whether I wrote such a thing or not. If you have a letter there I should be glad to look at it.

Mr. Lewin:—It was shown the witness this morning.

By Mr. Kelleher:

Q.—Dr. West, did not Dr. Talley write you and ask you what the view of the National Association was concerning the ethics of any member of the Association affiliating himself with G. H. A.? *A.*—Dr. Talley—who is he?

Q.—Chairman of the Board of Censors of the Harris County Medical Society. *A.*—Here is a letter from him, yes, in which he says:

"We would appreciate a letter from you stating the view held by the National Association with reference to practice of this type."

Q.—And he was referring to Group Health Association, was he not?

THE COURT:—What exhibit is that?

Mr. Kelleher:—No. 124, your Honor.

A.—Yes. He says,

"so-called Group Health Association made up of Federal employees of the H. O. L. C. located in Washington, D. C."

By Mr. Kelleher:

Q.—Did you not reply that that organization constituted a violation of the principles of medical ethics? *A.*—I will have to read this letter to find out.

Q.—Let me help you on it.

THE COURT:—What letter is that?

Mr. Kelleher:—No. 123, your Honor.

By Mr. Kelleher:

Q.—Read the last two sentences in the third paragraph. *A.*—

"Based on the information available to us here, it is my purely personal opinion that a physician who becomes an agent of a corporation engaged in the practice of medicine violates the principles of medical ethics. This, my personal opinion, is offered of course for whatever you may consider it to be worth."

Q.—Your opinion, then, as of February 1938, was that if any doctor affiliated with Group Health Association, he violated the principles of medical ethics? *A.*—I think if—

Q.—Just a second, Dr. West. Please answer my question. I want to be perfectly fair to you.

Mr. Lewin:—Let him answer it yes or no and then give his explanation.

Mr. Leahy:—Put the question again, if you want yes or no.

THE COURT:—You gentlemen settle it among yourselves.

Mr. Kelleher:—Will you read my question, please?

(The pending question was read by the reporter as above recorded.)

By Mr. Kelleher:

Q.—What is the answer to that question? *A.*—My answer is that I think any doctor who sells his services to a corporation engaged in the practice of medicine violates medical ethics.

Q.—Then is your answer in the affirmative? *A.*—As particularly applied to the Group Health Association?

Q.—Yes. *A.*—Yes.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—What control, so far as medical ethics of the American Medical Association are concerned, does the American Medical Association exercise over the County or State associations?

Mr. Lewin:—Objected to as repetitious.

Mr. Kelleher:—And also as argumentative.

Mr. Leahy:—Oh, no.

Mr. Kelleher:—And beyond the scope of the cross examination.

THE COURT:—I think that was gone fully into on direct examination and on cross, too. Objection sustained.

Mr. Leahy:—I am sorry. I did not mean to repeat. I thought it was just developed on the cross examination.

THE COURT:—I am sure it has been gone into.

By Mr. Leahy:

Q.—Doctor, with reference to the Dr. Cooke letter about which you were asked, with reference to the Cincinnati group, did you receive information from Dr. Cooke personally? *A.*—No, sir; not that I recall.

Q.—Did you receive information from anybody with reference to the Dr. Cooke clinic? *A.*—I had a visit, and my recollection is that I had at least two telephone calls from Dr. Frieberg who later wrote me. I believe perhaps one of those calls was in between the two letters that he wrote me, in which he gave me some information that was not contained in the letters, which, in my opinion, indicated that the proposed plan was not—

THE COURT:—This has all been gone over.

Mr. Leahy:—No, your Honor.

THE COURT:—You went into it very thoroughly, on the letters themselves.

Mr. Leahy:—It is not mentioned in the letters, if your Honor please. It was just brought out on cross examination.

THE COURT:—In taking up the letters you also took up the facts that there were telephone conversations or a conference. It has been thoroughly inquired into, I think, by both sides. What is the point of it?

Mr. Leahy:—I think it was on cross examination, if your Honor please; it was just developed by Mr. Kelleher.

THE COURT:—Read the question, Mr. Reporter.

(The question referred to was read by the reporter as above recorded.)

Mr. Leahy:—He received information, and then Mr. Kelleher developed on cross examination that over and beyond that—

THE COURT:—You may inquire about it. I have not time to look it up now.

The Witness:—I did; through a visit from Dr. Frieberg and through, I think, two telephone messages, and I have an indistinct recollection that some one else either wrote to me about it or talked to me about it; but that I cannot testify to definitely.

By Mr. Leahy:

Q.—From information of that character received with reference to it, was there a distinction between the Ross-Loos clinic and the Dr. Cooke clinic as proposed? *A.*—My recollection is that the plan proposed to be put into operation in Cincinnati went considerably beyond most plans, and I do distinctly recall that I was informed that it would involve solicitation of patients and advertising, open advertising.

Q.—Now, with reference to one question and answer—and I am not clear about it—you made the statement that you had been opposed all your life to a doctor's being connected with an illegal enterprise. Do you recall that testimony? *A.*—I said that I had been opposed all my life, certainly all my medical life, to a doctor selling his services to a corporation engaged in the practice of medicine. I stick to that statement.

Q.—With reference to the G. H. A., somewhere in your answer you said something which appeared to be confusing, as to whether you had been opposed to G. H. A. or whether you were opposed to a doctor engaging himself in an enterprise which was thought to be illegal. *A.*—I was opposed to G. H. A. as a corporation just as I was opposed to any other corporation engaging in the practice of medicine.

RE-CROSS EXAMINATION

By Mr. Kelleher:

Q.—Were you not opposed to the Ross-Loos clinic because it was a partnership? *A.*—No.

Q.—You were not? *A.*—No.

Q.—Let me read you this and ask you whether this is correct. It is from Exhibit 141:

"I am sorry indeed to know that anybody in Cincinnati is preparing to begin operations of a plan made more or less famous, or infamous, according to the point of view, by Drs. Ross and Loos in Los Angeles. I am quite convinced that the Ross-Loos scheme is a violation of the principles laid down by the courts of California which have repeatedly insisted that the corporate practice of medicine is illegal in that state. I am just as strongly convinced that it is relatively easy to evade the law. What is in effect a corporation may be organized under the designation of partnership."

Is that correct? *A.*—That is correct.

Q.—And did that represent your view? *A.*—If you will let me answer, Mr. Kelleher—

THE COURT:—Give the witness a chance.

Mr. Kelleher:—All right, your Honor.

The Witness:—That is correct, because at that particular time I had the understanding that it was a corporation. Now, then, the other part of your question there—if you will be good enough to restate it I will try to answer it.

The Court:—The question is whether, if it changed its form to partnership, you would still be opposed to it if it carried on the same way.

The Witness:—My view with respect to it, based on the fact that a corporation that had been engaged in the practice of medicine in Illinois had lately been declared to be illegal and immediately got around that court decision by organizing as a partnership—

By Mr. Kelleher:

Q.—Will you answer the Court's question, please?

The Court:—It was not my question.

Mr. Kelleher:—Your suggestion, I mean. Will you read it, Mr. Reporter?

(The question referred to was read by the reporter as above recorded.)

The Witness:—Not necessarily; no.

By Mr. Kelleher:

Q.—Were you opposed to the Ross-Loos clinic even if it was a partnership? *A.*—I was at that particular time, when I was informed that it was a corporation.

Q.—Does this say you were informed it was a corporation? *A.*—No; it does not. I cannot put into every letter I write everything I know and all the information I have.

Q.—Did you not put into that letter that although the Ross-Loos clinic was a partnership, you felt it was evading the law? *A.*—That is not what I said.

Q.—Look at that letter and tell us whether there is anything to show that you thought that the Ross-Loos clinic was a corporation? *A.*—I said, "I am just as strongly convinced that it is relatively easy to evade the law. What is in effect a corporation may be disguised under the designation of a partnership."

Q.—And did you not view the Ross-Loos clinic as a partnership, but, nevertheless, say it was illegal? *A.*—No; I didn't think it was illegal as a partnership, because I know of corporations that have been declared illegal and that have established themselves as partnerships and are not declared illegal.

Q.—Did you not say, "I am quite convinced that the Ross-Loos clinic is in violation of the principles laid down by the courts of California"? *A.*—I objected because I thought it was a corporation. I explained that three times.

Mr. Leahy:—Objected to as repetition.

By Mr. Kelleher:

Q.—You have explained it three times? *A.*—Yes.

Q.—Even though it was a partnership? *A.*—I don't know what you mean by "even though it was a partnership."

(To be continued)

CHARGE TO THE JURY

ASSOCIATE JUSTICE JAMES M. PROCTOR

THE COURT:—Members of the jury, counsel for the respective parties have submitted to the court many so-called prayers which are simply written requests to the Court to instruct the jury in particular matters on the law applicable to the case. Those prayers have been considered and quite a list have been granted by the Court as correct statements of the law. It will be necessary for me to read them to you. First, I will deal with the prayers in behalf of the Government.

The burden of proving the defendants guilty is on the Government. This does not mean, however, that the Government's proof must establish the defendants' guilt to an absolute certainty. You may find the defendants guilty, if you are convinced beyond a reasonable doubt of all the essential facts necessary to establish the guilt of the defendants.

A reasonable doubt must be real and not imaginary. It must be an honest and substantial misgiving for which a good reason may be given, based on the nature of the evidence or lack of evidence in the case. If all the evidence in the case, impartially and reasonably considered, produces in your minds a settled conviction or belief of the defendants' guilt—such an abiding conviction as you would be willing to act on in the most important affairs of your own life—you may be said to be free from any reasonable doubt and should find a verdict in accordance with that conviction.

In considering the testimony, you should, as to each witness, consider his demeanor and manner of testifying, his interest, if any, in the result of the trial, any temptation to testify falsely, his opportunity to know the facts, the probability or improbability of the testimony given, and all other like circumstances appearing from the evidence; and from all these you should determine the weight and credit to be given to the testimony of the witness. If you believe that any witness has wilfully testified falsely to a material fact, you may disregard all the testimony of that witness or give credit to such part thereof as you deem it warrants.

The fact that the defendants may have believed Group Health illegal is not material to the case. A mistake of law will not excuse a violation of the Sherman Act. The fact that the defendants may have had an honest and reasonable belief that Group Health Association was operating illegally would not constitute any justification to violate the law. If you find the defendants were engaged in a combination as charged, it is unnecessary for you to decide whether Group Health Association or its staff may have violated the principles of medical ethics of the American Medical Association, if such were the fact. It is immaterial that Group Health Association may have employed doctors on a contract basis or that the members of Group Health Association may not have had complete freedom of choice of physicians from the entire body of doctors practicing

in the District of Columbia or that Group Health Association or its organizers may have solicited Government employees to join Group Health Association. It is likewise immaterial to the issues which you must decide that the defendants may have believed that Group Health Association or the members of its medical staff violated the Principles of Medical Ethics of the American Medical Association.

If you find that the defendants were engaged in a combination as charged, it is unnecessary for you to decide whether the medical care given by the medical staff of Group Health Association was equal to, superior to or inferior to the quality of medical care rendered by doctors engaged in private practice. That is immaterial to the issues in the case.

If you find that the defendants were engaged in a combination as alleged, it is unnecessary to decide whether Group Health Association was financially sound. The financial condition of Group Health Association and the sources of its financial support during the period of the conspiracy are immaterial to the issues in this case. It is also immaterial that the defendants may have believed that Group Health Association was financially unsound or that it was subsidized by other organizations.

The Sherman Act prohibits combinations unreasonably in restraint of trade. This prohibition extends to undue restraints on the furnishing of medical service to the public. If you find that the defendants conspired together for the purposes charged and employed the means charged, and if you find that the defendants, in seeking to achieve those purposes, intended to prevent Group Health Association from competing with doctors engaged in private practice on a fee-for-service basis in furnishing medical care to members of the public eligible for membership in Group Health Association, then the defendants were engaged in a combination in restraint of trade.

If you find a conspiracy to exist, all acts and declarations, oral or written, of each party to the conspiracy, in furtherance of the objects, may be considered as evidence against all the parties to the conspiracy. This is true even though the party doing such act or making such declaration is not on trial or is not named in the indictment as a defendant. That is, every person who, knowing of the conspiracy, does any act or makes any statement intended to further the objects thereof, does thereby become a party to the unlawful conspiracy.

It is not necessary that all the parties to a conspiracy shall actually meet together at one and the same time and place, or that all discuss its purposes or the means of carrying out its objectives, or whether each party knows all the others. Nor do you need to find that all combined together at the start of the conspiracy. If it is shown that the conspiracy was entered into between two or more of the defendants and that at any later time during its existence new or additional parties, while

aware of its existence, united with them for the purpose of aiding in the accomplishment of the scheme, they would then become conspirators too and responsible for the consequences thereof.

In determining whether a conspiracy exists it is not necessary to find there was a written or formal agreement among the defendants or that any participant was bound to another to perform any particular portion thereof. It is sufficient if you find from the evidence that the defendants were voluntarily acting together, however informally, in order to carry out the common objective. Notwithstanding the fact that all the defendants are charged to have participated in the offense, it is not necessary for the Government to prove that all did so, and you are not required to find all guilty. If you find that the offense charged was in fact committed and that some of the defendants on trial were parties to it, you may convict those whom you so find guilty and acquit the others.

That completes the reading of the instructions on behalf of the Government.

These are instructions granted at the request of the defendants:

The defendants and each of them are presumed to be innocent of the crime charged to them and each of them in the indictment. This presumption surrounds and remains with each throughout the entire trial and should be considered by you in determining the guilt or innocence of each.

Before a verdict of guilty can be returned against the defendants or any of them, the evidence of the Government must not merely indicate guilt but it must be inconsistent with any rational theory of innocence. Thus, if the jury finds from the evidence what the defendants did is just as consistent with innocence as with guilt, then the verdict must be Not Guilty as to those defendants.

The defendants had the lawful right to combine and form corporations and associations for the improvement of the practice of their profession and to advance their interests. They had the right to make reasonable rules and regulations respecting their profession and to ascertain the qualifications and character of their members. They had the right to discipline members who failed to abide by the regulations or rules adopted by the associations in the formation thereof and to suspend or expel from membership any member who failed to abide by the rules and regulations. The fact that the defendants adopted such rules and regulations and disciplined members does not of itself constitute an unlawful combination in violation of the statute. They must have combined together with the intent to injure, obstruct or restrain trade, or they must have intended to do acts the necessary effect of which would be to injure, obstruct or restrain trade.

The individual defendants as physicians had a right to determine with what other physicians they would consult, and their refusal to consult with any particular physician is not of itself illegal.

Physicians have the right to select the hospital in which they choose to treat and operate on their patients; and the refusal of a physician to do business with any hospital because of the composition of its courtesy staff is not of itself illegal.

The defendants American Medical Association and Medical Society of the District of Columbia have the right to adopt rules for just and fair dealing among their members and the right of enforcement of those rules and regulations by such reasonable penalties as they may provide for violation thereof.

The defendants had the right to reach and attempt to reach their objective of advancing the interests of the medical profession by legitimate persuasion and reasoned argument, and to this end they had the right to tell their side of the story and to persuade others, including the Washington hospitals, other physicians, members of Group Health Association, Inc., and the public to utilize and use the defendants' method of practicing medicine, and to use peaceful persuasion, publicity, articles in the press, in publications of defendants, including *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*, and all lawful propaganda to have their methods of practicing medicine prevail over those of Group Health Association.

The defendants had the right to write letters or other statements among themselves or to other members of the profession or to the public generally, expressing disapproval of or opposition to Group Health Association and the form of medical service offered by it.

The defendants were entitled, through legitimate persuasion and reasoned argument, to endeavor to support and advance the interests and extension of that type of medical practice believed

by the defendants to be in the public interest, without regard to whether such acts hindered Group Health Association, its doctors, members or operations, or any other type or method of medical practice. If they did not go further to conspire to restrain Group Health Association there would be no offense.

I charge you that the defendants have the lawful right, through action taken in their meetings and conferences, to formulate and adopt rules of medical ethics for the control and government of themselves and the members of their societies in the practice of their profession, and the support and maintenance of such principles of medical ethics by legitimate persuasion and reasoned argument or by enforcement of Society rules, laws and regulations, without more, would not constitute unreasonable restraints against Group Health Association, its doctors or members.

Any doctor who voluntarily joined the defendant medical societies was required to comply with the constitution, rules and regulations thereof. No doctor would have the right, as against the wishes of the particular society, to retain membership therein regardless of how valuable or advantageous such membership might be to him, and at the same time wilfully violate any provision of its constitution, rules or regulations.

If a doctor desires to retain membership he is bound to obey the constitution, rules and regulations, since membership therein is entirely voluntary; and if, as a result of his nonobservance, he suffers discipline and possible expulsion from the society, any injury, damage or restraint thus suffered by him or by any corporation by which he might have been employed would, without more, not constitute a violation of the statute.

The Washington hospitals are private institutions under private management and control, and the lawful authority to constitute the medical staffs of such hospitals is vested in the governing board thereof. Hospitals have a lawful right to make such reasonable rules and regulations for the operation of the hospitals as to the authorities thereof may seem in their best interests. They are lawfully entitled to require obedience to such rules and regulations by all persons dealing with said hospitals, including doctors permitted by the hospitals to practice their profession therein.

The Washington hospitals had the lawful right, if they so desired, to adopt and enact a rule confining their medical staffs to members of the local medical societies, and any restraint resulting thereby to Group Health Association, its doctors, members or operations, would not in itself be a violation of the Sherman Act.

A member of the medical profession duly authorized by law to practice his profession in the District of Columbia is not by reason thereof entitled to practice in any of the private Washington hospitals. Permission to practice in such a hospital is not a right on the part of an applicant doctor but is only a privilege which can be extended or withheld from him at the will of, or in the discretion of, the particular hospital.

If the Washington hospitals or any of them believed that it was in the best interests of such hospital to adopt and enforce a rule confining appointments to the medical staff to members in good standing of local medical societies any such hospital had a lawful right to adopt and enforce such rule, and any resulting injury or restraint occasioned thereby to a particular doctor or other person would not be a violation of the statute.

The defendant American Medical Association had the lawful right, on request of a hospital, to inspect it for the purpose of approving or disapproving it for intern or resident training, and it had a lawful right to approve or disapprove such hospital based on the inspection so made.

The American Medical Association was lawfully entitled to present for the consideration of the hospitals inspected the so-called Mundt Resolution concerning the selection of medical staffs exclusively from the members of local medical societies, and such action on the part of the American Medical Association would not of itself constitute an act of coercion as charged in the indictment.

Where the evidence in the case is in whole or in part circumstantial in its nature, the circumstances relied on by the government to establish the guilt of the defendants must so distinctly indicate the guilt as to leave no reasonable explanation consistent with innocence.

Facts which give rise to a reasonable and just inference that a conspiracy existed do not necessarily exclude every other reasonable hypothesis, unless it can be said that only one just and reasonable inference may be drawn from the given state of facts.

The Medical Society of the District of Columbia is shown by the evidence to have been a component and constituent society and member of the American Medical Association. As such it was entitled to contact, communicate and advise with the officers and representatives of the American Medical Association with reference to matters affecting or relating to the practice of medicine, and such intercourse between the societies is not a violation of the Sherman Act.

If the defendants had objections to Group Health Association and the type of medical practice proposed by it, and believed that the system of medical practice approved by the defendants was better and more in the public interest, then the defendants were lawfully entitled, either individually or collectively, through legitimate persuasion and reasoned argument, either publicly or privately, to urge any and all persons to come to the support of the objectives of the defendants and to disapprove the objectives of Group Health Association, and any resulting restraint, injury or damage to Group Health Association, its doctors, members or operations is not in violation of the law.

The defendant Woodward had a lawful right to prepare an article or a memorandum disapproving Group Health Association and matters relevant thereto, and to cause the same to be published by the American Medical Association in *THE JOURNAL*, and to do so, without more, would not be a violation of the Act on the part of Woodward or the American Medical Association.

The defendant Fishbein, the Editor of *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*, had a lawful right to publish in *THE JOURNAL* objections to Group Health Association and its proposed methods of medical practice; and such publication of articles criticizing Group Health and its plan for medical service, even though it may have restrained or injured Group Health Association, its doctors or members, standing alone and without more, would not make Fishbein guilty of a violation of the act.

The American Medical Association and its officers had the lawful right to receive and answer inquiries concerning various so-called contract medicine plans, and the American Medical Association and its officers, in answering such inquiries, were lawfully entitled to state their own conclusions and beliefs with respect thereto, whether favorable or otherwise, and by so doing, without more, the American Medical Association and its officers would not violate the statute.

Evidence has been admitted tending to show the size and scope of the activities of the American Medical Association. Such fact does not raise any inference of wrongdoing or guilty conduct. Whether the American Medical Association is a large corporation or a small corporation does not affect its lawful right under the law; and the evidence is admitted here only for the purpose of showing the possible power, if any, of such corporation to induce and further the alleged illegal conspiracy set forth in the indictment.

A defendant does not become a party to a criminal conspiracy simply because he is a member of an association which might so conspire, or because he attends meetings of such organization where such conspiracy may be discussed, nor does he become a party to such conspiracy because he has knowledge of its existence or because he may even approve such conspiracy and its unlawful purpose. Before he can be found to be a member of a conspiracy it must appear that he knowingly and intentionally participated therein with the purpose and intention of aiding and furthering it; and you must find, before you can convict such defendant, that such intent existed beyond a reasonable doubt.

It is not unlawful to conspire and combine to effectuate a lawful purpose by lawful means. The defendants could lawfully combine to protect and support their medical organizations, their methods of professional practice, and the principles of medical ethics, by legitimate persuasion and reasoned argument or by any other lawful means.

There is nothing illegal of itself in enacting the so-called Mundt Resolution. The question is whether such resolution was intentionally used in order to aid in the carrying out of an illegal conspiracy on the part of the defendants. Nor would the fact that the Mundt Resolution was called to the attention of the Washington hospitals, in order to further the wishes of the American Medical Association in carrying out its purpose, be either improper or unlawful, unless you also find beyond a reasonable doubt, that such acts were intentionally done to aid an illegal conspiracy then and there existing in the District of Columbia.

That, ladies and gentlemen, completes the reading of the instructions which were requested by counsel and granted by the court.

And now may I, at the risk of some repetition, in my own way briefly outline the case to you and summarize some phases of the law which I deem important to guide you in your consideration?

The act of Congress under which the indictment is brought makes illegal and punishable every combination or conspiracy in restraint of trade in the District of Columbia. The practice of medicine and the operation of hospitals and organizations to provide for medical care fall within the term trade as used in the act.

The indictment charges a violation of the statute by the corporations, associations and individuals named in article I thereof. You will have the indictment. It will inform you with particularity of the names of all the defendants and of the offense with which they are charged.

The case has terminated as to Thomas Allen Groover by reason of his death, and as to Harris County Medical Society, Washington Academy of Surgery, Leon Alphonse Martel and Joseph Rogers Young by the verdicts rendered at my direction.

For brevity, I shall refer to the American Medical Association as the American Association; the Medical Society of the District of Columbia as the District Society; and Group Health Association, Inc., as Group Health.

It is the duty of the court to state the law of a case to the jury, and the duty of the jury to accept and follow the law as it is given by the court. This, I am sure, you will do.

The indictment, and the action of the Grand Jury in returning the same, are no evidence of guilt. The defendants are not called on to prove their innocence. They are presumed to be innocent and that presumption abides with them as a shield against conviction until and unless in your final judgment the evidence establishes guilt beyond a reasonable doubt. Therefore, the burden rests on the Government to prove guilt according to the charge laid in the indictment.

What is reasonable doubt, as that term is used in the trial of a criminal case? It is a doubt based on reason; such a doubt as after a full and fair consideration of all the evidence will leave a juror so undecided as that he cannot conscientiously say he has an abiding conviction of guilt, that is, a settled conviction; which he feels will abide with him in the future, so that if, perchance, his thoughts recur to his action in joining with his fellow jurors in a verdict of guilty, he will, in his own reflections, be justified in mind and conscience that he did the righteous thing.

Although proof beyond a reasonable doubt is necessary, that does not imply proof beyond all doubt and to an absolute certainty. Yet as a fair shield of protection to one accused of crime, the law does insist that before he shall be deprived of his good name and suffer the penalties of a criminal conviction his guilt shall be established by a measure of proof which leaves no reasonable doubt. The evidence must exclude any rational theory of innocence and admit only of an abiding belief in guilt. Hence, if an inference may be fairly drawn, as consistent with innocence as with guilt, a reasonable doubt would necessarily prevail. This is especially so in dealing with evidence of a circumstantial nature. Where such evidence is relied on to prove essential elements of the charge, it must so clearly point to guilt as to exclude any rational theory of innocence.

Here in the case at bar the charge is that the defendants conspired to restrain trade in certain specified ways. A conspiracy takes form when two or more persons combine to do an unlawful thing or to accomplish something of a lawful nature by unlawful means. Where such an agreement or understanding, however informal, is reached, all those who join therein become parties to the conspiracy. The object or the means to attain it must be illegal. There can be no criminal combination where both the object and the means are lawful. It is not essential that all details to carry out the plan be specifically arranged, or the particular acts of each be definitely assigned. It is enough if there has been a meeting of minds for concerted action to gain the common end. All need not know each other or meet together at any one time; nor need all combine at the start of the conspiracy. If two or more have done so, others with knowledge thereof may become participants at future times, while the conspiracy still continues, by uniting in the common design with the purpose to lend their encouragement and support to accomplish the same. On thus joining a conspiracy they render themselves liable not only for their own overt acts but for those of other members to the enterprise.

Hence it is not necessary that all defendants take part in the unlawful acts charged in furtherance of the conspiracy or to know about the same. One may also be liable for an overt act, though actually performed by another, if he knowingly instigates or supports the same by advising, encouraging or abetting it. So, if the alleged conspiracy is found from the evidence to exist, the acts and declarations of each party, shown to be a conspirator, in furtherance thereof, may be considered by the jury in determining the guilt of others who are accused.

However, you will understand that guilt does not attach to one who merely knows of a conspiracy or of acts in furtherance thereof, even though done in his presence. A passive knowledge or attitude is not enough. There must be actual and conscious union with the criminal group. Therefore, membership in the defendant medical societies; presence at their meetings; knowledge of an unlawful plan or purpose among other members, if such there be, would not alone make one a participant. Besides such knowledge there must be the positive intention to give adherence and support to the criminal scheme. Those are brief statements of some rules of law of a general nature to be applied in your consideration of the case.

The indictment itself is very long. That, as you know, is a formal accusation of crime. Much of it is devoted to allegations descriptive of the defendants, as also of the Washington hospitals and Group Health. There are extensive allegations of acts done to effectuate the objects of the alleged conspiracy. All these matters have been frequently referred to during the trial, including the arguments of counsel, and need not be stated again in any detail.

An essential part of the indictment, important to understand, is that which specifically charges a violation of the Statute. In substance it is alleged that the defendants conspired:

1. To restrain Group Health in its business of providing medical and hospital care to its members and their dependants on a risk sharing prepayment basis;
2. To restrain doctors on the staff of Group Health in pursuit of their calling;
3. To restrain other doctors in the District of Columbia in the pursuit of their calling, and
4. To restrain the Washington hospitals in the business of operating such hospitals.

It is further alleged that the plan and purpose of the conspiracy was:

To hinder and obstruct Group Health in procuring and retaining qualified doctors and those doctors from consulting with other doctors and specialists practicing in the District by threatening with disciplinary action members of the District Society who should become members of the staff of Group Health or who should consult with members of that staff. Further, it is alleged the plan and purpose was to hinder and obstruct Group Health in obtaining access to hospital facilities for its members, and the doctors of Group Health from treating their patients in the hospitals.

These purposes, it is alleged, were to be attained by certain coercive measures against the hospitals and doctors designed to interfere with employment of doctors by Group Health and use of the hospitals by members of its medical staff and their patients. The plan is fully detailed in the indictment and has been referred to by Government counsel in their arguments.

To sustain that charge the Government must prove beyond a reasonable doubt that a conspiracy did in fact exist to restrain trade in the District in at least one of the several ways alleged, and according to the particular purpose and plan set forth. If the evidence fails to convince you of that basic element the charge will necessarily fall with resultant acquittal of all defendants. If you find that fact established, then you will consider the evidence in particular relation to each defendant, to determine whether it does prove beyond a reasonable doubt that such defendant was a party to the conspiracy. If you do so find, then that defendant should be convicted, but if a reasonable doubt of guilt prevails you will acquit.

The opposing contentions may be roughly stated as follows:

The Government claims that the evidence proves the medical societies were opposed to Group Health and its plan of group medical care on a fixed prepayment basis; that they feared competition by that method of practice as against the fee for service method of organized physicians; that to obstruct and destroy such competition the medical societies, with certain officers and members and the hospitals, conspired to prevent successful operation of Group Health's plan by imposing restraints on physicians affiliated with Group Health, through threats of disciplinary action and expulsion; by denying them professional contacts and consultations with other physicians, and by means of the societies' power, coercing the hospitals to

deny Group Health doctors facilities for treatment of their patients. The plan, it is contended, was carried out by enforcing compliance with the so-called Mundt Resolution of the American Association, the amendment of March 1937 to section 5 of the District Society's constitution, implemented by the "White List" and aided by corporate and individual acts of defendants.

On the other hand, the defendants insist there was no conspiracy; hence, no conspirators; that there was no purpose or plan to restrain Group Health, the hospitals or doctors; that their acts were intended only to oppose Group Health by legitimate argument and persuasion; that no coercion was practiced or intended against the hospitals, and that the "White List" and disciplinary proceedings against members of the District Society represented reasonable action taken by authority of their constitution and rules to protect the organization and its standards of medical practice. Therefore it is claimed, in behalf of the defendants, that if those actions did interfere with Group Health and its doctors the effect was but an incidental and indirect result of acts taken legally and in good faith for legitimate ends and therefore were not wrongful or illegal.

If you believe the contention of the Government is established beyond a reasonable doubt, then the conspiracy is made out; whereas, if the contention of defendants prevails, the charge would altogether fail.

In the light of these contentions and the arguments supporting them, you will review the evidence fully and impartially to determine whether it does prove beyond a reasonable doubt the charge laid in the indictment.

Was there a conspiracy to restrain trade in one or more of the ways alleged? If so,

Who of the present defendants were parties to the conspiracy? All; or some; or none? To decide that question you will need to examine the evidence independently as it relates to each defendant. As to the corporate defendants, they would be responsible if authorized officers, acting for or in the name of the corporation, did acts within the apparent scope of the corporate powers, in forming or furthering the alleged conspiracy.

Did there exist the criminal intent? That is, was there a purpose and plan as charged? That would be so if in fact the positive intent to restrain prevailed, or there was a purpose to do acts the natural and probable effect of which would be to impose any of the restraints alleged. Another and different purpose would not suffice, even if wrongful, for the Government must prove the charge as laid—not some other offense.

If it be true, as defendants claim, that the District Society, acting only to protect its organization, regulate fair dealing among its members and maintain and advance the standards of medical practice, adopted reasonable rules and measures to those ends, not calculated to restrain Group Health, there would be no guilt, though the indirect effect may have been to cause some restraint against Group Health. It would be justified if but an incidental result of reasonable regulation of the membership and affairs of the organization, for the statute comprehends only such restraints as do directly and unreasonably affect freedom of competition in the trades and professions.

In joining the District Society members assumed the duty of compliance with laws and regulations thereof. The right to practice medicine gave a doctor no right to be a member of the Society. Discipline and control of members of a society, within reasonable bounds, are essential. When applied in good faith, under fair rules, without ulterior purpose to injure the business of a member or others, there is no wrong. However, such rules and regulatory actions cannot be justified where the real purpose, or the natural results, are to interfere with free competition.

The defendant physicians had the individual right to determine with what other physicians they would consult, and refusal to do so with particular physicians is not of itself illegal. Although, if, as alleged, it was done in furtherance of a conspiracy against Group Health and its doctors, it would be illegal. So too a doctor may refuse to treat patients in a particular hospital for any reason at all, but if a group of doctors, pursuant to a concerted scheme, refused so to do to injure the business of the hospital, their acts would be illegal; for in the eyes of the law there is danger to the public interests where many combine and act together to interfere with the free play of competitive forces in business and professions.

There was no duty on the societies, their officers or members, to approve Group Health or its plan of medical care. They could not rightfully oppose in a manner intended to restrain its operations. But they did have the right of legitimate criticism, argument and persuasion, however persistent and severe; either separately or by collective effort; through the medium of speech, letters or print. If their opposition was thus

confined and did not take the form of a conspiracy to restrain or was not done in pursuance of such a scheme, there was no violation of the statute.

So too the "White List" of the District Society and the Mundt Resolution of the American Society were not wrongful in themselves. Their apparent purposes were justifiable, and if those were in fact the real objects the defendants had the right to combine and act together to promote the same in good faith; but, if they were perverted to advance the aims of a conspiracy, any steps thus taken would bring the actors within the criminal scheme.

The hospitals had the lawful right to prescribe rules and regulations governing the use of their facilities by doctors and patients. In their boards was vested the authority to decide what physicians would be allowed the privileges. A doctor had no right to demand them. To grant or refuse the same rested solely with the hospital. Therefore, if denial of privileges to Dr. Selders, or other members of the Group Health staff, represented the voluntary decision of the boards, no question would arise as to the legality of their acts. However, if refusal was arbitrary and to serve a criminal conspiracy against Group Health or their doctors, it would violate the statute.

Much evidence relates to the so-called background of the alleged conspiracy. It is intended to show power of the medical societies over doctors and hospitals and opposition to certain forms of medical practice. No inference of guilt can be drawn from such evidence alone; nor from any power or opposition it may reveal, because those acts were before the alleged conspiracy. Therefore, that evidence can only be considered as it may shed light upon the intent and effect of later acts within the period of the alleged conspiracy.

Numerous letters, writings and oral statements of defendants and other persons have been proved. In many instances the authors have testified to the meaning they intended. However, arguments of counsel reveal frequent conflict as to the true meaning. It will be for you to interpret the writings and declarations fairly, in the light of all the evidence. If, when so considered, any are deemed equally susceptible of two meanings, one indicative of guilt, the other of innocence, then I think it only fair that you favor the innocent interpretation, just as you would in dealing with circumstantial evidence or the ultimate questions on which a verdict depends where there appear two reasonable theories or hypotheses one equally as reasonable as the other.

The respective merits of differing methods of medical care are not an issue in this case. Advocates and adherents of each are entitled to their views and may follow their choice. They had the right to support the same by fair competition and to oppose by way of discussion, argument and persuasion. But neither group would be justified in conspiring to restrain the activities of the other.

The legality of Group Health, or its methods of providing medical care, or the quality thereof, or its financial condition, or the grant of money by others to it are not issues in the case.

The defendants, however, had the lawful right to discuss and to argue these matters in opposition to Group Health Association and its methods of medical care, and to do so would constitute no violation of the statute.

In judging of the evidence you must necessarily evaluate the testimony of individual witnesses. Only thus can you determine the truth, and it is the truth you must seek. Bring to that task your knowledge of human nature; your ability to judge of men; their sources of knowledge; their intelligence; their motives; their intentions, so you may discern the real character behind the spoken words and measure their weight of truth and accuracy.

Interest in those things involved within the controversy or its results; friendship or animosity towards persons concerned therein, and many other human factors, may or may not affect the desire and capacity of a witness to tell the truth, depending largely on his innate character. Give to the testimony of each witness only that weight to which in your good judgment it is entitled when tested by the foregoing considerations and the light of other evidence in the case. Interpret writings and declarations fairly according to reason and probabilities, as the circumstances surrounding their making may reflect a true meaning.

In your deliberations give thought to the views of your fellow jurors. By full and free discussion, apply your best reason and judgment. Without sympathy or prejudice, calmly and dispassionately endeavor to reach a common understanding as to the truth, and return a verdict accordingly.

And now, ladies and gentlemen, as you retire to consider of your verdict, and throughout the course of your deliberations, be ever mindful of the solemn obligation imposed by your oath as jurors to render a true verdict according to the evidence; so help you God!

EDITORIAL COMMENT ON THE VERDICT

LOGIC AND JUSTICE

(Washington, D. C. *Post*, April 6)

There is a basic inconsistency in the verdict of the jury in the now famous trial of the doctors for conspiracy in restraint of trade. By convicting the American Medical Association and the District Medical Society, while exonerating the 18 individual defendants, the jury seems to imply that the societies acted independently of their officers. Laymen will find it difficult to conceive how organizations can conspire to violate the law without involving a single person. In his charge to the jury Judge Proctor referred to a criminal conspiracy as "a meeting of minds for concerted action" in violation of the law. Minds are very decidedly human. So the conspiracy which the jury found to have existed in this case must have been the work of individual doctors. Yet only the two organizations were convicted.

No special acumen is needed to see that the verdict is thus thoroughly illogical. Some participants in the case have properly branded it a "sentimental verdict." One should hasten to add, however, that this does not necessarily mean it is wrong or lacking in justice. The lawyers who battled over this case for eight weeks placed tremendous weight upon logic and the establishment of technical points. Apparently the jury was more interested in rendering approximate justice. At any rate, it cut through the mountains of evidence to reach an expedient conclusion which makes up in other virtues what it lacks in consistency.

The effect of the verdict is to stop the A. M. A. and the D. M. S. from interfering with the Group Health Association or any other agency designed to make medical care more readily available to people in need of it. Of course, the A. M. A. is free to criticize any system for the practice of medicine that it may disapprove. But it must not, under penalty of criminal prosecution once more, attempt to restrain the legal practice of

medicine by any other doctors. New systems based on prepayment for medical care during specified periods will be free to operate if they win public approval. That is the real objective which the Department of Justice sought in bringing the suit.

Many factors doubtless entered into the acquittal of the individual doctors. Obviously the jury did not wish to leave any reflection upon the outstanding doctors against whom this case was brought. No doubt it also took special note of the once prevalent belief that the practice of medicine was not a trade within the meaning of the Sherman Act. It reasonably concluded that the doctors had no intention of violating the law in their fight against G. H. A. In any event, the verdict is less inconsistent than the Sherman Act itself, as recently interpreted by the Supreme Court. Organized doctors may be punished for restraining interstate "trade" to the detriment of the public. But organized labor unions are free to cut off trade in even vital defense supplies for the purpose of establishing a monopoly for the benefit of one group of workers.

CARPENTERS NOT IN TRADE, DOCTORS ARE—THAT IS THE LAW

(Baltimore *Sun*, April 6)

Thanks to Mr. Thurman Arnold's ingenious Sherman Act enforcement drives, the state of the law against restraints of trade is at the moment a curious one. In the *Hutcheson* case, which Mr. Arnold lost in the Supreme Court of the United States on February 3, it was held that labor unions, for the purposes of the antitrust acts, are practically not in trade or commerce at all. On Friday, a jury in District Court in Washington brought in a verdict against the American Medical Association resting on an appellate decision that physicians are in trade or commerce.

So far as the adjudication on labor unions goes, there doesn't seem much that anybody can do about it, except through new legislation. The Hutcheson case involved a jurisdictional strike by an A. F. L. carpenters' union, which paralyzed the Anheuser-Busch plant at St. Louis. In that case, Mr. Justice Frankfurter removed labor unions from the scope of the anti-trust laws except in certain very narrow circumstances. That decision is final, however right Mr. Justice Roberts and the Chief Justice may have been in calling it a "usurpation by the courts of the function of the Congress."

No such finality as yet attaches to the assumptions on which the A. M. A. verdict of Friday rests. No question of interstate commerce was raised in the A. M. A. case, so physicians, under the law, are not yet in interstate commerce, anyhow. Also, the Supreme Court has not yet passed finally on whether they are engaged in trade in the District of Columbia, in such a way that section 3 of the Sherman Act, which applies the act to the District of Columbia, comes into force.

It is true that the District Court of Appeals has held that the law "governing restraints of trade . . . embraces the field of the medical profession." That decision was appealed to the Supreme Court, but the Supreme Court refused to act on the appeal when made. The question is thus still open, and it may be raised again if the case decided Friday finally reaches the Supreme Court a second time.

As the antitrust law now stands, however, medical associations are in trade or commerce and carpenters' and other unions are not. That, as we said at the outset, is a curious situation.

THE A. M. A. NEEDS A NEW CHARTER

(Chicago Tribune, April 7)

The American Medical Association and its local society in Washington, D. C., have been convicted by a federal jury of violating the antitrust law. At the same time the jury acquitted all of the individual defendants, who included the principal executive employees of the association.

This verdict had a parallel some months ago in the federal court at South Bend, where the General Motors corporation was convicted of violating the antitrust laws in financing the sale of its cars, but all of the officers of the corporation were acquitted. This, as it turned out, was most fortunate for Mr. Roosevelt. It saved him the embarrassment of plucking one of the defendants, Mr. Knudsen, out of jail when he needed him to head OPM.

The jurors seem to have been in no doubt that a crime was committed, yet when they were asked to say who committed it their answer was "Nobody." Perhaps the legal metaphysicians can straighten us out. Queries might well be addressed to the prosecutor of the case, Mr. Thurman Arnold, who has written that antitrust prosecutions are a sham anyway, being designed to propitiate the public conscience for allowing acts that our moral sense tells us are wrong but which our practical judgment says are necessary.

The charge against the doctors at Washington was that they engaged in a conspiracy in restraint of trade against the Group Health association, an organization that undertook to furnish government employees with medical care in return for a flat monthly fee. The A. M. A. asserts that arrangements of this type tend to lower the standards of medical care, and in consequence its members, at the instigation of the association's leaders, refused to have any professional relations with the physicians hired by the Group Health organization.

The antitrust conviction may impress upon the members of the A. M. A. that when they organized they took out the wrong kind of a charter. They should have applied to William Green or John L. Lewis. So equipped, they would not have been reduced to refusing to practice in the same hospitals with a physician who signed up with Group Health. Dr. Morris Fishbein could just have gone around some evening and broken the wrong guy's fingers with a blackjack, an operation that does a surgeon no more good than it does a musician, and Mr. Justice Frankfurter would have told Thurman Arnold not to get himself all wrought up over a passing moment of animal exuberance.

A good broad A. F. L. or C. I. O. charter would solve a lot of the medical profession's economic problems. Its members would not have to worry about overproduction of doctors. They

could just close their membership rolls and have some of their members, sitting on the state and local examining boards, prosecute the newcomers for practicing without a license.

Draft boards wouldn't be asking physicians to give their services free for examination of the draftees. All the chest thumping in charity wards would be done at the union scale and any nonunion medico who tried to cut in on the business would have to pay a \$1,000 initiation fee. Ladies expecting offspring would have to be careful that the labor pains did not start after 4 p. m. on a Friday; otherwise Papa would have to pay double time for a week-end delivery.

The medical union might be able to take on a number of profitable activities that A. M. A. members now deny themselves, such as performing abortions or, for a suitable fee, slipping a dose from the black bottle to millionaires whose heirs were growing impatient. While such activities might arouse public protest, the union docs could be sure that President Green would not bother them. That would be interfering with their autonomy.

THE MEDICAL DECISION

(New York Times, April 7)

A federal jury in Washington has found the American Medical Association and the Medical Society of the District of Columbia guilty of antitrust law violation but acquitted eighteen individual defendants in the case. Presumably an appeal will be carried to the higher courts. But so far as the decision goes, it opens the way to wider developments in the field of group medicine.

A country with forty-eight states, with wide variations in climate, density of population and occupation, will need more than one type of medical practice. Experimentation with cooperatives, groups of physicians who practice as they would in a hospital, prepayment of medical care, voluntary health insurance, is clearly called for before we attempt to legislate either on a state or national scale. It was experimentation of this kind that the American Medical Association discouraged. The Washington decision will, if it stands, clear the way for carrying out health plans which have hitherto been frustrated. Before we tax ourselves to the tune of \$800,000,000 a year to care for millions of medically indigent who cannot afford to pay anything for catastrophic illness, we ought to know how far we can go in solving our health problem through group methods. Out of the experimenting various systems of medical practice are bound to emerge—systems that will be a guide to legislators and that will enable us to avoid the mistakes of Europe.

THE MEDICAL VERDICT

(Washington, D. C. Star, April 5)

In finding that the American Medical Association and the District Medical Society conspired to violate the antitrust laws, while exonerating eighteen individual defendants, a District Court jury has returned what is obviously a compromise verdict.

From the common sense standpoint it seems illogical to hold that the two organizations could have been guilty of a conspiracy if the individual members were innocent, but, as a matter of law, the verdict falls well within the instructions given the jury by the trial judge. The intent of the accused in doing certain things is the all important factor in conspiracy cases, and it may well be wondered how two organizations, as organizations, could have entertained a criminal intent in the absence of any such intent on the part of their constituent members. There is precedent for such a split verdict, however, where intent is the essential element.

As matters stand in the medical case, there will be few who will not welcome the acquittal of the individual defendants. Certainly, the ends of justice would have been poorly served had these distinguished physicians been obliged to wear the stamp of criminality, even in a technical sense. On the other side of the ledger, the verdict carries assurance that Group Health, Inc., the organization against which the alleged conspiracy was directed, will be given a chance to prove its worth without interference. If that is the net result, assuming that the verdict is upheld in event of an appeal, it would seem that this highly controverted case has been terminated on a basis of substantial justice.

A NATUROPATHIC SUBTERFUGE

PURPORTED LICENSURE BY STATE NATUROPATHIC ASSOCIATIONS

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CHICAGO

If a group of pretenders in the field of healing undertake to support their appeal for recognition on a palpably fraudulent premise, that appeal deserves slight consideration.

In a current comment published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Feb. 25, 1939, page 736, attention was called to a number of instances in which naturopaths had resorted to outright trickery to obtain favorable legislation. In 1933 Iowa naturopaths sponsored a bill to estab-

to define naturopathy "as provided by an Act of Congress in 1929." Thus there seems to be a difference of opinion as to the exact date when this congressional act is supposed to have been passed, the date being variously given as 1929, 1930 and 1931. In January 1941 a circular, apparently distributed in Indiana, reproduced the alleged definition. This circular bears the heading "An Act of the 71st Congress H. R. 12169, passed February 7, 1931." Immediately preceding the definition is this statement:

The following definition of NATUROPATHY was passed by the United States Congress on February 7, 1931, without a dissenting vote.

There was very great opposition by 35 medical doctors present, by the Board of Commissions [sic] of the Healing Art (allopathic), and by special representatives and attorneys of the American Medical Association and other allopathic forces.

Then after reproducing the alleged definition, this circular continues:

And as any Act of Congress is a SUPREME RULING above any contrary laws of the individual States,—this Act at once exempts any and all NATUROPATHIC PRACTITIONERS from the medical and legislative restrictions in the various States; giving Naturopaths freedom to practice Naturopathy in any and all its departments according to their professional schooling and training.

And thus this Act nullifies all such legislative enactments; for the Federal Laws—the Laws of the United States Government at Washington—ARE THE SUPREME LAWS OF THE LAND.

For so it is written in the Constitution,—“This Constitution, AND THE LAWS OF THE UNITED STATES WHICH SHALL BE MADE IN PURSUANCE THEREOF (this includes all Acts of Congress) [the circular states], . . . SHALL BE THE SUPREME LAW OF THE LAND; and the judges in every State shall be bound thereby,—ANYTHING IN THE CONSTITUTION OR LAWS OF ANY STATE TO THE CONTRARY NOTWITHSTANDING.”—Article Six, Clause Two.

Figure 1 reproduces this circular in full.

What are the facts about this congressional definition of naturopathy? During the Seventy-First Congress a bill was introduced to define naturopathy, H. R. 12169. This bill passed the House of Representatives on Feb. 7, 1931 but made no further legislative progress and died when the Seventy-First Congress adjourned. No other bill has since been introduced in Congress proposing to define naturopathy; hence there does not exist a congressional definition of naturopathy. The Healing Arts Practice Act for the District of Columbia was approved Feb. 27, 1929. This act did provide for a board of naturopathic examiners but did not undertake to define the practice. It authorized the Commission on Licensure to Practice the Healing Arts to formulate such a definition. The naturopaths were not satisfied with the definition formulated; that dissatisfaction led to the introduction of the bill in the Seventy-First Congress already mentioned. The definition that was formulated by the Commission on Licensure to Practice the Healing Arts, incidentally, does not correspond with the definition that the naturopaths have alleged was enacted by Congress.

If the naturopaths believe that Congress has already defined naturopathy and that entitles naturopaths to engage in practice in the several states, why are they so energetic in their efforts to obtain the enactment of state legislation? Recently a letter was written Nov. 9, 1940, on the letterhead of the National American Naturopathic Association, of Washington, D. C., which states that a federal Naturopathic Eclecticism Act has been drafted for presentation to Congress. This bill, among other things, apparently will create a "Naturopathic Eclectic Association of the United States of America." This letter was an appeal for funds. Other publicity emanating from the National American Naturopathic Association in the form of "Greetings for 1941 to the Members of the National Naturopathic Association from the Executive Committee" refers to this federal bill. Here are some interesting excerpts from this New Year's pronouncement:

Recently Dr. T. M. Schippell, Secretary of the National American Naturopathic Association, propounded certain questions to Mr. B. H. Schwarz (Corporation Counselor) and who is Treasurer of the United Brotherhood Tolerance Movement, an organization which has declared its readiness to cooperate with this Association toward the prosecution of the contemplated Bill. The questions propounded and their answers, are as follows:

Question No. 1. By passing a Federal Bill, known as THE NATUROPATHIC ECLECTICISM ACT, will that give one the right to legally practice in all the states and territories of the United States?

An Act of the 71 CONGRESS H. R. 12169 Passed February 7, 1931

The following definition of NATUROPATHY was passed by the United States Congress on February 7, 1931, without a dissenting vote.

There was very great opposition by 35 medical doctors present, by the Board of Commissions of the Healing Art (allopathic), and by special representatives and attorneys of the American Medical Association and other allopathic forces.

"Section 2. It is further enacted that 'NATUROPATHY,' as used in the aforesaid Act, approved February 27, 1929, heretofore shall comprehend, embrace, and be composed of the following acts, practices, and usages,—

"DIAGNOSIS, and PRACTICE of physiological and material sciences of healing as follows,—

"The physiological and mechanical sciences such as mechanotherapy, articular manipulation, corrective orthopedic gymnastics, neurotherapy, PSYCHO-THERAPY, hydrotherapy, and MINERAL BATHS, electrotherapy, thermotherapy, phototherapy, chromotherapy, vibratory, thermal, and DIETETICS WHICH SHALL INCLUDE THE USE OF FOODS OF SUCH BIOCHEMICAL TISSUE-BUILDING PROPERTIES AND CELL SALTS AS ARE FOUND IN THE NORMAL BODY; and the use of vegetal oils and dehydrated and pulverized fruits, flowers, seeds, herbs, roots, and vegetables uncompounded and in their natural state.

"Passed the House of Representatives February 7, 1931.

"Attest: Wm. Tyler Page, Clerk."

Thus all mineral baths of any and all natural elemental, tissue and cell chemicals and salts required for the health of the body organism, and for all its functions of health and wellbeing,—are authorized in usage as the legitimate right of each and every person in Naturopathic Practice, by a definite and specific Act of the United States Congress.

And as any Act of Congress is a SUPREME RULING above any contrary laws of the individual States,—this Act at once exempts any and all NATUROPATHIC PRACTITIONERS from the medical and legislative restrictions in the various States; giving Naturopaths freedom to practice Naturopathy in any and all its departments according to their professional schooling and training.

Therefore now and hereafter any graduate of any department of Naturopathy who according to his or her skill and training diagnoses sickness, disease and human ailments, and who treats the sick, diseased and suffering, and all varied human ailments and afflictions according to the methods and processes here defined; and who restores health and wellbeing by the processes and methods defined in this Act of the United States Congress,—ARE NOT PRACTICING MEDICINE OR SURGERY WITHOUT A LICENSE, as formerly asserted by the allopathic trust, and as specified by their various legislative enactments.

They are rightfully and legitimately practicing NATUROPATHY.—*Natural Medicine*. And thus this Act nullifies all such legislative enactments; for the Federal Laws—the Laws of the United States Government at Washington—ARE THE SUPREME LAWS OF THE LAND.

For so it is written in the Constitution,—“This Constitution, AND THE LAWS OF THE UNITED STATES WHICH SHALL BE MADE IN PURSUANCE THEREOF (this includes all Acts of Congress) . . . SHALL BE THE SUPREME LAW OF THE LAND; and the judges in every State shall be bound thereby,—ANYTHING IN THE CONSTITUTION OR LAWS OF ANY STATE TO THE CONTRARY NOTWITHSTANDING.”—Article Six, Clause Two.

Fig. 1.—Circular distributed in Indiana.

lish an independent examining and licensing board. That bill proposed to define naturopathy "according to the definition of naturopathy, enacted by the Congress of the United States of America and the District of Columbia." Prior to that year the American Naturopathic Association, Arizona District, which will be referred to in more detail later on, was incorporated in Arizona, an examining board of which claimed to be acting under the authority of the American Naturopathic Association and "by virtue of the definition of naturopathy as set forth in and by an Act of Congress approved February 27, 1929, and verified in and by an Act of Congress approved February 7, 1931, which Act defines naturopathy." In 1938 a group attempted to obtain corporate rights in Missouri, including the authority to establish naturopathic schools for the training of students in naturopathy "as defined by Congress under the provisions of House Bill No. 12169 passed and approved by the Seventy-First Congress of the United States in the year 1930." In 1939 a naturopathic bill in North Dakota proposed

Read before the joint meeting of the Council on Medical Education and Hospitals and the Federation of State Medical Boards of the United States at the Thirty-Seventh Annual Congress on Medical Education and Licensure, Feb. 18, 1941.

Answer No. 1. It is the opinion that if and when the Federal Bill known as the Naturopathic Eclecticism Act is passed, it should give the right to legally practice in all states and territories of the United States and that in the states where there may have been particular opposition to drugless practice, the mere passing of the Federal Act would be recognized in such states that proper legislation could then easily be presented or a ruling obtained from the Attorney General and the Secretary of State permitting practice therein.

Question No. 2. By the passage of such an Act, will it not be attempting to do away with the State rights?

Answer No. 2. When, as and if such Act is passed, it would not act as an abrogation of any State rights or laws, but would have a tendency to supercede them being a Federal Act, and since the medical profession, whether M.D.'s or drugless practitioners all use the mail in one way or another by billing their clients, etc., naturally, interstate law would become involved and the Federal Act or Bill would supercede any State right or opposition.

Thus naturopaths have repeatedly rested their cause in part on a nonexistent congressional definition of naturopathy. Furthermore, in many of the states incorporated naturopathic associations issue to members imposing looking certificates and require that these certificates be filed in the office of the clerk of the county in which the certificants reside.

ARIZONA

Some time prior to January 1933 the American Naturopathic Association, Arizona District, was incorporated in Arizona. It issued certificates to members containing this paragraph, among others:

This Certificate is conferred upon the member herein named as recognition of his legal rights as a citizen of the United States and of the State of Arizona to pursue the practice of naturopathy within the corporate powers of this Association (as is instanced by the recognition of such practice as already established within the terms of its Charter), and the same is issued by order of the said Association, whereunto is affixed the official signature of its President and Secretary and is validated with its seal thereof.

This certificate purports to be issued in recognition of the "legal rights" of the holder to pursue the practice of naturopathy.

A so-called Examining Board of Naturopathic Physicians, Arizona District, was created by the foregoing corporation and apparently the board was authorized to examine members and issue certificates certifying the holder to be "a Naturopathic Physician by virtue of having presented the necessary credentials and having successfully passed the required examinations as given by this board." One of these certificates was presented to the California Board of Medical Examiners in 1934 bearing the endorsement of a county recorder for a county in Arizona, such endorsement bearing witness to the fact that the certificate had been "duly recorded in Book No. 2 of Physician's License Records." The holder of this certificate stated that he understood that it entitled him to practice as a naturopathic physician in the state of Arizona. As a sequel to the activities of this association in Arizona, a naturopathic initiative measure was submitted to the people in 1934 containing this section: "All Naturopathic Physicians previously examined and holding certificates of qualification issued by the Examining Board of the American Naturopathic Association, Arizona District, Incorporated, and in good standing at the passage of this act shall be entitled to and shall receive a certificate designated as a Naturopathic Physicians License without further examination." In effect, the voters were asked to validate the certificates previously issued by this private association. While the initiative measure failed, the legislature in 1935 created an independent naturopathic examining and licensing board. This 1935 law provided that any person who had practiced naturopathy continuously in the state for at least five years was entitled to a license to practice naturopathy under the act after having passed an examination given by the board "covering the subjects it may assign for such examination." These prior practitioners apparently were not required to meet the same test that was to be required of other applicants. They were not required, for instance, to have graduated from any naturopathic school but were to be licensed solely on the basis of prior practice plus an examination in such subjects as the state board of naturopathic examiners designated.

CALIFORNIA

As early as 1904, an Association of Naturopaths of California was incorporated in that state, with a board of examiners authorized to examine all applicants for active membership and to issue to successful examinees "a diploma, conferring the degree of doctor of Naturopathy upon them." Figure 2 is a copy of one of the diplomas so issued, an imposing looking document bearing across its top in large old English type the words "The State Board of Examiners of the Naturopathic Physicians of California." The body of this diploma reads:

This Certifies that . . . has passed the required examination in all branches of Naturopathic Therapeutics and that The Board of Examiners here-with in consideration of the applicant's qualification and by the authority vested in us by the State of California confers upon . . . the degree of

DOCTOR OF NATUROPATHY

With all the privileges, rights and advantages thereunto belonging.

This diploma bears an important looking seal and is duly signed. While this document does not on its face purport to authorize holders to engage in the practice of naturopathy in California, apparently certain holders did so engage without bothering to obtain state licenses. In 1909 the legislature of

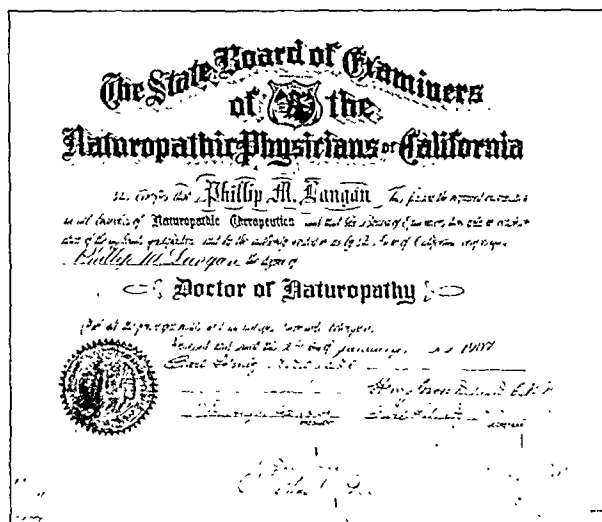


Fig. 2.—Diploma issued in California.

California was induced to amend the medical practice act to provide that:

Any person who holds an unrevoked certificate issued by the board of examiners of the Association of Naturopaths of California, incorporated under the laws of the State of California, August eighth, 1904, and who shall be practicing naturopathy prior to the passage of this act, shall be entitled to practice naturopathy in this state, the same as if it had been issued under this act. The board of medical examiners shall endorse said certificate at their first meeting after this act becomes a law, or at any subsequent meeting of the board, but not later than six months after the passage of his act by signature of its president and secretary and affixing its official seal. *Provided, however,* that the holder of such certificate has signed his or her name on the back of said certificate and the president and secretary of the Association of Naturopaths of California, have certified over their respective signatures that the holder of said certificate is the rightful owner of same.

The records of the California board of medical examiners indicate that some one hundred and three of these certificates, or diplomas, were duly endorsed under the law just mentioned. The photostatic copy of the naturopathic diploma exhibited previously bears the endorsement of the board of medical examiners as contemplated in the 1909 act. Advices received from California indicate that the naturopathic association is still issuing these diplomas.

NORTH DAKOTA

On April 13, 1939 there was filed with the secretary of state of North Dakota a copy of the "Constitution and By-Laws of the North Dakota Naturopathic Physicians, Inc., adopted July 17, 1938." Section 1, article II of the constitution stated that one of the purposes of the corporation was to define the practice

of naturopathy "in harmony with an Act of Congress passed in 1929." Another stated purpose of the corporation was "to certify the qualifications of its members and to register such certification in the county in which they practice." The by-laws provided for a Board of Naturopathic Examiners with authority to "issue to each member of the Corporation, whose qualifica-

as and wherever filed of record in the office of the Register of Deeds in said state to be cancelled of record, and restraining and enjoining the said defendants, and each of them, from examining applicants, from issuing certificates for the practice of naturopathy within said state, and from the practice of naturopathy in said state, and from practicing medicine in said state and treating human ailments professionally for a fee and from continuing their illegal and wrongful acts and conspiracy . . ."

I would like to pause long enough to pay tribute to the manner in which the general counsel for the North Dakota State Board of Medical Examiners has prosecuted this matter. Judge H. A. Bronson, in his capacity as general counsel, has wisely advised the board and has exhibited a fine appreciation of the dangers to the people of the state of North Dakota incident to the operation or to the functioning of the naturopathic corporation. He has been diligent in his research and has a comprehensive conception of the fundamental issues involved in the controversy.

TEXAS

In 1936 the Texas State Naturopathic Association was incorporated "to support and maintain a benevolent, charitable and educational undertaking, and to promote the teaching of the laws of nature and of health hygiene, and to maintain a college and library for such purposes." This corporation, however, issued what purported to be "licenses." One of such "licenses," bearing the number 521, was as follows:

TEXAS STATE NATUROPATHIC
ASSOCIATION, INC.

LICENSE

Be it Known That,

M. V. COBB

Having presented evidence of his good moral character, ethical conduct and professional training is hereby licensed as a professional member of this institution and authorized to teach and practice the natural laws of health and hygiene, usurping any and all legal rights granted our charter by the laws of the State of Texas and of the United States of America for a period of one year from date hereof.

This license is subject to annual renewal as may be evidenced by the official receipt for dies [sic] attached hereto.

December 1, 1936

(E. H. McGaba, N.D.)

(J. G. W. Shepard, N.D.)

(Max A. Vogel, N.D., Ph.D.)

(SEAL).

tions shall be satisfactory to the Board, a certificate of registration certifying that such member is qualified to practice Naturopathy in the state of North Dakota" and to "Require that all Certificates of Registration issued by the Board be recorded in the office of the Register of Deeds in the county wherein the practitioner resides." A charge of \$5 was provided for each certificate of registration and, the by-laws continued, on payment of the annual membership dues of \$10 by the member the board was to issue "a renewal receipt card which must be prominently displayed in connection with the Certificate of Registration in the office of the practitioner." The board of examiners was authorized to revoke certificates for specified causes, such as habitual drunkenness, procuring or aiding in a criminal abortion, failure to pay membership dues and deceptive advertising.

One of the certificates issued by this corporation read as follows:

BOARD OF NATUROPATHIC EXAMINERS
STATE OF NORTH DAKOTA

This is to certify that . . . having been duly examined and found qualified by the Board, as required by the Constitution and By-Laws of the North Dakota Naturopathic Physicians, a corporation legally organized and existing under the laws of the State of North Dakota, is hereby granted this certificate as a registered Naturopathic Physician, subject to the provisions of said Constitution and By-Laws.

Given under our hands the Board of Naturopathic Examiners, at Bismarck, North Dakota, this . . . day of September, 1938.

Affixed to the certificate are the names of the president, vice president and secretary of the board of naturopathic examiners and a seal of the North Dakota Naturopathic Physicians, Incorporated. This certificate bears evidence that it was recorded in the office of the register of deeds in a certain county in North Dakota. Figure 3 is a facsimile of one of these certificates.

A sequel to the activities of this corporation in North Dakota is to be found in a suit prosecuted successfully by the North Dakota State Board of Medical Examiners against the corporation and against certain individuals associated with its activities who were holding certificates issued by the corporation. The complaint in this case asked for the following relief, which was granted by the court:

WHEREFORE, the plaintiff prays for a judgment and a decree cancelling and terminating the charter of said corporation, ousting the members of said corporation from their position held out to the public as licentiate doctors or physicians and ordering their respective licenses and certificates

No. 521.

TEXAS STATE NATUROPATHIC
Association, Inc.

L I C E N S E

Be it Known That,

----- M. V. COBB -----

Having presented evidence of his good moral character, ethical conduct and professional training is hereby licensed as a professional member of this institution and authorized to teach and practice the natural laws of health and hygiene, usurping any and all legal rights granted our charter by the laws of the State of Texas and of the United States of America for a period of one year from date hereof.

This license is subject to annual renewal as may be evidenced by the official receipt for dies attached hereto.

December 1, 1936 (E. H. McGaba, N.D.
(J. G. W. Shepard, N.D.
(Max A. Vogel, N.D., Ph.D.

(S E A L).

Fig. 4.—"License" recorded in Bexar County, Texas.

This so-called license, reproduced in figure 4, was made a matter of record on the medical register of Bexar County, Texas. On this same medical register appears the following affidavit (fig. 5):

I, M. V. Cobb, do solemnly swear that I am practicing Naturopathy on authority of license certificate No. 521, issued to me by The Texas Naturopathic Assn. Inc., on the 1st day of December, A.D. 1936; that I

am 35 years of age; that I was born on the 26 day of February, A. D. 1901, in the County of and State of Massachusetts; that the degree, Doctor of Naturopathy, was conferred on me by the National College of Chicago and P. S. C. Chiropractor on the 1st day of July, A. D. 1926; that I belong to the Naturopathic school of practice; that my postoffice address is 2005 S. Hackberry St., San Antonio, Texas.

Signature M. V. Cobb
Subscribed and Sworn to before me this
5th day of December, A. D. 1936.

Signed Hart McCormick
District Clerk in and for Bexar
County, Texas.

by Max R. Simmang, Deputy

The original license certificate, No. 521, of which the above entry is a true copy, was filed for record at o'clock, 11:6 A. M., on the 5th day of Dec., A. D. 1936, and duly recorded by me at 11:6 o'clock A. M., on the 5th day of Dec., A. D. 1936.

Signed Hart McCormick
Clerk of District Court of Bexar
County, Texas.

by Max R. Simmang, Deputy

Fig. 5.—Affidavit.

The fact that this so-called license was numbered 521 may lead to the inference that 520 such "licenses" had previously been issued. Subsequently in a proceeding brought by the attorney general the district clerk of Bexar County was ordered to strike from the records the registration of these so-called naturopathic licenses. On two other occasions, this situation

has been involved in court cases in Texas. One C. L. Hawkins, one of the original trustees of the Texas State Naturopathic Association, was prosecuted for practicing medicine without a license and convicted. On appeal, he complained because the trial court had declined to permit him to offer in evidence the charter of the Texas State Naturopathic Association. The appellate court, in affirming the conviction, was unable to understand on what theory this document might have been admissible in evidence. A charter granted to an association by the secretary of state, the court observed, would not authorize any one to engage in the practice of medicine without having complied with the medical practice act, nor would it relieve any one from prosecution for a violation of that act. (*Hawkins v. State*, 125 S. W. (2d) 580.) The other case involved one Max A. Vogel, listed as second vice president of the Texas State Naturopathic Association in its charter, and one of the signers of the so-called license issued to Cobb. Vogel was convicted of practicing medicine without a license and appealed. Vogel objected to the fact that in the argument to the jury the district attorney stated that he, Vogel, should have known that he was required to have a license to practice medicine, as many members of the Texas State Naturopathic Association had registered certificates which had been eliminated from the records in a court proceeding brought by the attorney general. Vogel's registration, incidentally, was one of those eliminated. The Appellate court, however, could see no merit whatever in Vogel's objection and the conviction was upheld. (*Vogel v. State*, 137 S. W. (2d) 1043.) Whether action has been taken in any counties of Texas, other than Bexar County, looking toward the striking from the records of the registration of the so-called naturopathic licenses, is not known. It is understood that action by the attorney general of Texas has been taken against the association.

VIRGINIA

By singling out Arizona, California, North Dakota and Texas, I do not mean to leave the inference that comparable situations may not exist in other states. On the contrary, there is evidence that they do. In recent correspondence with the Virginia State Board of Medical Examiners it developed that two naturopaths had been arrested for violations of the medical practice act and in each case the defendant possessed a certificate issued by an unofficial board of naturopathic examiners. Each certificate had been recorded in a county clerk's office. One such certificate was recorded in the medical register of the circuit court of Roanoke County.

The facts here presented should act as a stimulus for investigations by the medical examining boards of other states. Medical licensure is a function that belongs to the duly constituted boards, not to these private associations.

535 North Dearborn Street.

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Change in Status.—S. 165 has been reported to the Senate, providing for continuing in the service of the Army, Navy, Marine Corps and Coast Guard of the United States, beyond the term of their enlistment, those suffering from service connected disease or injury and in need of medical care or hospitalization.

Bills Introduced.—H. R. 3851, introduced, by request, by Representative Rankin, Mississippi, proposes to amend veterans' regulations so as to provide that a chronic disease, including nontuberculous respiratory diseases of the chest, becoming manifest to a degree of 10 per cent or more within one year from the date of separation from active service, shall be considered to have been incurred in or aggravated by service. H. R. 4278, introduced by Representative Coffee, Washington, proposes to impose a tax on income derived by nonprofit organizations from dividends as a result of ownership by such organizations of substantial or practical voting control of private corporations

for profit. H. R. 4293, introduced, by request, by Representative May, Kentucky, provides that any person, whether or not in the employ of the United States, who shall furnish blood from his or her veins for transfusion into the veins of a person who is entitled to and is undergoing treatment at government expense, whether in a federal hospital or institution or in a civilian hospital or institution, or who shall furnish blood for blood banks or for other scientific and research purposes, shall be entitled to be paid therefor such reasonable sum, not to exceed the sum of \$50, for each blood withdrawal as may be determined by the head of the department or independent agency concerned.

DISTRICT OF COLUMBIA

Change in Status.—H. R. 4057 has been reported to the House, authorizing the Federal Security Administrator to accept gifts for the Freedmen's Hospital and to provide for the administration of such gifts.

STATE MEDICAL LEGISLATION

California

Bill Introduced.—A. 1670, as amended in the assembly March 26 and March 28, proposes, among other things, so to amend the pharmacy practice act as to prohibit the retail sale and distribution of the following drugs except on the written prescription of a physician and surgeon, dentist or veterinarian surgeon: acetylureas, allylisopropylacetylurea, bromidiethylacetylurea, bromisovalerylurea, paraldehyde, sulfonmethanes, sulfonmethane, sulfonethylmethane, or chemically related central nervous system depressants, or compounds or mixtures thereof; aminophenylpyrazolones, amidopyrine, or compounds or mixtures thereof; phenylcinchoninic acids and esters, cinchophen, neocinchophen, or compounds or mixtures thereof; sobisminol, sulfanilamide, sulfapyridine, sulfathiazole, or chemically related chemotherapeutic agents, or compounds or mixtures thereof; phenylethylamines, amphetamine, or chemically related central nervous system stimulants, or compounds or mixtures thereof, except for external use as by inhalation, spray or wash; phenylhydantoins, phenylethylhydantoin, diphenylhydantoin, or chemically related central nervous system depressants, or compounds or mixtures thereof; thyroid, its physiologically active compounds or derived mixtures, or chemically and physiologically related agents, or compounds or mixtures thereof.

Connecticut

Bills Introduced.—H. 1969 and Substitute for S. 519, to amend the osteopathic practice act, propose that a licensed osteopath who, "upon the submission of proper credentials or by examination, satisfies said board [the osteopathic board] that he has received sufficient instruction and training, shall have the right to administer and prescribe anesthetics, antiseptics, sedatives and narcotics and biological products, and to perform such diagnostic procedures as are taught in approved schools of osteopathy."

Maine

Bill Introduced.—S. 482, to amend the chiropractic practice act, proposes (1) to require chiropractors, as a condition precedent to the annual renewal of their licenses, to furnish the chiropractic board satisfactory evidence that in the preceding year they have attended one of two educational programs conducted and supervised by the chiropractic board and (2) to define chiropractic as "the science of palpating and adjusting the segments and articulations of the human spinal column by hand and locating and correcting interference with nerve transmission and expression, without the use of drugs or surgery."

Massachusetts

Bills Introduced.—S. 624, to amend the workmen's compensation act, proposes that the term "personal injury" as used therein "includes infectious or contagious diseases if the nature of the employment is such that the hazard of contracting such diseases in any manner by an employee is inherent in the employment." H. 1838 proposes to authorize the formation of nonprofit medical service corporations to operate medical service plans whereby the corporation will pay on behalf of a subscriber thereto for such necessary medical services as may be rendered to the subscriber by the members of any medical organization with whom the corporation has a contract covering such services.

Michigan

Bills Introduced.—S. 271, to amend the chiropractic practice act, proposes to condition the annual renewal of a license on presentation of proof by the licensee that in the preceding year he has attended not less than one two-day educational conference conducted by the state chiropractic society or that he has attended an equivalent educational conference. S. 272, to amend the pharmacy practice act, proposes, among other things, to prohibit the retail sale or distribution of barbitol and other hypnotic or somnifacient drugs except on the prescription of a licensed physician, dentist or veterinarian "or other medical practitioner licensed to write such order." The bill further

provides in this connection that duly licensed physicians, dentists or veterinarians may dispense any of the drugs mentioned to their patients "when such are under their immediate supervision and when in their judgment they deem it advisable," provided the dispensing practitioner shall keep a record of the date, the drug dispensed, the quantity thereof, and the name and address of the patient. H. Res. 48 proposes to request the Michigan social welfare commission to investigate the operation of contract medical programs being financed in part by state funds, and to report within thirty days concerning the total cost of medical aid to indigents, the amount of state funds expended, a medical audit of individual cases, a statement of the administrative organization in each county operating on a contract basis, and an itemized statement of administrative costs paid from public funds.

Minnesota

Bills Introduced.—H. 1365, to amend the law granting to a hospital treating a person injured through the negligence of another a lien on all rights of action, judgments, settlements or compromises accruing to the injured person because of his injuries, proposes to grant this lien also to nurses, dentists and physicians attending such individuals. H. 1427 proposes to prohibit the operation of a hospital, sanatorium, rest home, nursing home or other institution for the hospitalization and/or care of human beings without first being licensed so to do by the state department of health. H. 1346 proposes to condition the issuance of a license to marry on the presentation by each party to the proposed marriage of a physician's certificate that not more than thirty days prior to the date of the application for the license the party was given an examination for the discovery of syphilis and other venereal diseases, including a serologic test made by the state board of health laboratory and a physical examination by the physician, and that in the opinion of the physician the party does not have syphilis or another venereal disease in a communicable form.

Missouri

Bills Introduced.—H. 495 proposes, in effect, that when the words "physician" and "surgeon," including the derivatives and contractions of either said words, are used in any Missouri statute, unless the context is clearly to the contrary, they are to be construed as a legislative intent to include the practitioners of any school of medicine recognized by the laws of the state, including osteopaths, "as being endowed with definite privileges, rights and duties, as follows: To practice as doctors their respective arts of healing by giving physical examinations and by prescribing remedies and treating diseases of the human mind and body, according to the course of study and training as taught under the curriculum of their respective accredited schools, and thereby endeavor to alleviate diseases and pain of any patient, including the privilege, right and duty to practice their respective healing arts in all hospitals or institutions built or maintained by revenue derived from public taxes: To practice as doctors their respective healing arts by rendering public health, public safety, and public sanitation services and public precautionary measures sanctioned by any Act of Congress or sanctioned by any Missouri Statute." H. 519 proposes to enact a separate massage practice act and to authorize the state board of health to examine and license masseurs. A licensed masseur, apparently, will be authorized to give "Swedish, Reducing and Orthopedic massages; Hydro and electrotherapy and muscle toning, or similar work upon the body of any person by the external application by hand or mechanical devices or appliances of manipulating, stroking, kneading, vibrating, frictioning and tapping the tissues of the human body, complete in all its parts, for the promotion of circulation and physiological stimulation of the system, using in connection therewith the oils, lotions, creams, etc., as required for proper lubrication."

Ohio

Bill Introduced.—H. 655, to amend the medical practice act, proposes "that the practice of spiritual healing as an integral part of the mode of worship of an established religious denomination shall not be regarded as the practice of medicine."

Oklahoma

Bill Introduced.—H. 408 proposes to enact a separate physiotherapy practice act and to create an independent board of physiotherapy examiners to examine and license applicants for licenses to practice physiotherapy.

Pennsylvania

Bills Introduced.—H. Res. 63 proposes to "request the Secretary of Public Assistance equitably to revise the determinants guiding the prorating of fees payable to physicians attending recipients of assistance as well as expedite the payments of amounts now due to such physicians." S. 393 and H. 991, to amend the workmen's compensation act, proposes that a physician who has furnished care or treatment for which an employer is liable under the act shall be deemed a party in interest and shall have the right, with the consent of the injured employee to present a claim for remuneration for such services and care and have the same heard and determined and to enforce any award made in his favor. H. 956 proposes to create a Medical Specialist Board in the Department of Public Instruction to examine and license licensed physicians of the "Allopathic or Homeopathic medical profession" to practice in a special or particular branch of medicine or surgery as a specialist. The bill proposes to make it unlawful for any such physicians "to pretend knowledge of a special or particular branch of medicine or surgery or to hold himself out to the public as a specialist in any particular branch or division of medicine or surgery" without being licensed by the Medical Specialist Board.

Rhode Island

Bill Introduced.—H. 930 proposes to enact a separate naturopathic practice act and to create an independent board of naturopathic examiners. The bill proposes that applicants for licenses to practice naturopathy need not comply with the requirements of the basic science act of 1940. The bill proposes to define naturopathy as "a science dealing with the diagnosis and treatment of disease through natural therapeutics. It shall embrace and include physiological, anatomical and dietetic sciences, such as physiotherapy, dietetics and the use of herbs, barks and roots, including foods and fruits, powdered and dehydrated, and such other methods of treatment as are taught in the various recognized and standard schools of naturopathy, except the practice of major surgery and the prescription of poisonous drugs."

South Carolina

Bill Introduced.—S. 412, to supplement the naturopathic practice act, proposes, among other things, (1) that the use and practice of phytotherapy, minor surgery, obstetrics and gynecology, autotherapy and biologicals shall be made a part of and be included in the practice of naturopathy; (2) to require applicants for licenses to practice naturopathy to be graduates of "a regular four years high school course and one year pre-medical course" and (3) to give to the naturopathic licentiate the authority to sign birth, death and health certificates and to be accorded the use of the state biologic and chemical laboratories.

OFFICIAL NOTES

RADIO BROADCASTS

"Doctors at Work" is the title of the sixth annual series of dramatized radio programs being presented by the American Medical Association and the National Broadcasting Company.

Tickets are available for each broadcast. Address the Bureau of Health Education, American Medical Association, 535 North Dearborn Street, Chicago. Tickets are free, but a stamped self-addressed envelop should accompany requests.

The next three programs to be broadcast, together with their dates and titles, are as follows:

April 16. Health on the Wing.
April 23. The Big Red Schoolhouse.
April 30. Baby's Birthright.¹

The program is scheduled over the Blue network of the National Broadcasting Company Wednesdays at 10:30 p. m. eastern standard time (9:30 central, 8:30 mountain, 7:30 Pacific time).

WOMAN'S AUXILIARY

Indiana

The auxiliary to the Allen County Medical Society met in January at the Irene Byron Sanatorium. Mrs. R. W. Terrill spoke on "What M-Day Means to Me as a Civilian," and Dr. Juan Rodriguez on "What M-Day Means to Me as a Physician." At a recent meeting in Fort Wayne Dr. D. F. Cameron spoke on "Taxpayers' Money and Medical Care."

The Elkhart County auxiliary was organized May 8, 1940 with twenty-three physicians' wives present. At the meeting in October in Elkhart Miss Riley Barton, superintendent of the Elkhart General Hospital, suggested that the group adopt as a project the supplying of certain hospital equipment. At a meeting in November Mrs. Robert Bender talked on "Spice from Life in India." Officers of the auxiliary are: president, Mrs. L. A. Elliott; president-elect, Mrs. D. D. Todd, and first vice president, Mrs. J. A. Work, all of Elkhart.

Recently the Howard County auxiliary gave a public relations tea in Kokomo following a program on cancer control. Mrs. Jesse S. Spangler, public relations chairman of the auxiliary, was in charge. Dr. Chester A. Stayton, Indianapolis, was the principal speaker.

The auxiliary to the Marion County Medical Society met recently at the Hillcrest Country Club of Indianapolis, with 105 members present. At a second meeting, at the Methodist Hospital Nurses' Home in Indianapolis, sixty-five members heard Miss Anna Hasselman of the John Herron Art Museum speak on "Castles in England."

Wisconsin

A newly organized auxiliary to the Ashland-Bayfield-Iron County Medical Society has brought the membership in Wisconsin to a total of twenty-seven county organizations. Mrs. D. F. Gosin and Mrs. E. S. Schmidt, Green Bay, president and organization chairman of the state auxiliary respectively, met recently with the new group. The twelve wives of physicians present from the cities of Ashland, Washburn, Bayfield and Montclair elected the following officers: president, Mrs. A. C. Taylor of Washburn; president-elect, Mrs. J. K. Shumate of Bayfield; vice president, Mrs. A. D. Andrus of Ashland, and secretary-treasurer, Mrs. J. W. Prentice of Ashland.

The Milwaukee County auxiliary had a Hygeia exhibit at the convention of the Wisconsin Hairdresser's Association in Milwaukee; Mrs. Maurice Hardgrave, county Hygeia chairman, and Mrs. G. H. Friedman, state chairman, were in charge. One hundred and fifty members attended the December meeting. Mrs. C. D. Partridge is president.

The Manitowoc County auxiliary made forty-nine babies' nightgowns for the Red Cross at their December meeting. Eighteen members of the Outagamie County auxiliary met in Appleton, Nov. 14, 1941, and discussed their annual Lecture and Tea, to which the public is invited to hear speakers on socialized medicine. These programs have been presented for the last three years. Mrs. Milo E. Swanton of Appleton is president.

1. This program will be broadcast at 10:30 eastern daylight saving (9:30 eastern standard time, 9:30 Chicago daylight saving time, 8:30 central standard, 7:30 mountain standard, 6:30 Pacific standard time).

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ARIZONA

State Medical Meeting in Phoenix.—The fiftieth annual meeting of the Arizona State Medical Association will be held at the Hotel Westward Ho, Phoenix, April 16-19, under the presidency of Dr. Delamere F. Harbridge, Phoenix. The Maricopa County Medical Society will be host. Guest speakers will include:

- Dr. Fred H. Albee, New York, The Biophysiological Considerations in the Treatment of Ununited Fractures.
- Dr. Harlan Shoemaker, Los Angeles, Sarcoma of the Pancreas.
- Dr. Henry F. Helmholz, Rochester, Minn., Blood Dyscrasias in Childhood.
- Dr. Clarence L. Robbins, New Haven, Conn., Edema, Its Differentiation and Treatment.
- Dr. Chevalier L. Jackson, Philadelphia, The Role of Bronchoscopy in the Diagnosis and Treatment of Bronchopulmonary Disease.
- Dr. John S. Lundy, Rochester, Minn., Supportive Measures Including Transfusion of Blood and Plasma, Parenteral Solutions and Stimulants.
- Dr. Morris Fishbein, Editor of THE JOURNAL, Chicago, American Medicine Prepares.
- Nathan Sinai, Dr.P.H., New York, Public Health.
- Herbert L. Stahnke, Ph.D., Mesa, The Venomous Nature of Some Arthropods of Arizona.

There will be round table discussions Thursday and Friday, and Saturday morning will be given over to a symposium on industrial practice in Arizona. An innovation this year is the opening of certain sessions to the public. Entertainment will include golf and bowling tournaments and scenic tours.

ARKANSAS

State Medical Meeting in Little Rock.—The sixty-sixth annual session of the Arkansas Medical Society will be held at the Marion Hotel in Little Rock, April 14-16, under the presidency of Dr. Henry T. Smith, McGehee. A feature this year will be a public meeting in the Robinson Memorial Auditorium and speakers will include Dr. Nathan B. Van Etten, New York, President of the American Medical Association, on "American Health as Related to National Defense." Included on the program will be the following:

- Dr. Kenneth Phillips, Miami, Fla., A Résumé of Fever Therapy in the Management of Syphilis.
- Dr. Frank M. Acree, Greenville, Miss., A Vaccine for Epidemic Influenza: A Preliminary Report.
- Dr. Daniel L. Sexton, St. Louis, Endocrinology in General Practice.
- Dr. William E. Sauer, St. Louis, Cancer of the Larynx.
- Dr. Orval R. Withers, Kansas City, Bronchial Asthma: Clinical Types and Treatment.

CALIFORNIA

Changes in State Board.—Dr. Karl C. Gummess, Los Angeles, has been appointed a member of the state board of medical examiners, succeeding Dr. William H. Geistweit Jr., San Diego, whose term expired. Dr. Frederick N. Scatena, Sacramento, has been named a member of the board for a term ending Jan. 15, 1945, succeeding Dr. Charles E. Schoff, Sacramento, resigned.

Society News.—Dr. Charles Posner, Pasadena, among others, addressed the Los Angeles Society of Neurology and Psychiatry, February 19, on "Observations on the Effect of Testosterone Propionate on a Pituitary Tumor."—The speakers before the Los Angeles Society of Ophthalmology and Otolaryngology, February 24, were Drs. Carroll L. Weeks and Alfred R. Robbins on "Implantation Cyst of Conjunctiva" and "Surgical Procedure in Spastic Entropion," respectively.—The Trudeau Society of Los Angeles was addressed, February 25, among others, by Dr. John W. Kime, Fort Dodge, Iowa, on "Gold Therapy in Pulmonary Tuberculosis."—Dr. Bruce H. Douglas, Detroit, discussed "Tuberculosis in General Practice" before the Alameda County Medical Association, February 17, under the auspices of the Alameda County Tuberculosis and Health Association, Oakland.

ILLINOIS

Society News.—The Rock Island County Medical Society recently bought a sterling silver plaque on which will be inscribed all the names of its deceased members. Arrangements are being made to present the plaque formally to the society at the second Founders' Day banquet in November.

Meeting of Bacteriologists.—The Society of Illinois Bacteriologists will hold its spring meeting in Chicago, April 25, in the Board of Trade Building. Mr. Ralph E. Noble of the Chicago health department will speak on "Testing Water for the California Group" and Reuben L. Kahn, Sc.D., Ann Arbor, Mich., "Recent Observations in the Serology of Syphilis."

Cooperative Poliomyelitis Program.—Splints and convalescent serum for persons having infantile paralysis are to be made available throughout Illinois this summer, without cost, through a joint program of the state departments of public health and welfare, it is announced. The plan calls for the continued collection of convalescent serum from recently recovered adults, the provision of splints in the office of each of the state's twenty-one district health units, the development of special medical consultants in each section of the state and the opportunity for every county medical society to have a program on infantile paralysis with speakers from the state department of health. Cooperating are the state commission for handicapped children, the Illinois State Medical Society, the Samuel Deutsch Serum Center of Michael Reese Hospital, Chicago, and the Works Progress Administration.

Chicago

Meeting of Academy of Sciences.—Dr. Andrew C. Ivy, Nathan Smith Davis professor of physiology and professor of pharmacology, Northwestern University Medical School, will address the annual meeting of the Chicago Academy of Sciences Monday evening, April 14, in the academy auditorium. His subject will be "The Gastrointestinal Hormones and Their Uses." The public is invited.

LOUISIANA

Personal.—Dr. Oliver P. Daly, Lafayette, assumed his duties as superintendent of Charity Hospital, New Orleans, in accordance with an executive order placing the hospital under the jurisdiction of the state department of institutions, newspapers reported on March 2. Dr. Daly has been superintendent of Charity Hospital in Lafayette.—Dr. Horace Whitney Boggs, Shreveport, has been appointed superintendent of the Louisiana State Colony and Training School, Alexandria.—Dr. Charles Walter Mattingly, New Orleans, has been appointed a member of the state nurses board of examiners, succeeding Dr. Marion H. Foster, Alexandria.

New Director of Health of New Orleans.—Dr. John M. Whitney, Jennings, has been appointed director of the New Orleans department of health, succeeding Dr. James M. Batchelor, who will remain as a member of the board and consultant to Dr. Whitney. The new appointment was made on the recommendation of Dr. Charles L. Williams, medical director for Southern states, U. S. Public Health Service, who conducted a survey of the city's health problems at the mayor's request. The appointment of Dr. Whitney is the initial step in a reorganization of the city department of health. Expanded activities of the department will include added public health services to the school children of New Orleans, also recommended by Dr. Williams.

MASSACHUSETTS

Extension Courses.—Postgraduate extension courses are being conducted throughout the state by the Massachusetts Medical Society in cooperation with the state department of public health, the U. S. Public Health Service and the U. S. Children's Bureau. The eight week courses are being given in each of the following districts, once a week: Berkshire, Bristol South, Franklin, Hampden, Hampshire, Worcester and Worcester North.

Professors Emeritus at Harvard.—Dr. William C. Quinby has been appointed clinical professor of genitourinary surgery, emeritus, and Dr. Irving J. Walker clinical professor of surgery, emeritus, on the faculty of Harvard Medical School, Boston, effective September 1. Dr. Quinby graduated at the medical school in 1902. He has been clinical professor since 1926. Dr. Walker, who graduated at Harvard in 1907, has been clinical professor since 1928.

Society News.—Dr. Ernst P. Boas, New York, discussed "Factors That May Induce Cardiac Infarction" before the Greater Boston Medical Society, March 4.—A symposium on the management of some of the complications arising from acute and chronic otitis media was presented before the New England Oto-Laryngological Society in Boston March 19, with discussion by Drs. Harold G. Tobey, Charles T. Porter, Maxwell Finland, Champ Lyons, William Jason Mixer and Charles S. Kubik. All are from Boston.

MINNESOTA

Course in Surgical Pathology.—The department of pathology, University of Minnesota Medical School, Minneapolis, is offering a course in surgical pathology, June 16-July 25. In reporting on a similar course presented last year, Dr. James S. McCartney, who is in charge, stated that eighteen students attended, two from Kentucky, one from Texas, one from Virginia, and the rest from the section of the country near Minnesota. Because of experience gained from the work in 1940, the number of hours for the course has been increased from ninety to one hundred and twenty.

Dermatologic Society Observes Anniversary.—The Minnesota Dermatological Society marked its twenty-fifth anniversary, February 22, with a clinic at the University Hospitals, Minneapolis, and a dinner at the Minneapolis Club. Members of the Chicago Dermatological Society were guests. Special guests at the anniversary meeting included the following founders of the society: Drs. John Butler, Samuel E. Sweitzer and Clifton A. Boreen, Minneapolis, and Charles D. Freeman, John M. Armstrong and Henry N. Klein, St. Paul. Speakers included Dr. Sweitzer, who discussed the history of the organization, and Dr. Maurice Oppenheim, formerly of Vienna and now of Chicago, the old Vienna clinics. The Minnesota Dermatological Society, composed of physicians from St. Paul, Minneapolis, Duluth and Rochester, conducts monthly clinical sessions and one special meeting during the summer in Rochester, Duluth or Winnipeg.

NEW JERSEY

Society News.—Dr. William H. Schmidt, Philadelphia, addressed the Essex County Medical Society, Newark, March 13, on "Use of High Frequency Current in Medicine and Surgery."—Lieut. Col. Arthur P. Hitchens, M. C., U. S. Army, Philadelphia, addressed a combined meeting of the Cape May and Atlantic county medical societies in Atlantic City recently on "The Medical Profession and the Present Mobilization." Dr. David W. Kramer, Philadelphia, was the speaker before the Atlantic County society, March 14, on "Gangrene: Diagnosis, Prevention and Management."—Speakers who addressed the Bergen County Medical Society, Hackensack, March 11, were Drs. William P. Thompson on "Clinical Applications of Recent Advances in Laboratory Methods"; Edward B. Self, "Blood Studies as a Guide to Fluid Therapy," and Russel J. Fobinder, Ph.D., "Interesting Facts Concerning the Blood Sulfathiazole." All are of New York.—The Academy of Medicine of Northern New Jersey celebrated its thirtieth anniversary at a meeting in Newark, March 20, with Dr. Hugh H. Young, Baltimore, as the guest speaker. Dr. Charles M. Robbins, Newark, president of the organization, related its history.

NEW YORK

Maternal Welfare Institute.—A regional institute on maternal welfare was held in Syracuse, April 3, at the Syracuse University College of Medicine, under the auspices of the maternal welfare committees of Cayuga, Cortland, Madison, Oneida and Onondaga county medical societies and of the state medical society; the Obstetric Society of Syracuse Hospitals; the division of maternity, infancy and child hygiene of the state health department, and the medical college. The speakers were:

- Dr. Charles A. Gordon, Brooklyn, Demonstration of a Maternal Welfare Conference Procedure.
- Dr. Merton C. Hatch, Syracuse, Management of Occiput Posterior Position.
- Dr. Jess Thornton Wallace, Jackson Heights, Bleeding in the First Trimester of Pregnancy.
- Dr. Stuart B. Blakely, Binghamton, Management of the Early Toxemias and the Late Mild Toxemias of Pregnancy.
- Dr. Eliot Bishop, Brooklyn, Degenerative Changes of Pregnancy.

At a dinner meeting Dr. William E. Studdiford Jr., New York, spoke on "Chemotherapy of Postpartum and Postabortal Hemolytic Streptococcal Infections."

New York City

Session on Pulmonary Diseases.—A symposium on "Newer Surgical Procedures in the Treatment of Pulmonary Tuberculosis" will be presented at a meeting of the clinical section on chronic pulmonary diseases of the New York Tuberculosis and Health Association under the auspices of the Tuberculosis Sanatorium Conference of Metropolitan New York, April 16, at Cornell University Medical College. The speakers will be Drs. Louis R. Davidson on "The Monaldi Operation" and Herbert C. Maier, "Bronchospirrometry in the Surgical Treatment of Chronic Pulmonary Disease."

Foreign Language Societies.—The International Medical Club of New York in cooperation with the French Medical Society, the Hispano-American Medical Society, the Hungarian American Medical Association, the Italian Medical Society, the Rudolph Virchow Medical Society and the Russian Medical Society held a meeting at the New York Polyclinic Medical School and Hospital, March 5. Dr. Foster Kennedy gave an address on "Contributions of Foreign Graduates to American Medicine" and Dr. Alfred M. Hellman, president of the Medical Society of the County of New York, spoke informally.

Tilney Memorial Fellowship Awarded.—Dr. Lewis Thomas has received the first research fellowship in neurology awarded by the Frederick Tilney Memorial. Dr. Thomas will begin his work in the field of infectious diseases of the central nervous system at the Thorndike Memorial Laboratory and the Boston City Hospital, remaining in Boston until June 1942, after which he will continue at the Neurological Institute in New York. The Tilney Memorial was established in 1940 in honor of Dr. Frederick Tilney, professor of neurology and neuroanatomy at Columbia University College of Physicians and Surgeons for many years, who died Aug. 7, 1938. Dr. Thomas graduated from Harvard Medical School, Boston, in 1937.

NORTH CAROLINA

New Medical School.—Dr. Nathan B. Van Etten, New York, President of the American Medical Association, will be guest speaker when the cornerstone is laid for the new Bowman Gray School of Medicine of Wake Forest College, April 16, in Winston-Salem. Other speakers will include Drs. W. Reece Berryhill, dean, University of North Carolina School of Medicine, Chapel Hill; Wilburt C. Davison, dean, Duke University School of Medicine, Durham; Wingate M. Johnson, Winston-Salem, president of the board of trustees, and Thurman D. Kitchin, president of the college. John R. Cunningham, D.D., president of Davidson College, Davidson, will give an invocation, and Mrs. Bess Gray Plumly, sister of the late Bowman Gray, whose gift made possible the new school, will lay the cornerstone. Dr. Van Etten will make another address at a banquet in the evening at the Robert E. Lee Hotel. In the afternoon the Eighth District Medical Society will hold a scientific meeting in the medical school building.

OHIO

Annual Postgraduate Day in Youngstown.—Members of the faculty of the University of Wisconsin Medical School, Madison, will be the lecturers at the annual Postgraduate Day to be presented by the Mahoning County Medical Society in Youngstown, April 30. The speakers, who will give two addresses each, are:

- Dr. William S. Middleton, Bronchiogenic Carcinoma: A Challenge in Diagnosis and Treatment; Rationalized Therapeutic Experiences.
- Dr. Joseph W. Gale, Empyema; Thoracic Surgical Problems.
- Dr. Elmer L. Sevringhaus, Endocrine Therapy in General Practice; Diagnosis and Therapeutic Problems of the Climatacteric.
- Dr. Ralph M. Waters, Morbidity Accompanying the Therapy of Pain; The Service of Anesthesiology in the Modern Hospital.

NYA Health Program Adopted.—The council of the Ohio State Medical Association at a meeting February 16 approved cooperation with the National Youth Administration to carry on its health program in Ohio and adopted a statement of policy for the guidance of county medical societies in the program. Objectives of the health program are, briefly, a health examination for every youth assigned to the NYA work program, correction of health defects and improved technical advice and assistance for NYA efforts having a bearing on health. An appropriation of approximately \$120,000 has been allocated for the work in Ohio. Mr. M. L. Dawson, formerly chairman of the department of physical education at Antioch College, Yellow Springs, is state supervisor of the program and Dr. Carl A. Wilzbach, health commissioner of Cincinnati, has been appointed state health consultant. The state health department also is cooperating. Initial efforts will be directed toward the physical examinations, it was said. In its statement of principles the council urged that health programs be worked out in each county between the NYA and the county medical society, being adapted to local conditions. It was suggested that an organized follow-up program for correction of defects found in the physical examinations be deferred pending further conferences. Defects and deficiencies should be pointed out, however, and the youths should be encouraged to obtain medical attention through local facilities, the statement said. Reimbursement of the physicians who make the physical examinations is to be worked out jointly by the NYA and the medical society in each county, as is the plan of conducting the examinations.

PENNSYLVANIA

Society News.—Dr. Joseph F. Hughes, Philadelphia, addressed the Dauphin County Medical Society, Harrisburg, April 1, on "Etiology and Treatment of Convulsive States." —Drs. Walter E. Lee, Jonathan E. Rhoads and William A. Wolff, Ph.D., Philadelphia, will address the Harrisburg Academy of Medicine, April 15, on "Burns: A New Concept and Treatment."

Philadelphia

University to Have Electron Microscope.—Plans to acquire an electron microscope for the Eldridge R. Johnson Foundation for Medical Physics were recently announced by the University of Pennsylvania. A grant from the American Philosophical Society has made possible the purchase of the instrument, which will be installed in the quarters of the foundation in the Maloney Clinic Building, probably by June. Members of the faculty who have been studying the virus of influenza by means of the electron microscope in cooperation with the R. C. A. Research Laboratories in Camden, N. J., will extend this line of investigation.

WISCONSIN

The William Snow Miller Lecture.—Dr. John H. Skavlem, Cincinnati, presented the fourteenth annual William Snow Miller Lecture of Phi Beta Pi at the University of Wisconsin Medical School, Madison, March 13. His subject was "Lest We Forget: The Importance of Dr. Miller's Anatomical Contributions in Clinical Diseases of the Chest."

State Society Spring Clinics.—The council on scientific work of the State Medical Society of Wisconsin has arranged the annual spring clinics to be presented in five centers: Ashland, April 28; Marshfield, April 29; Green Bay, April 30; West Bend, May 1, and Janesville, May 2. The speakers will be:

- Dr. Edgar S. Gordon, Madison, Debunking Vitamins; Acceptable Endocrines.
- Dr. Charles F. McKhann, Ann Arbor, Mich., Diagnosis and Management of Physical and Mental Defects of Childhood; Nutritional Feeding Problems.
- Dr. Eben J. Carey, Milwaukee, The Female Pelvis; The Rectum.
- Dr. Everett D. Plass, Iowa City, Prevention of Accidents in Pregnancy; Obstetrical Emergencies.
- Dr. Albert H. Montgomery, Chicago, Value of Chemotherapy in Everyday Surgery; Diagnosis and Treatment of Hemorrhoids and Early Diagnosis of Malignancies of the Lower Bowel.

Plans are announced for dinner round table discussions with the guest speakers present to answer questions. Dr. Carey will be the general chairman and correlator of each meeting.

HAWAII

Health Activities in Hawaii.—The report of the board of health of the territory of Hawaii for the fiscal year 1940 shows the lowest death rate ever recorded for the islands, 7.18 per thousand of population. There were 3,025 deaths in a population of 423,332. The leading causes were heart disease, cancer, congenital malformation and diseases, tuberculosis and nephritis. The infant and mortality rates of 48.19 and 3.04 per thousand live births also set records. Pneumonia dropped from the second to the eighth leading cause of death, a change attributed in part to the use of serum and sulfapyridine, which the board distributed free to physicians for the medically indigent. The birth rate was 22.62 as compared with 21.79 in 1939. An outbreak of infantile paralysis occurred during the year, with 101 cases and ten deaths, an all-time record for the islands, the report said. The death rate from tuberculosis, a major problem in the territory, was 63.2 per hundred thousand of population, the lowest on record. A case of human plague resulting in death emphasized plague control measures, especially on the islands of Hawaii and Maui. Forty-seven cases of rodent plague were discovered on Hawaii, but there were 129 the previous year. The control program consisted mainly of eradicating rats and rat harborages. The appearance of 77 cases of typhus with one death also spurred intensive rat control measures. There were 56 cases of typhoid, attributed principally to the presence of carriers; no case was traced to milk or to the potable water supply. The bureau of sanitation made an industrial hygiene survey on Oahu, the first of its kind in the territory. The high percentage of raw milk consumed was an unsatisfactory situation, in view of the presence of tuberculosis and Brucella in local dairy herds. A new activity of the health department was the establishment of a bureau of mental hygiene. The bureau was an outgrowth of a survey made in 1937 by Dr. Franklin G. Ebaugh, Denver, under the sponsorship of local civic organizations. In 1938

the Hawaii Mental Health Clinic was established with funds provided by the chamber of commerce of Honolulu, and a year later the territorial legislature took over official sponsorship and responsibility for the work. The new bureau served 1,089 patients during its first year, of whom 667 were new. Of the total number 652 were outpatients and the remainder inpatients cared for in cooperation with Queen's Hospital. The bureau provided psychiatric consultation service to such agencies as industrial schools and the police department, and mental hygiene service to the department of public instruction. Dr. Marion F. Haralson, U. S. Public Health Service, was appointed territorial commissioner of health during the year to succeed Dr. Frederick E. Trotter, who died Aug. 7, 1939 after twenty years of service.

GENERAL

Sale of Seals for Crippled Children.—The National Society for Crippled Children is conducting its annual sale of Easter Seals from March 21 to April 13. This is the eighth annual campaign for funds by this society, which has headquarters in Elyria, Ohio.

Southern Obstetric Meeting.—Dr. Oren Moore, Charlotte, N. C., was named president-elect of the South Atlantic Association of Obstetricians and Gynecologists at its fourth annual convention in Jacksonville, Fla., recently, and Dr. Rudolph A. Bartholomew, Atlanta, became president. Dr. Robert A. Ross, Durham, N. C., was reelected secretary, and Atlanta was chosen as the place for the 1942 meeting. Guest speakers were Drs. John Rock, Boston; Nicholson J. Eastman, Baltimore, and William C. Young, Ph.D., associate professor of primate biology, Yale University, New Haven, Conn.

Cancer Control Month.—The President of the United States has again designated April as "Cancer Control Month" in a special proclamation. The President's statement set forth the many agencies now engaged in combating cancer and urged on the medical profession, scientific groups, the press, radio and motion picture industry, educators and civic leaders the importance of conveying educational information and "the necessity for eternal vigilance in this fight for humanity." The American Society for the Control of Cancer is carrying on an intensified educational campaign throughout the month.

Certifying Boards Become Independent.—The American Board of Anesthesiology and the American Board of Plastic Surgery, which have been affiliate or subsidiary boards of the American Board of Surgery, were advanced to the status of full and independent boards at a meeting of the Advisory Board for Medical Specialties in Chicago, February 16. There are now fifteen special certifying boards. Drs. Willard C. Rappleye, New York, and William P. Wherry, Omaha, were reelected president and vice president, respectively, of the Advisory Board for Medical Specialties. Dr. Paul Titus, Pittsburgh, who has been secretary-treasurer of the board since its inception in 1933, resigned that position and Dr. Clarence Guy Lane, Boston, was elected to succeed him.

Federation of Societies for Experimental Biology.—The Federation of American Societies for Experimental Biology will hold its annual meeting at the Stevens Hotel, Chicago, April 15-19. The federation is composed of the American Physiological Society, the American Society of Biological Chemists, Inc., the American Society for Pharmacology and Experimental Therapeutics, Inc., the American Society for Experimental Pathology and the American Institute of Nutrition. Nearly eight hundred papers will be presented at the meeting. Thursday there will be a joint meeting of the pathologists with the American Association of Immunologists. The Mead Johnson & Company "B Complex" Award will be presented at this meeting. The joint session of the federation will be held Thursday morning.

Obstetric Board Examinations.—Candidates for reexamination in Part II of examinations by the American Board of Obstetrics and Gynecology must make written application to the board before April 15, according to an announcement. The general oral and pathologic examinations (Part II) for all candidates will be conducted at Cleveland May 28 to June 2. Information and application blanks may be obtained from the secretary, Dr. Paul Titus, 1015 Highland Building, Pittsburgh. The board's annual dinner for diplomates and others interested in the work of the board will be held Wednesday evening, June 4, at the Wade Park Manor Hotel in Cleveland. Tickets at \$3.25 each may be obtained from Dr. Joseph L. Baer, chairman, 104 South Michigan Avenue, Chicago, or at the registration desk during the examination period.

Fellowships in Tropical Medicine for Latin American Physicians.—The American Foundation for Tropical Medicine, Inc., announces the establishment of a limited number of fellowships for the postgraduate course in tropical medicine at the Tulane University of Louisiana School of Medicine, New Orleans, given each year beginning in September and continuing for four and a half months. These fellowships are available for young, duly qualified physicians who are citizens of the republics of Mexico, Central and South America. In addition to the tuition fee which will be met by the foundation, each fellowship will provide \$700 for travel and maintenance. Applications should be sent to the director of the Department of Graduate Medicine, Tulane University of Louisiana School of Medicine, 1430 Tulane Avenue, New Orleans. Completed application forms will be submitted to the council of the American Academy of Tropical Medicine, who will make the awards.

The Francis Hagner Memorial.—A committee has been formed to establish the Francis R. Hagner Library as a memorial to the late Dr. Francis R. Hagner, at the time of his death in 1940 professor emeritus of genitourinary surgery at George Washington University School of Medicine, Washington, D. C. The library will be at Garfield Memorial Hospital, where Dr. Hagner served as a member of the staff for many years. Funds are being received by Miss Margery L. Powderly, secretary-treasurer of the Francis Randall Hagner Memorial Committee, 1718 M Street N.W., Washington. The names of the contributors will be recorded in a suitable volume to be preserved in the library, although the amounts donated will not be indicated. Dr. Hagner graduated in 1894 at Columbian University Medical Department, now known as George Washington University School of Medicine, where he served from 1905 until 1939 as professor of genitourinary surgery. He was made professor emeritus in 1939. Dr. Hagner once served as president of the Medical Society of the District of Columbia, the American Association of Genito-Urinary Surgeons and the Clinical Society of Genito-Urinary Surgeons.

Editorial Board for Infectious Disease Journal.—Starting with its January-February issue, the *Journal of Infectious Diseases* will be published by the University of Chicago Press under the direction of a newly appointed board of editors, with William H. Taliaferro, Ph.D., Eliakim H. Moore distinguished service professor of parasitology and chairman of the department of bacteriology and parasitology and dean of the Division of Biological Sciences, University of Chicago, as editor in chief. Dr. Ludvig Hektoen, editor of the journal since its founding in 1904, has retired from active participation. Dr. Francis B. Gordon, assistant professor of bacteriology, University of Chicago, is the managing editor. Advisory editors are William Burrows, Ph.D., R. Wendell Harrison, Ph.D., Clay G. Huff, Sc.D., Stewart A. Koser, Ph.D., Drs. Charles Phillip Miller, Harry Gideon Wells and G. M. Dack, all of Chicago; Karl F. Meyer, Ph.D., San Francisco, and Dr. Frederick G. Novy, Ann Arbor, Mich. The journal is published bimonthly. It was established in 1904 by the John Rockefeller McCormick Memorial Institute for Infectious Diseases.

Drug Firms Indicted.—The U. S. Department of Justice announced March 31 that a federal grand jury sitting in Washington, D. C., had returned an indictment charging three drug manufacturers and seven of their officers with violations of sections 1 and 3 of the Sherman Act.

The defendants, each of which is named in the two counts of the indictment, are Eli Lilly and Company, Indianapolis, Sharp & Dohme, Inc., Philadelphia, and E. R. Squibb and Sons, New York; and Eli Lilly, president, Charles J. Lynn, vice president, and Earl S. Retter, director of the merchandising division of Eli Lilly and Company; John S. Zinsser, president, and Eugene Hugh Long, vice president of Sharp & Dohme, Inc.; Carleton H. Palmer, chairman of the board of directors, and John F. Anderson, vice president of E. R. Squibb and Sons.

The indictment alleges that the defendants unlawfully combined and conspired to bring about arbitrary, uniform and noncompetitive prices for insulin to prevent free and normal competition in the sale thereof throughout the United States, and generally to restrain the trade therein.

The indictment charges that insulin is one of the largest selling products in the drug and pharmaceutical trade, that a constant supply is vital to the well-being of the more seriously affected diabetic patients throughout the United States and that a substantial number of them require one or more daily injections of insulin.

The indictment further charges that arbitrary, uniform and noncompetitive prices were fixed not only on drug sales of insulin direct to retailers, private hospitals, state, county and city institutions and the federal government but also on resales by wholesalers and distributors and by retailers.

According to the indictment the defendants decided who should be appointed as distributors, investigated the failure of any dealer to adhere to price schedules fixed by the defendants, reported among themselves violations of the price schedules, and induced dealers to adhere to such schedules by various means, including refusals to sell and threats of such refusals, refusals to allow handling charges, and by the use of contracts requiring fixed resale prices.

The investigation which led to the present indictment was conducted by the antitrust division of the Department of Justice. Officials of the division stated that the present indictment is a part of the program of examination into all the elements of the cost of living and the prosecution of cases when the evidence warrants.

The case was in charge of Kenneth L. Kimble, special assistant to the Attorney General, assisted by George W. Wise, special assistant to the Attorney General, and Walter D. Murphy, special attorney.

Government Services

Internships in Naval Hospitals

Examinations for appointments as acting assistant surgeon for intern training at U. S. Naval Hospitals will be held June 23-26, inclusive, at all the larger naval hospitals in the continental limits of the United States, according to an announcement from the Surgeon General of the Navy, Rear Admiral Ross T. McIntire. Application for authorization for these examinations should be forwarded to the Bureau of Medicine and Surgery on or before May 23. Legislation recently enacted by Congress makes it possible to offer an additional large number of these appointments, the announcement said. Applicants must be citizens of the United States over the age of 21 but less than 32 at the time of appointment, must be graduates or members of the graduating class of recognized medical schools and must meet the physical and other requirements for such appointments. All candidates will be notified of the results of the examination approximately six weeks after the date of the examination, and successful candidates will receive their appointments approximately two months from the date of the examination. Appointments as acting assistant surgeon with the rank of lieutenant (junior grade) for temporary service for a period of not more than eighteen months will be issued. After the appointee has served twelve months of intern training he may apply for appointment as lieutenant (junior grade) in the Medical Corps, U. S. Navy. Information concerning these appointments together with application blanks may be obtained by addressing the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

Announcement on Civil Service Positions Amended

A recent announcement from the U. S. Civil Service Commission asking for applications for the positions of senior medical officer, medical officer and associate medical officer has been amended for the second time to add to the optional branches for the grade of senior medical officer "Public Health (General)." A previous amendment published in *THE JOURNAL*, March 15, page 1174, added to the optional branches for the medical officer and associate medical officer "diagnosis and treatment of cancer." These positions are to be filled in the U. S. Public Health Service and the Food and Drug Administration in the Federal Security Agency; the Veterans' Administration, Civil Aeronautics Administration in the U. S. Department of Commerce and the Indian Service in the U. S. Department of the Interior. Applications must be filed with the U. S. Civil Service Commission, Washington, D. C. They will be rated as received and certification made as the needs of the service require. When sufficient eligibles are obtained, the receipt of applications will be closed, in which case due notice will be given. A subsequent application will not be accepted from any applicant within three months of the date of receipt of his preceding application under this announcement, it was stated.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 8, 1941.

Health in War Time

The air attacks on towns and cities and the absorption of all who are available of the young of both sexes into the fighting services has made a vast change in our way of life and produced new dangers to health, of which the most pronounced is that a large proportion of the population spends the night in crowded air raid shelters. But Sir William Jameson, chief medical officer of the Ministry of Health, presents a satisfactory report on the health of the nation. He states that in the crowded deep shelters, which the ministry regards as the danger spots, only stray cases of infectious disease occur and no outbreak has been reported in any of them. In the London shelters, observations by physicians and nurses have not disclosed any spread of body vermin. The best safeguard against the spread of disease by lice is declared to be frequent washing and change of clothes. The notifications of the chief infectious diseases for three years given in the table enable a not unsatisfactory comparison to be made with prewar conditions.

Infectious Diseases Reported in Last Three Years

	1938	1939	1940
Scarlet fever	99,000	76,000	63,000
Diphtheria	65,000	46,700	44,000
Pneumonia	45,000	42,000	46,000
Dysentery	4,170	963	2,900
Enteric fever	1,300	1,500	2,800
Cerebrospinal fever	1,288	1,500	12,500

The 46,000 cases of pneumonia last year are not considered unduly serious in view of the extremely severe weather in the early months. Most of the enteric cases were paratyphoid and not the old fashioned severe typhoid. Even from places severely bombed, no case of typhoid has been reported. Cerebrospinal fever is a special danger of war. In the past the mortality has been about 60 per cent but now, thanks to sulfa-pyridine, it has fallen to 5 per cent, including malignant cases, which used to prove fatal within twenty-four hours. In the view of the ministry the sovereign preventive of these infectious diseases is dispersal from overcrowded areas and dispersal within the shelters by giving the sleepers bunks and encouraging them not to lie too close together. The wearing of masks in the shelters is strongly recommended.

Problems in Active Immunization

Presiding at a discussion in the Section of Therapeutics of the Royal Society of Medicine, Sir William Willcox said that, in view of possible pollution of water supplies in air raids by the bursting of mains, the blasting of dust into the bodies of the injured and the crowding of people into shelters, the importance of immunization was rendered greater.

Dr. H. J. Parish said that immunization against diphtheria was safe and effective but that the bulk of the child population had not been reached. He had always advocated two doses of alum precipitated toxoid separated by a month's interval, but he had recently advised the medical officer of an industrial concern with many young employees to use a milder antigen in three doses separated by periods of a fortnight. Damage to water mains and sewers and the improvisation of toilet arrangements in air raid shelters produced a serious risk of epidemics of typhoid. Mass immunization was desirable in many areas, although there was no justification for compulsion

except for certain wholesale food operatives and people exposed to certain risks. A year ago much more importance would have been attached to tetanus prophylaxis, but the incidence of tetanus in this war had been negligible. Members of the land army and air raid precaution workers might be immunized with toxoid, but mass immunization of the population was not advised. Antitetanus serum should be given early to all wounded persons. Two doses of toxoid, separated by six weeks, gave good immunity.

We might have to pay dearly for not making vaccination against smallpox compulsory. Infection by virulent strains from the continent might tax the resources of our public health services. Whooping cough immunization might be indicated for the individual. The large number of injections usually recommended was a deterrent. Research into the possibility of fewer doses and wider spacing was indicated. For measles, methods of active immunization were not sufficiently advanced for the present emergency. Scarlet fever was fairly mild, but active immunization of hospital staffs was important. The success of chemotherapy in cerebrospinal meningitis had removed the need for meningococcus vaccine. In Shiga dysentery formaldehyde toxoid could be made available for human immunization and research to this end was now in progress.

A warning should be given to those who neglected the usual precautions of sterilizing syringes and needles and maintained that they never had a case of sepsis. Many sore arms ascribed to prophylactics were due to infection. A grave risk was incurred if instruments were not sterilized by heat. Far too many physicians relied on alcohol as a disinfectant. One set of syringes and needles should be used solely for inoculations, another for withdrawal of pathologic fluids. For each injection a fresh sterile needle should be used.

The Care of Bombed Animals

An organization for the protection and care of domestic animals in London almost as elaborate as that provided for their owners has been created. It has rescuers specially equipped to dig them out of ruined buildings, wardens to enter areas made dangerous by delayed action bombs and bring out animals, ambulances, first aid centers, hospitals and temporary rest homes where those for which homes have been found in the country can stay until ready to travel.

From September to December forty-seven thousand pets (dogs, cats, caged birds, rabbits and one or two monkeys) were rescued. In addition, one hundred horses have been saved from burning stables. During raids the staff frequently receives messages from the police or wardens telling them where animals are trapped. Most of the workers are women trained to treat animals for shock and superficial wounds. They take not only the risk of entering damaged buildings but also that of bites from terrified cats and dogs.

Herbert Tilley: A Foremost Laryngologist

The death of Mr. Herbert Tilley at the age of 74 has removed one of the last of the pioneers who established laryngology as a specialty in this country and one whose work was known in Europe and America. After a brilliant career as a student at University College Hospital he engaged in general practice in London. When a department for the diseases of the throat and ear was established at University College he was selected to take charge. His contributions to laryngology were mainly clinical. Perhaps his most important work was on the nasal sinuses, done at a time when little was known of their diseases. His work on the prognostic significance of the fixed vocal cord is well known. He was president both of the Section of Laryngology and the Section of Otology of the Royal Society of Medicine and a member of the American Laryngological Society. He was the author of "Diseases of the Throat and Nose."

AUSTRALIA

(From Our Regular Correspondent)

Dec. 20, 1940.

Pregnancy and Parturition in the D'Entrecasteaux Islands

The inhabitants of the D'Entrecasteaux Islands, a small mountainous group lying some 50 miles to the east of Papua, have for many years had contact with Europeans, but this has not been such as to modify their customary practices with regard to medicine and obstetrics. Edward Ford, from the School of Public Health and Tropical Medicine, Sydney, recently collected notes during a tour of duty through the group.

Unlike the neighboring Trobriand Islanders, who believe that procreation is a process of spirit reincarnation wholly dissociated from coitus, the natives of the D'Entrecasteaux group well recognize the function of the male in conception. They understand that pregnancy follows as a direct result of coitus, although it does not necessarily do so, and they usually hold that a succession of acts of intercourse are necessary to effect it. The clearness of their views is remarkable when the unshakable assurance of their Trobriand neighbors in the complete absence of association between coitus and pregnancy is considered. Their physiologic understanding, says Ford, rests on the basis of that sound knowledge of human anatomy which, gained from the dissection of bodies in the preparation of food, is frequently found in cannibal peoples. The Trobriand Islanders were not cannibals.

Menstruation is generally regarded as being related to pregnancy, and the menstrual rhythm is held to be influenced by the moon. The menopause is known to mark the end of child bearing, and in most places a woman is thereafter termed an "old woman."

A resemblance to both parents is sought in a new-born child, showing that both parents are allotted a part in its creation. In the Trobriands, on the contrary, a paternal resemblance in a child is denied, however obvious it may appear.

Pregnancy is first diagnosed by amenorrhea and changes in the breasts, although the caution is provided that, while pregnancy may be suspected at the first absence of the menses, yet a woman must remain uncertain until about four menstrual periods have been missed. Menstrual irregularity due to severe anemia as a result of malaria or hookworm infection or both probably accounts for this. In most places, cohabitation ceases from the time pregnancy becomes evident until the baby is weaned. This restriction, which is carefully observed, at times causes dissatisfaction, which is said to lend occasionally to abortion or infanticide. Otherwise there is little change in the life of the pregnant woman, who continues her usual house and garden tasks as before.

It is considered disgraceful for an infant to be born to a single girl; but although sexual freedom exists among young unmarried people pregnancy rarely eventuates even though puberty has been established. The infrequency of illegitimate children is usually regarded by white persons as due to the practice of abortion, yet this does not seem to be an important factor. Since marriage usually occurs early, within at least a few years of puberty, the facts appear to support the view that, after the advent of puberty, there normally occurs a sterile period and that ovulation and its associated processes do not normally develop until some time after the onset of puberty. It is impossible to estimate just to what extent abortion is practiced, though it is probably not very prevalent. Details of the methods used are regarded as women's secrets and are not divulged to the men. Herbal concoctions are said to be widely used, both as abortifacients and as contraceptives, though little faith is placed in their efficacy.

No man is allowed to witness any part of parturition. At the approach of labor it is usual for a husband to leave the

house and live apart for a while. When labor pains begin, female relatives of the woman prepare for the event. In all parts of the archipelago, apparently, the same procedure is adopted. The woman sits on the floor of the hut on a flat stone and is attended by one woman who sits behind her, supporting her by the hips, and by others at the sides who keep her knees flexed and separated. Another woman kneels in front and watches the progress of the head. When the head is on the perineum she may separate the labia, but no further manipulations occur and the infant is not touched until it is finally expelled on a mat placed ready to receive it.

Delivery is usually easy, with a short second stage. The infants are generally small—about 5 or 6 pounds (2.3 to 2.7 Kg.). No treatment is known for the complications of labor, and cases of obstruction are regarded as hopeless and death is awaited. The same helplessness applies in cases of retained placenta and severe postpartum hemorrhage, the application of heat being the only treatment used for these complications. After delivery the infant is washed in warm water or, in the coastal districts, bathed in the sea. It is put to the breast as soon as it will suck. Breast feeding is continued for varying periods, usually till the teeth appear. From an early age infants are given small amounts of gravy from the cooking pots, and yam and fish soups, and later suck pieces of solid food, as yam, taro and banana. No food apart from the adult diet is available after weaning. The result of this is reflected in the poor general appearance of children from the time of weaning till the age of about 5 years, when the bulky diet of starchy food appears to be better assimilated.

If a woman died in childbirth, it was formerly customary for her live infant to be buried with her, and that practice probably still exists in many parts. The absence of any suitable infant food apart from the milk of another mother and the difficulty of providing for wetnursing would render the rearing of the bereaved infant most difficult, especially in time of food shortage, and apparently gave rise to the custom. Also it is freely admitted that deformed infants are not reared but are quietly buried at birth.

Marriages

JOHN WARREN MONTAGUE, Richmond, Va., to Miss Mary Adelaide Walton of Morganton, N. C., January 4.

HARWELL WILSON, Memphis, Tenn., to Miss Helen Evertson Cobb of Pasadena, Calif., in Chicago, January 18.

ROY MEADOWS SMITH, Greensboro, N. C., to Miss Emily Haywood Worth of Jefferson in December 1940.

THOMAS CLARKSON WORTH, Raleigh, N. C., to Miss Barbara Donaldson Luther of Olean, N. Y., January 4.

GEORGE F. KOWALLIS, Rochester, Minn., to Miss Mary Virginia Hancock of Akron, Ohio, January 4.

FLOYD ARTHUR POTTER, Toledo, Ohio, to Miss Mary Annette Stevens in St. Petersburg, Fla., January 1.

JOHN LAWSON STAPLETON, Columbus, Ga., to Miss Grace Lloyd of Hartsboro, Ala., January 12.

WILLIAM PARKER LEONARD JR., Talbotton, Ga., to Miss Mary Cary Maynard of Atlanta, January 15.

JOHN WREN REA to Miss Muriel Cecelia Bondurant, both of Memphis, Tenn., January 11.

ALLEN JAMES HANNEN to Miss Helen Manson, both of Williamsport, Pa., January 22.

GEORGE N. BALLENTINE to Miss Molly White, both of Williamsport, Pa., January 22.

ALBERT M. DEAL, Statesboro, Ga., to DR. HELEN READ of Holyoke, Mass., January 18.

EDWARD SHEEHAN ARMSTRONG to Miss Catherine Pope, both of Augusta, Ga., January 2.

WILLIAM STANLEY GARNER to Miss Mary Jane Kemp, both of Indianapolis, January 11.

Deaths

William Henry Walsh ☉ Chicago; Medico-Chirurgical College of Philadelphia, 1909; in the hospital corps of the United States Army during the Philippine Insurrection, 1899-1900; chief sanitary inspector of the Insular Bureau of Health of the Philippine Islands from 1900 to 1904; acting assistant surgeon in the United States Public Health Service from 1909 to 1911; superintendent of the Philadelphia Hospital for Contagious Diseases from 1912 to 1914; chief resident physician at the Philadelphia General Hospital in 1914; medical director of the Philadelphia Children's Hospital from 1914 to 1916; executive secretary of the American Hospital Association from 1916 to 1918 and from 1924 through 1927; secretary of the hospital board of the United States Public Health Service, 1919-1920; served as hospital consultant in various countries; consultant, Chicago Health Department; during the World War served as a major on the staff of the surgeon general of the army and as commandant of base hospital number 58 at Camp Grant, Ill., and in France with the rank of lieutenant colonel; member of the Medical Society of the State of Pennsylvania, American Association of Industrial Physicians and Surgeons, Association of Military Surgeons and the American Public Health Association; fellow of the American College of Physicians; aged 59; died, March 28, in the Albert Merritt Billings Hospital of carcinoma of the stomach.

William Webber Ford ☉ Boston; Johns Hopkins University School of Medicine, Baltimore, 1898; member of the Medical and Chirurgical Faculty of Maryland; joined the faculty of his alma mater in 1903 and served subsequently as instructor in bacteriology, associate in bacteriology and associate professor of hygiene and bacteriology and lecturer in legal medicine; was associate professor of bacteriology from 1918 to 1922 and professor from 1922 to 1937, when he retired as professor emeritus of bacteriology at the Johns Hopkins University School of Hygiene and Public Health; a member of the state board of health of Maryland from 1913 to 1935; author of a textbook entitled "Bacteriology"; aged 69; died, February 10, in the Johns Hopkins Hospital, Baltimore, of carcinoma of the colon.

Frank Wilson Lamb ☉ Portland, Maine; Medical School of Maine, Portland, 1895; member of the American Roentgen Ray Society, New England Roentgen Ray Society, Radiological Society of North America and the American College of Radiology; on the staffs of the Children's Hospital, State Street Hospital and the Queen's Hospital, Portland, and the Webber Hospital, Biddeford; consulting roentgenologist, Maine General Hospital; aged 68; died, January 20, of coronary thrombosis.

Russell Ransom Welch, Jackson, Miss.; Tulane University of Louisiana School of Medicine, New Orleans, 1908; member of the Mississippi State Medical Association; formerly superintendent of the East Mississippi State Hospital, Meridian, and assistant superintendent of the state insane hospital, Jackson; owner and medical director of a sanatorium bearing his name; aged 56; died, January 21, in the Mississippi Baptist Hospital of carcinoma of the lung.

Charles Dennis Mitchell, Whitfield, Miss.; Memphis (Tenn.) Hospital Medical College, 1888; member, past president and vice president of the Mississippi State Medical Association; past president of the Southern Psychiatric Association; member of the American Psychiatric Association; formerly a member and past president of the state board of health; for many years superintendent of the Mississippi State Hospital; aged 74; died, January 25.

J. Roy Burlington ☉ Attica, Ind.; Central College of Physicians and Surgeons, Indianapolis, 1897; past president of the Fountain-Warren Counties Medical Society; president of the Ninth Councilor District in 1940; served during the World War; for many years a member of the board of health of Attica; formerly county coroner; aged 65; died, February 2, in St. Elizabeth Hospital, Lafayette, of cerebral hemorrhage.

Charles Gabriel Levison, Sausalito, Calif.; Cooper Medical College, San Francisco, 1889; member of the California Medical Association; fellow of the American College of Surgeons; past president of the San Francisco County Medical Society; served during the World War; formerly on the staff of Mount Zion Hospital, San Francisco; aged 75; died, January 12.

Daniel Voorhees McClary, Evansville, Ind.; Hospital College of Medicine, Louisville, Ky., 1896; member of the

Indiana State Medical Association; served during the World War; aged 73; on the board of managers of the Welborn Walker Hospital, where he died, January 31, of acute dilatation of the heart following a prostatectomy.

Herbert Sidney Langsdorf ☉ St. Louis; Washington University School of Medicine, St. Louis, 1915; past president of the St. Louis Medical Society; served during the World War; on the staffs of the Lutheran, De Paul, City and St. Anthony's hospitals; aged 48; died, January 16, of coronary thrombosis.

Valentine R. Manning ☉ Philadelphia; Medico-Chirurgical College of Philadelphia, 1902; member of the National Gastroenterological Association; medical examiner for draft board number 23; on the staffs of St. Mary's, St. Joseph's and Nazareth hospitals; aged 59; died, January 8, of coronary occlusion.

Charles Richard Bates ☉ Ladd, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1908; served during the World War; secretary of the Bureau County Medical Society; aged 56; died, February 19, of bacterial endocarditis and dental infection.

Daniel Seymour MacArthur, La Crosse, Wis.; Rush Medical College, Chicago, 1884; member of the State Medical Society of Wisconsin; formerly secretary of the La Crosse County Medical Society; aged 81; died, January 3, in St. Francis Hospital of bronchopneumonia.

John Oenslager Jr., Harrisburg, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1894; member of the Medical Society of the State of Pennsylvania; formerly on the staff of the Harrisburg Hospital; aged 72; died, January 28, of arteriosclerosis.

Edward W. Wiltse, Modale, Iowa; Omaha Medical College, 1893; member of the Iowa State Medical Society; at various times town health officer and school physician; aged 79; died, January 25, in the Jennie Edmundson Hospital, Council Bluffs, of uremia.

Paul Eugene Leahy, Sioux City, Iowa; Loyola University School of Medicine, Chicago, 1933; member of the Iowa State Medical Society; on the staff of St. Vincent's Hospital; aged 36; died, January 22, in Valentine, Neb., of injuries received in an automobile accident.

Elmer Mark Antony Sizer ☉ Rio Hondo, Texas; Chicago Homeopathic Medical College, 1894; formerly secretary of the Cameron County Medical Society; aged 73; died, January 30, in the Valley Baptist Hospital, Harlingen, of injuries received in an automobile accident.

Walter Scott Bennett, Elizabeth, Colo.; Denver and Gross College of Medicine, 1909; member of the Colorado State Medical Society; served during the World War; aged 56; died, January 31, in the Fitzsimons General Hospital, Denver, of bronchogenic carcinoma.

William Jonathan Lein, Greystone Park, N. J.; University of Vermont College of Medicine, Burlington, 1901; member of the American Psychiatric Association; formerly on the staff of the New Jersey State Hospital; aged 68; died, January 30, of carcinomatosis.

Charles Leland McVey, Oakland, Calif.; University of California Medical Department, San Francisco, 1909; member of the California Medical Association; on the staffs of the Peralta and Merritt hospitals; aged 57; died, January 28, of coronary occlusion.

William Raymond Williamson, Fort Wayne, Ind.; University of Michigan Homeopathic Medical School, Ann Arbor, 1907; aged 60; resident physician to the Irene Byron Sanatorium, where he died, January 2, of chronic myocarditis and macrocytic anemia.

George R. Howard ☉ Palestine, Texas; Tulane University of Louisiana School of Medicine, New Orleans, 1890; assistant superintendent of the Austin (Texas) State Hospital from 1926 to 1938; aged 81; died, January 25, of myocarditis and pleural effusion.

Jacob Heller, Buffalo; University of Buffalo School of Medicine, 1914; member of the Medical Society of the State of New York; served during the World War; aged 49; died, January 19, in the Buffalo General Hospital of cerebral hemorrhage.

Clarence Wayne Rogers, Rineyville, Ky.; Kentucky School of Medicine, Louisville, 1891; member of the Kentucky State Medical Association; aged 75; died, January 29, in St. Anthony's Hospital, Louisville, of an acute condition of the gallbladder.

Grant Frederick Glassbrook * Albany, N. Y.; Albany Medical College, 1924; instructor in medicine at his alma mater; assistant attending physician, Albany Hospital; aged 48; died, January 30, of chronic myocarditis and coronary sclerosis.

Adolphus Lamar Little, New Orleans; University of Maryland School of Medicine, Baltimore, 1910; served during the World War; medical examiner for the Veterans Administration; aged 56; died, January 7, of coronary occlusion.

Edward Francis Leonard * Paterson, N. J.; Georgetown University School of Medicine, Washington, D. C., 1924; aged 42; on the staff of St. Joseph's Hospital, where he died, January 27, of intestinal obstruction due to adhesions.

Robert Arthur Waite * Waukesha, Wis.; Wisconsin College of Physicians and Surgeons, Milwaukee, 1902; physician of the International Harvester Company; aged 63; died, January 29, in Milwaukee of carcinoma of the pancreas.

Joseph Searle McDede * Jersey City, N. J.; College of Physicians and Surgeons, Baltimore, 1905; member of the National Gastroenterological Association; aged 67; died, January 28, in the Medical Center of uremia.

Franklin Pierce, Norfolk, Va.; College of Physicians and Surgeons, Baltimore, 1875; formerly member of the state legislature; aged 87; died, January 18, in the Municipal Hospital of bronchopneumonia and arteriosclerosis.

Florence Radinoff Kramer, Lynn, Mass.; Loyola University School of Medicine, Chicago, 1918; member of the Massachusetts Medical Society; aged 57; died, January 13, in Miami Beach, Fla., of coronary thrombosis.

Samuel Duff Anderson, Littleton, Ill.; University Medical College of Kansas City, Mo., 1908; formerly a minister; aged 81; died, February 17, in the Culbertson Hospital, Rushville, of arteriosclerosis and heart disease.

William Howard Sharp * Woodstock, Ohio; Starling Medical College, Columbus, 1904; served during the World War; president of the county board of health; aged 63; died, January 30, of heart disease.

Malcolm James McCallum, Fairfield, Conn.; Baltimore Medical College, 1901; Southern Homeopathic Medical College, Baltimore, 1902; aged 62; died, January 3, of pulmonary embolism and mitral stenosis.

Delta Eulilla Rowland * Sunnyside, Wash.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1912; health officer; aged 57; died, January 1, of pneumonia.

Robert George Noble, Bexley, Ohio; Starling Medical College, Columbus, 1907; served during the World War; aged 60; died, January 28, in the Mount Carmel Hospital, Columbus, of coronary occlusion.

Stanton Perry Hull * Troy, N. Y.; Albany Medical College, 1908; health officer and formerly member of the New York State Public Health Council; aged 54; died, January 24, of lobar pneumonia.

Riley C. Van Hook, Norene, Tenn.; University of Tennessee Medical Department, Nashville, 1893; aged 71; died, January 28, in a hospital at Lebanon of chronic fibroid pulmonary tuberculosis.

Joseph Jacob Levy * Los Angeles; Medico-Chirurgical College of Philadelphia, 1905; aged 59; died, January 8, in the Veterans Administration Facility of ruptured diverticulum and acute peritonitis.

Paul Burke Cooper * Portland, Ore.; Northwestern University Medical School, Chicago, 1908; fellow of the American College of Surgeons; aged 60; died, February 23, in an automobile accident.

Henry Grant Lind, Edinburg, Ind.; University of Virginia Department of Medicine, Charlottesville, 1907; veteran of the Spanish-American War; aged 59; died, January 21, of tumor of the brain.

Ebenezer Payne, Glendora, Calif.; University of Michigan Homeopathic Medical School, Ann Arbor, 1904; aged 76; died, January 26, in the Seaside Hospital, Long Beach, of heart disease.

Charles Virgil Lynch, Milwaukee; Marquette University School of Medicine, Milwaukee, 1926; aged 39; died, January 19, in the Misericordia Hospital of duodenal hemorrhage and ulcer.

John M. Liggitt * Farnam, Neb.; Starling Medical College, Columbus, 1897; formerly served in the Indian Service; aged 68; died, Dec. 12, 1940, in Gothenburg of coronary thrombosis.

John B. Ludwig * Lemont, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1893; aged 74; died, January 30, in the Silver Cross Hospital, Joliet, of cerebral hemorrhage.

James A. Otwell, Cumming, Ga.; Atlanta College of Physicians and Surgeons, 1906; for many years chairman of the school board; aged 57; died, January 24, of heart disease.

Samuel M. Landsman * New York; College of Physicians and Surgeons; medical department of Columbia College, New York, 1889; aged 74; died, January 10, of heart disease.

Albert John Kimmons, Bristol, Tenn.; Vanderbilt University School of Medicine, Nashville, Tenn., 1901; veteran of the Spanish-American War; aged 63; died, January 6.

Lawrence Coffin, Tucson, Ariz.; Long Island College Hospital, Brooklyn, 1889; aged 83; died, January 28, in Cabazon, Calif., of injuries received in an automobile accident.

Charles Rea * York, Pa.; Medico-Chirurgical College of Philadelphia, 1894; aged 68; on the staff of the York Hospital, where he died, January 26, of cerebral thrombosis.

Henry Adrian Brady, Lithia, Fla.; Medical College of Virginia, Richmond, 1908; served during the World War; aged 55; died, January 25, of coronary thrombosis.

John George M. Luttenberger * Chicago; Barnes Medical College, St. Louis, 1906; aged 77; died, January 7, at the Illinois Masonic Hospital of cardiac decompensation.

James Wilcox Wilson, Madison, N. J.; Bellevue Hospital Medical College, New York, 1898; aged 72; died, January 22, of cerebral hemorrhage and arteriosclerosis.

Calvin Jackson Ulrich, Des Moines, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1882; also a lawyer; aged 81; died, January 13, of thrombosis.

Henry Clinton MacSherry, Baltimore; University of Maryland School of Medicine, Baltimore, 1872; aged 89; died, January 9, of inguinal hernia.

Edward C. Kitchen, St. George, Ont., Canada (registered to practice medicine in Ontario in 1877); aged 84; died, January 1, of arteriosclerosis.

Miles A. Kirk, Bellefonte, Pa.; Eclectic Medical Institute, Cincinnati, 1877; aged 85; died, January 15, of arteriosclerosis and cerebral hemorrhage.

Frederick August Eggersman, Staten Island, N. Y.; Eclectic Medical College of the City of New York, 1887; aged 83; died, January 23.

John H. Maxwell, Martinsville, Ind.; Medical College of Indiana, Indianapolis, 1897; aged 79; died, January 10, of cerebral hemorrhage.

A. V. Harrington, Titusville, Fla. (licensed in West Virginia under the Act of 1881); aged 72; died, January 10, of heart disease.

Mortimer Daniel Cure * Weston, W. Va.; Baltimore Medical College, 1901; aged 73; died, January 1, of cerebral hemorrhage.

William Clinton Burchfield, Miami Shores, Fla.; University of Pittsburgh School of Medicine, 1912; aged 63; died, January 29.

James Winfield Rush, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, 1920; aged 47; died suddenly, January 17.

Alice K. Koogle, Los Angeles; Columbian University Medical Department, Washington, D. C., 1894; aged 73; died, January 7.

Franklin Hanna, Brantford, Ont., Canada; McGill University Faculty of Medicine, Montreal, Que., 1879; aged 84; died, January 9.

Alexander Edward Kennedy, Mabou, N. S., Canada; College of Physicians and Surgeons, Baltimore, 1893; died, January 8.

William Edwin Hawkins, Bayou Chicot, La.; Jefferson Medical College of Philadelphia, 1882; aged 80; died, January 23.

Randall Davis Blackshear, Panama City, Fla.; Kentucky School of Medicine, Louisville, 1892; aged 79; died, January 20.

T. J. Hatchett, Raleigh, Ga.; Atlanta Medical College, 1891; aged 74; died, January 12, of cardiorenal disease.

Benjamin P. Hall, Richmond, Ohio; Starling Medical College, Columbus, 1882; aged 85; died, January 27.

Cyrus F. Crosby, Heber Springs, Ark. (licensed in Arkansas in 1903); aged 73; died, January 25.

Council on Medical Education and Hospitals

ANNUAL CONGRESS ON MEDICAL EDUCATION AND LICENSURE

Thirty-Seventh Annual Meeting, Held in Chicago, Feb. 17 and 18, 1941

DR. RAY LYMAN WILBUR, Stanford University,
Calif., in the Chair

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

FEBRUARY 17—MORNING

Report of the Council on Medical Education and Hospitals

DR. RAY LYMAN WILBUR, Stanford University, Calif.: This article appeared in full in *THE JOURNAL*, February 22, page 661.

The Contribution of Liberal Education to Professional Studies

OLIVER C. CARMICHAEL, LL.D., Nashville, Tenn.: This article appeared in full in *THE JOURNAL*, March 22, page 1325.

Universities and the People's Health

DR. RAYMOND B. ALLEN, Chicago: University medical establishments have largely assumed the responsibility for the fundamental education and training of the health personnel of the country. Colleges of medicine, dentistry, pharmacy and veterinary medicine and schools of public health have developed as integral parts of university systems. These colleges have to a large degree developed independently with varying degrees of coordination among them. The increasing interdependence of these disciplines is generally recognized, and steps are being taken to implement the need for more active cooperation and coordination of effort.

The university's primary responsibility in the health program of the country is to provide an educated and trained personnel possessing the necessary qualities of personality and character to meet fully the responsibilities of the professions they serve. This means that universities and licensing boards share the responsibility for the selection of persons possessing the essential intellectual and personal qualifications. Universities, therefore, must be concerned to keep the channels open for all qualified students, and especially for gifted, superior students, from secondary schools to undertake higher education in colleges and professional and graduate schools. There is evidence that in making a choice for a life work many promising students fail to be attracted to professional fields because of insufficient financial means for a lengthy education and of inadequate information concerning the requirements, opportunities, responsibilities and promise for satisfying careers. Many students of outstanding ability do not receive the advantages of university experience for reasons beyond their control. This represents a great loss in talent which the commonwealth can ill afford. The expanding opportunities for intellectual improvement, advancement and professional standing in the several health professions should be made more widely known to youth, and superior students from families with small incomes should be supported by adequate scholarships.

Numerous smaller professional groups serve the health needs of the people in various ways. Various interprofessional councils and societies are approaching on common ground the many unsolved problems of articulation between their respective areas of service. The physician, psychiatrist, psychologist, sociologist and others have focused attention on environmental factors leading to a breakdown in the health of the individual. There is widespread realization of the importance of the industrial and social environment to the health of the people. The contributions of medicine and engineering to industrial health through scientific control of industrial hazards of all kinds are examples of the far reaching effects of collaboration between management, labor, engineering, medicine and government in improving working conditions of the people.

Universities as centers of inquiry into the underlying causes and forces which shape the civilization of the day share with the government the high responsibility of research and study to understand better the breakdowns in the processes of civilized intercourse between peoples and nations. It is not the function of the university to enter the political arena to seek solutions for specific problems. One of its functions, however, is to serve the people by providing them and their government with reliable information which can be used in shaping public policy and law. State universities above all others, because of their direct financial support by the people, must rise to this responsibility or deteriorate to the level of vocational and technical schools. Universities not supported by tax funds share this responsibility, for these universities are also dependent on the people for financial security. There is evidence that universities are developing to a level of service to the people which may well become the strongest fortress of democracy. Unless they fully achieve their larger social functions in the commonwealth, it is not unlikely that our universities will acquire the anemic complexion of educational institutions (so called) of authoritarian states.

Casual study of world conditions should convince any one that the roots of military conflict go much deeper than the purely technical and social problems of society. Careful studies suggest that social and economic disease is a reflection of immaturity of moral and spiritual development of some of the people. Universities share responsibility with education generally for having provided opportunities for education which overemphasize materialistic conceptions of the problems of the people. It is to the glory of medical science that it has never lost sight of the human qualities in all problems, medical and otherwise. Humanism depends on factors as yet beyond the reach of the scientific method. In the practice of a profession, the art of the profession consists in the application of the methods of science to a human situation. Great as has been the scientific progress of this century, medicine has never forsaken its faith in the quality and dignity of the human spirit.

Universities can best contribute to the people's health by providing higher educational opportunities for well qualified and gifted students who can meet the requirements and responsibilities of higher citizenship and of enlightened, unselfish leadership. This requires more than the mere acquisition of knowledge. Universities must continue to be the principal seat of inspiration by their example of inspiring thinking, investigation and teaching which give full recognition to the importance of moral and spiritual values. Pagan dictatorships have destroyed some of the world's greatest liberal universities. The universities of our democracy are still free to seek a higher future. Today's great challenge to all education is to inspire the confidence of youth in the high objectives of education and inquiry which in a democracy seek truth, justice, and moral and spiritual values. Universities, democracy and religion will stand or fall together.

The Challenge to Hospitals in the Changing Attitude Toward Them

RT. REV. MAURICE F. GRIFFIN, Cleveland: During the last biennium in which the national congress and the several state legislatures were in session, it has been stated that three thousand five hundred bills were introduced into these law making bodies affecting every interest and activity of a hospital. In four states the hospital has already lost its tax exempt status as regards general taxes, and other states have limited the amount of nontaxable property they can hold. The more the activities of government are extended, the more money spent by public agencies, the greater the pressure to reduce exemptions. Tax spenders look with greedy eye on the physical properties and in some cases on the amassed endowments of our hospitals. There are those high in the councils of state who think in terms of mass production in medicine and socialization of hospitalization. The danger in legislation is a real challenge to hospitals. But a still greater challenge is in the changing attitude of the courts. Theoretically the courts reflect the will of the people, they interpret the change in public attitude. A jury is supposed to be a cross section of the community. It gives the answer to such questions as What

do the people think of the hospital when a charge of negligence is made against it; do they think that the money of the hospital should be used to pay damage claims? Hospitals everywhere are being sued by the public, by their employees and by their patients. Most of the suits against hospitals are for torts—or wrongs done for which damages are claimed. The chief tort in which a hospital is concerned is negligence, which is "an indifference concerning one's conduct in its consequences to another, or the improper regard for the safety of another." The misconduct for which the hospital is liable is "doing something which should not be done, doing badly something that should be done, in not doing something that is imposed as a duty."

The hospital has a legal duty to make safe the place in which it cares for patients, to which it invites visitors and in which it engages its employees to work. The obligation to the patient begins when he is admitted—not before. The legal obligation is to furnish its facilities and to procure competent medical and nursing care. The courts have held that the hospital "undertakes not to heal or to attempt to heal through the agency of others, but merely to supply others who will heal or attempt to heal on their own responsibility." Physicians acting in their professional capacity are considered "independent contractors."

When hospitals are brought into court, the first thing to be determined is their status as charitable institutions. Traditionally the voluntary charitable hospital incorporated not for profit, or on a religious foundation, was considered a charitable hospital by the courts. Now, in many of the states, proof is required in each case that the hospital is actually doing sufficient charity to establish such a classification. Hospital people should give serious consideration to the reasons for this change in the attitude of the courts, reflecting the attitude of the people. High rates, public appropriations for the care of the indigent, magnificent buildings, all the indications of prosperity are some of the things that have brought about the change. But there is something else. The more the hospital demanded of the patient, the more critical, the more exacting, the patient became. In olden days when the hospital was conducted as a charity, patients were deeply grateful. When it becomes a coldly scientific business with the human element submerged and the personal equation largely absent, selling health, which the people have to buy and for which they have to pay dearly, patients lose their appreciation and feel they are absolved from further obligation by the size of the bill. They tell you that hospitals charge so much that they do not understand the meaning of "not for profit" and "charitable." They consider it sharp practice to be told that they can have a room for \$8 or \$10 a day and when they are leaving to have a bill for extras presented to them. The increasing sentiment to the effect that modern conditions do not justify granting the hospitals any exemption is shown in many recent court decisions.

The best possible defense against damage suits is to reduce the cause of accidents. Medical examinations save the hospital by disclosing defects of vision and hearing and keep the personnel up to par. Extraordinary efforts must be made to train them in safety measures. Safety classes where it is all planned out beforehand are a great help. Where are the emergency exits and the fire alarm? Are the steam pipes so plainly marked that even a stranger could turn them off in an emergency? Does every one know how to take care of the patients, if a situation is serious enough to involve them? The hospital should have a manual of instruction for all employees, interns, nurses, professional and nonprofessional personnel, telling them all just what to do in case of accident. When an accident occurs, searching inquiry should be conducted with the hope of discovering the cause. Employees should be repeatedly warned of the danger of any remark or action that would be prejudicial to the hospital, made at the time of the accident. Complete records must be written at once, with the thought in mind that they may be on exhibition and under scrutiny in a court. Pictures should be taken if possible. A report should at once be made to the attorney, whose pro-

cedure should be to prepare the case as if it were on the docket, although it may never be. Most of the hospital's money troubles with patients could be eliminated by the establishment of a good hospital service association.

It would be fortunate if more of the prominent physicians and hospital administrators would take the leading part in this great national movement, would promote the formation of local associations and would become more active in developing them along the right lines so that the interests of patient, hospital and physician would always be conserved. The doctors and the hospital administrators must furnish adequate and satisfactory care to the American people at a cost they can pay. The program of hospital service plans will solve the problem if it is given the sincere support of all who should be interested. This will prevent the interference of government, the socialization of medicine and hospitalization.

Adjustment of Medical Education to Social Demand

CHAUNCEY D. LEAKE, PH.D., San Francisco: Social demand on medical training has remained much the same for centuries: better medical care at lower cost. Training for low cost but adequate medical care for society implies continual alertness and adjustment to increasing knowledge and its medical application, and to changing social and economic conditions. Most of us resist change, unless it is along the slower and easier way. But it is wise to remember in medical training that society really retains the control it has always exercised in medical affairs. Many of these matters are involved in what is called "medical ethics" and deserve far more systematic attention than they have received from medical educators.

A clear-cut issue seems to be arising in undergraduate medical education. Should the assembly line be set toward supplying general practitioners or should it be geared to the departmentalized tempo of specialists? There seems to be no issue about postgraduate medical education. It is definitely specialty training. Recent surveys indicate that about 85 per cent of medical practitioners in the United States are to be classed as "general practitioners." It also appears that this is a desirable proportion to maintain for the general medical needs of the people. Nevertheless, undergraduate medical education remains organized on departmentalized lines, which coincide with specialty fields.

In current undergraduate medical education, two factors operate toward specialty training: (1) emphasis on technical applications of increasing scientific knowledge, which tends to bring about a triumph of technic over reason, and (2) departmentalized instruction, which tends to develop competitive showmanship, glamor and prestige complexes, and arbitrary division of spoils, with loss of the sick person in a multiplicity of diseased parts. Dean Davison has deplored that only 25 per cent of recent graduates intend to enter general practice. Is this meeting the social demand for adequate medical care at low cost? If so, why do cultists continue to flourish and why so much self medication?

While there seems to be reluctant approval of the idea of organizing undergraduate medical training to provide general practitioners, the operation of our undergraduate training is at least psychologically directed to the training and furnishing of specialists. It is a sort of prespecialist training.

If it is agreed that basic undergraduate medical training is to be directed toward general practice, certain definite techniques are indicated. One essential is to devise a procedure whereby departmental barriers may be removed. Is it possible to provide "clinical preceptors" responsible to no single department but rather to the dean's office, thus representing the field of medicine as a whole? Is it possible to provide such preceptors for individual guidance of medical students? One preceptor might handle satisfactorily the general work of three to six students, particularly if each student is given a small office and laboratory facility as followed at Tulane. The preceptor system, proposed as a formal part of recent American medical education by the late Dean C. R. Bardeen, by Dr. W. J. Kerr and in the tutorial system at Harvard, has not yet received a fair trial. The important point seems to be to set up preceptors independent of any department of medical instruction or any specialty.

In the present emergency organized medicine faces the problem of supplying large numbers of general practitioners to the Army and Navy. Relatively few specialists are needed. There is danger of serious professional frustration if highly trained specialists are assigned to routine duty, either examining draftees or taking medical responsibility for small troop units. There is unrest among reserve medical officers at the prospect of routine duty, with no consideration for special qualifications. It would seem that our immediate emergency needs can best be met both in the military service and in civilian life by organizing clinical training for effective general practice as soon as a rotating internship is completed. No matter how the present emergency develops there is certain to be a terrifying disorganization as it subsides. It does not seem likely that we can afford the luxury of highly organized cooperative specialty medical practice either in the emergency or in the postemergency period. It would seem wise to reorganize our current clinical training so that during the next few years most of our medical graduates can step directly from a rotating internship to an effective general practice at a reasonably low cost to the public. Training for general practice seems to imply a rotating internship. Necessarily organized on specialties, this would provide the general practitioner with an insight to specialty technics and the importance of leaving these technics to a qualified consultant, when specially indicated. Rotating internships designed to meet social demand for general practitioners might be improved by maintaining preceptor supervision and by providing adjunctive technical services only when urgently needed.

The public is aware of the tendency for increasing fees among specialists and for duplication of service with rising cost. Prepayment plans for clinic service in large cities are in an experimental stage. Is it possible for a general practitioner to function on a prepayment plan? I am unaware of any pertinent criticism to a retainer fee plan proposed several years ago. This idea was predicated on the notion of the general practitioner as a specialist in disease prevention. It suggested a retainer fee for "health guidance" or "health protection." Medicine's ideal is disease prevention. The average doctor realizes that effective preventive medicine reduces his practice. However, effective practice of preventive medicine by individual doctors is possible. It may become the significant specialty of the general practitioner. The physician may for a fee agree to examine the patient as often as he thinks expedient, furnish such therapy and advice as seems indicated and make such house calls as he feels warranted. Such an agreement need not include emergency services, hospitalization and operative or special procedures. In such an arrangement the physician would be a health adviser on a retainer fee. This would seem to be a much needed specialty service for which the general practitioner is admirably fitted. Such a health advising system on a retainer basis should provide an incentive to the effective handling of preventive medicine on an individual basis. No significant criticism has been raised to this proposal except the vague expression that the physician involved may be imposed on. However, if it should occur, either party could terminate the arrangement.

More careful surveys are necessary to appraise the medical facilities available. Are large numbers of general practitioners needed in modern society, with willingness to accept moderate fees and to serve rural and suburban districts? Should specialism be restricted to a highly selected few? Can the desired result be obtained by agreement that residencies for graduate training in specialties be filled from applicants who have been in general practice at least three years? To be effective, this system of selecting residents for special training must be followed by all hospitals in a relatively large geographic area. Many might seriously object that such a plan would reduce the number of physicians applying for such residencies and might interfere with the smooth running of the hospital. The proposal represents an experimental restriction designed for the purpose of reducing the number of specialists more appropriately to social needs and at the same time of improving their quality. Some institution with sufficiently high prestige might attempt the plan experimentally. The results could be appraised within a few years and judgment reached as to the wisdom of extending the idea or abandoning it.

FEBRUARY 17—AFTERNOON

The Physician in Selective Service

COL. LEONARD S. ROWNTREE, Washington, D. C.: Perhaps no other organization in the country can serve our needs better than this Council, and yours is the only body that can render us the help that we need critically. The question is, What is our job in Selective Service? It is procurement of man power. Selective Service is the result of group work in the Army and Navy extending over years, and certain persons are still in that organization who have been in it for years. With the passing of the act, other persons have been added for certain purposes, but the backbone of this organization is that committee which was created for the procurement of man power and that today is its crucial function. We are called on to classify some 16,500,000 young men. From that group we are to examine physically and mentally and look into the moral side of 6,600,000, and from this group, if we are fortunate and the induction boards are not too severe, we shall turn over to the Army in the course of five years 4,400,000 men to become soldiers, and our contribution this year is to be 800,000. Now in the study of these men there are many records which carry information that is of value not only to medicine but to an infinite number of social organizations throughout the country. What is our *modus operandi*? The work is done throughout the country by local boards, which are supported in their efforts by advisory boards. An advisory board is made up of ten physicians. In the event of dissatisfaction, appeal is made to an appeal board, and here again medicine is represented as one of a group of five. So that the system is decentralized. The local board really does the work. It makes the decisions and sends the men to the Army for induction. There are 6,400 of these boards throughout the country and 18,000 examining physicians. All of these are working on a voluntary basis. Every doctor is doing the best he can as a patriotic service.

How can this Council assist local boards and the examining physicians? In housing: These boards find themselves in police station cellars and bank cellars, carrying on a medical function: This organization could help us to house properly the medical function of all these boards in medical institutions, in hospitals and in medical schools. In providing assisting personnel: This is a patriotic service. It is a time of emergency. You have medical students who could assist in the work of the country as clerks, as collectors of specimens and in other ways. You could supply laboratory facilities, so that the examining physician, after he has examined three or four men, after the work in his office in the evening, does not find it necessary to go to the police station to deliver the tubes of blood to a sergeant of police who does not want to accept them. But the greatest service that you can do is to help in our crucial job. We are interested in many things that can be handled on an intelligent basis only locally. We cannot operate intelligently unless you participate in the work, furnish the information and give us the material on which to act. Intelligent selection means consideration both of civil needs and of Army needs. In the District of Columbia there is not a single local board that is not located in a hospital or medical school. In New York they have worked out a system of collaboration that is tremendously decreasing the burden. It is possible for you to do away with 50-per cent of the burden of Selective Service in its medical function and all the drudgery which falls on these volunteer workers. How can you help state departments? You represent licensure as well as medical schools, and where there are no medical schools you can act with the liaison office through your headquarters, through the state headquarters of Selective Service. How can you aid national headquarters? You have a committee which is already dealing with problems of preparedness and if you would have one of that committee act as a liaison officer, or if your committee would come to Washington and help us to face some of our problems in our own locality, we would welcome it.

What are some of our most pressing needs? We have to get an improvement in the examination of these men. We threw out 20 per cent totally disqualified and had 12 per cent for limited service and then the induction boards threw out an additional 12 per cent. So that it looks as though our acceptations on a total basis will be in the neighborhood of 68 per cent at the present time. They were 70 per cent in the last war. The

question of psychiatry has been a terrible one. The psychiatrists of the country have given us an advisory board. They have opened up seminars all over the country. They have gotten out circulars. No group has done more to help Selective Service than have the psychiatrists. Then we have the statistical problem: sixteen million five hundred thousand individuals, with people clamoring from all kinds of organizations for data. We have a committee under Dr. Lowell Reed composed of all the outstanding statisticians of all the great bureaus in Washington, and we have as our personal adviser and consultant Dr. Halbert Dunn, who is the head of Vital Statistics.

We come to the question of deferment. Our director, Mr. Dykstra, has exhausted the possibility to keep within the law and give as much deferment as is possible. Blanket deferment is illegal, and we shall not get blanket deferment through Mr. Dykstra unless he changes his mind. I believe that he has ways of solving perhaps 50 or 70 per cent of your needs in deferment. You can bring about deferment for yourselves to a large extent by changing the impersonal point of view, often the antagonistic point of view, of the local board to one of personal interest based on needs. You can reveal the needs to these boards. Make certain yourselves which men you feel must be deferred. You must have in your organization one man who will represent Selective Service, and he must know every way to bring about just deferment. If you collaborate with us we will go as far as we can in molding public opinion, but our influence is slight compared with that of the American Medical Association and with the schools and hospitals of the country. We need public opinion with us in order to bring about deferment. I have attended innumerable meetings in Washington devoted to the subject of deferment. If we could get an enlisted reserve of the Army it would solve many of our difficulties.

Is it not possible in your preparedness lectures to include something on Selective Service, and perhaps to bring into the group some dental instructors from dental schools to help in the teaching of the medical men in the field in which they are obviously weak?

If we are going to examine six million five hundred thousand men and only two thirds of them are going to be considered strictly normal, isn't there in that group perhaps the best opportunity that medicine has ever had to teach the normal and the slight departures from normal, because there will be probably at least a 12 or 15 per cent difference in the opinion of the experts of the advisory boards and local boards on one side and induction boards and the Army on the other? Every group in the country has had to make adjustments. In medicine we must keep the standard high, and I am going to ask you to consider every way to keep this stream flowing of the same quality that we had; but I think that you may have to consider numbers and you may have to consider temperament. Dr. Rawlings has told me how in Canada they have a special type of consideration of students whereby they get training in the particular field that will be of advantage if they are taken into the army. Isn't it possible that we might use vacations or in some way direct a certain proportionate time of these men so that it will meet military needs? We must take a long view of this, because there is a strong probability that we are in for a long time and we must prepare on that basis. We ought to organize to aid one another.

DISCUSSION

CHAIRMAN WILBUR: To try to administer as stupid a piece of legislation as Selective Service is some task. This legislation is a compromise between different points of view, passed by a legislative body. What hearing did the medical group have on this bill? What did the universities get? Nothing. It was put through without any consideration of the modern ways in which wars are fought. You cannot expect, without physicists and chemists and mathematicians and doctors and bacteriologists and so on, to take on a long war. We are up against it. We must educate the people or we shall show that our democracy is unable to meet the real situation. It seems clear that if we are going to destroy our medical institutions we are not going to have prevention and we are not going to have the things we have had for the protection of the American people and for the protection of the military service.

DR. MORRIS FISHBEIN, Chicago: The subjects discussed by Dr. Rowntree had careful consideration on Saturday in a joint conference held by the Council on Medical Education and Hospitals and the Committee on Medical Preparedness of the American Medical Association with the Subcommittee on Medical Education of the Health and Welfare Committee of Mr. McNutt, who is the coordinator for health and welfare. This body, having the advice of representatives of the Army and the Navy Medical Corps and of the United States Public Health Service and of other agencies, sent to Mr. Dykstra a telegram in which they disagreed flatly with the concept that it is not going to be possible to defer medical students in connection with Selective Service. There are many reasons why medical students must be deferred. It is more pressing than almost any other need with which such agencies as the Office of Procurement and Management and similar groups are concerned. The United States Army Medical Corps is undergoing an expansion and has indicated to the Committee on Medical Preparedness of the Association that it will require during the next five years eight thousand physicians each year from private life to aid the training program under the Selective Service Law. There are in the medical schools of the United States graduating each year about five thousand two hundred men, and they go at once into internships and many of them thereafter into residencies. If we were to take from the available men who graduate and who have a one year internship those who can be taken at once into the Selective Service and the Army medical training program, we could count on about three thousand five hundred men who would be susceptible to the draft as selectees in order to provide medical men for the Army, and thus you see we are only beginning. If we use every man who is possibly available, we are only beginning in that way to answer the needs of the United States Army and Navy Medical Corps for physicians who will be required in their work. Mr. Dykstra made the suggestion that the medical schools of the United States at once begin to increase their enrolment in the freshman class by 10 per cent. If we were to begin with the next semester to enroll 10 per cent additional men in medical schools, the first men to become available would become available in 1946, which would be after the present five year training program is completed; but were this not the case, not the slightest suggestion was made as to how those schools, which are now crowded to capacity without sufficient equipment and without other things necessary to continue at the topmost point the medical training that they now give, could enroll an additional 10 per cent of men. Neither is there evidence that they could get 10 per cent additional of men as well qualified as those they now get, and the percentage of failures at present among some six thousand men admitted to medical schools each year in the United States is sufficient to show that not even the high quality of men now admitted to medicine are all able to complete successfully the modern medical curriculum. I agree with Dr. Rowntree that any attempt to lower the quality of medical training now available in this country would defeat the purpose that every one is seeking. There can be no possible lowering of medical standards to meet the kind of emergency that exists. The picture as we see it is this: Dr. Rowntree has told us that if Mr. Dykstra will change his mind and if his board will change their minds something can be done. If these men cannot change their minds perhaps we need more flexibility and understanding on their part of what the need is in relationship to proper deferment of every single well qualified medical student in good standing in an approved medical college. It is more important to do it by a proper message from Mr. Dykstra, or other people even higher than Mr. Dykstra in this situation, than to attempt to secure new legislation, because new legislation, such as the ridiculous proposals which have come from Senator Murray, would aid in bringing into the ranks of medicine men from many schools not properly approved, men from many organizations and institutions who could not possibly qualify to meet the standards which the United States Army Medical Corps has already set for the obtaining of a commission in the Medical Corps. The medical profession is going along with the Selective Service. We have provided more than six thousand physicians for Selective Service boards. We have provided more than one thousand two hundred physicians for induction boards. We have pro-

vided approximately one thousand physicians for appeal boards and for other agencies associated with the Selective Service, and in the case of any emergency the medical profession will provide forty or fifty thousand physicians to meet the medical needs of the Army and Navy and the Public Health Service and the civilian needs of the country; but we must have the kind of sympathetic understanding which will enable us to function efficiently at the high level that we have had in the past, and we must not permit any type of political manipulation or maneuver to use an emergency in an attempt to lower the standards of medical service or the quality of medical education.

DR. NATHAN B. VAN ETEN, New York: We have heard that war is a degeneration of the moral forces of all the people. Because of the high moral standards of medical education for public service, the medical profession occupies a position of leadership. It must not be let down by sacrificing any of the preliminary education of students. This is a five year program. Young men fear to disrupt the process of supporting themselves and their families. I think we must look to older men, up to the standard retiring age of our hospital attending and visiting physicians and surgeons, to fill a great deal of the force of direction and service to the government in this selective operation. Plenty of men above 50 years of age are competent and willing to give service to the government. Details of rank and waiving of pensions can be arranged. We should not sacrifice any of the preliminary developments in medical education or any of the freshmen, sophomore, junior and senior grades or the one year internship. We must look to some of the older men who have already been deferred by age to take the places that are so important in the management of all our basic defense.

DR. WILLARD C. RAPPLEYE, New York: We have been working in our area within this act in an endeavor to carry out the very point that Dr. Rowntree is making, namely of endeavoring to do it locally, and we have worked out a plan in New York City, through the director of the Selective Service for the city and through the organizations concerned in the hospital field, the medical schools, and other agencies. We have worked largely with the appeal boards, with the result that when material and questions have been brought to them from the local boards they have had a reasonably uniform policy in this local area. There are reasons in some of the sections of the country why this might not work, but it is working with us. In our New York area we are getting along satisfactorily with the present arrangement and are not eager to see changes in legislation or other devices introduced that will upset what we are actually carrying out. When you realize that one fifth of all the residencies in the United States are in the New York City area and one sixth of all the internships and we have our own proportion of the medical students, you realize that we are dealing with a major feature of this problem of the country as a whole. We have gone further too in some of these matters that Dr. Rowntree mentioned in collaboration with local units, for example in providing hospital facilities through the city department of hospitals for induction boards in the neighborhood, and we have been doing things of that kind even outside the draft mechanism for dealing with medical needs, and now we are serving all the induction boards of New York City without the slightest difficulty and they are sending their patients in as they are picked up by the induction boards under certain regulations. We are also handling all the questions in our municipal hospitals of transfer of individuals, ambulance service and otherwise, in the actual handling of this large body of soldiers that may be in actual process of transport. We are eager to help and have found the greatest response on the part of local boards and appeal boards and the director of the New York Selective Service. We can understand that uniformity does not exist in the country, and one of the greatest benefits that could come would be pronouncement of a satisfactory policy that the federal authorities would regard as reasonable for uniformity in dealing with these problems. We should have our local boards handle the problems, as they now are under the law. In other words, we have to carry out a great deal of local educational program through medical schools, county medical societies and hospitals, and we have had complete collaboration with those three major agencies in New York. All of us are firmly convinced that

nothing should be done to interrupt the stream of satisfactorily trained physicians. We have done one other thing: We have separated out for deferment the medical students and interns, and I include those who have been accepted for the incoming first year class, although that is still perhaps not as satisfactorily worked out because we haven't actually reached that difficulty yet; but at any rate we are handling the interns and medical students on an educational basis and appealing for deferment of those students on that ground, and in doing so in every instance the medical school is certifying to the local board that a student is in good standing and we give them full information regarding the student. For the most part we are requesting that he be put in 2-A under the classification of "necessary man." When it comes to the teaching staff we have other special problems. There again we have certified those whom we regard as essential. We have set up a committee, in the faculty of medicine in our own institution, as an illustration, and every individual in the institution is classified by the head of the department and a committee on administration of the faculty, and no one individual department certifies as to the essential services of an individual. It must come from the central committee of which the dean is chairman, and we have found frequently the necessity of not granting the request of the department that the individual be considered essential. We decided that we were on sounder ground if we requested the deferment of the resident on the basis that he is an essential person in the local community health program. We have secured deferment of residents in all our hospitals until the completion of their internship or their residency in this instance, provided it is a reasonable period. We would ask for no deferment beyond two years in the residencies. Most of the local boards go along with us on the deferment straight through the residency as long as we keep reasonable. It is important that we be not presented to the public as a group attempting to secure special consideration and deferment for our own benefit. Our purpose of deferment and our requests for deferment are entirely in line with keeping a stream of adequately trained person for the medical services. What we are anxious to do is to have every student at the proper time serve his country.

DR. HAROLD S. DIEHL, Minneapolis: It is heartening to hear the optimistic note in Dr. Rowntree's discussion of the possibility of deferment of medical students until they have completed their undergraduate medical education. England and Canada have both insisted that this be done. Every authority in a responsible position in this country for public health work and for the provision of medical service insists that it is in the interest of national defense and the public welfare that it be done. In view of all this it has seemed incomprehensible that provisions to accomplish this were not taken care of long ago. All that we are asking is that military service for this group be deferred in order that they may complete the training that is essential for the public welfare. If this is done, these young men will go into military service at the time of their maximum effectiveness to the armed forces. Dr. Rowntree made suggestions concerning methods by which deferment may be facilitated. All of us who are deans of medical schools can assure him that the medical schools will cooperate with local draft boards, advisory boards and appeal boards in carrying out the provisions of the Selective Service Law. This will make for a better understanding among the groups. However, if we are going to have uniformity of action throughout the country we must have a statement from the national headquarters of the Selective Service, which will go to state offices, to appeal boards and through them to local draft boards, that it is considered to be in the interest of national defense and the public welfare that military service for medical students be deferred until they complete their undergraduate medical education. If this is done, the education of physicians can be continued without serious interruption. This provision for deferment must include all classes in the medical schools and students who have been accepted for admission to the medical schools. If deferment is provided only for third and fourth year students, next year will have few third year students and the year after that will have few third and fourth year students in medical schools. We must have a continuing supply of qualified students entering medical schools and continuing

through each year of the medical course. It would be tragic for our country to disrupt the training of these carefully selected and already partially trained young men.

DR. E. J. CAREY, Milwaukee: I should like to assure Dr. Rowntree of the hearty cooperation of the medical schools. We have already done it in Milwaukee. As medical examiner of one of the boards, we have coordinated the work of the medical examiners in Milwaukee, in the west part of the city, and all these examinations are conducted at Marquette University School of Medicine. What we have done is to mobilize the various departments. All the departments of the medical school as well as the students have been conducting these examinations over the last three months. If the medical schools were as derelict in their duty as apparently some of our superiors have been and that foresight were lacking, these examinations would not have been completed, for we have had to use our own supplies all the way through, although there has been a promise on the part of the government. I am saying this advisedly and not as a critic from the outside, because I am a National Guard officer myself, and when it comes to appealing for a little more reason and a little more sense in regard to what we need in this country in preparedness, it is time a little more intelligence was manifested in regard to assuring these boys what the future is going to be in regard to the study of medicine. I think that this year in all the classes we have seen more jitteriness on the part of the students and that is not to the best interest of their intellectual progress in school. They are contributing night work in regard to these medical examinations. There should be more cooperation on the part of others rather than the indictment of the medical profession which is going on in Washington, D. C., at present and in other centers.

Educational Purposes of the Standard Nomenclature of Disease

DR. EDWIN P. JORDAN, Chicago: The names of diseases have been chosen so haphazardly that the same term has not always meant the same disease and different terms have often been applied to disease processes which were essentially identical. Today much more is known of the nature of many diseases and a better attempt can be made at scientific classification than anything which was possible previous to the twentieth century. However, the situation with regard to classification of disease is still disorderly.

Any classification of disease should be rigidly inspected as to the purposes and how well it satisfies those purposes. What then are the desiderata of a classification of disease? 1. All diseases which are alike should appear under the same heading. 2. The classification should differentiate clearly between a disease entity per se and those manifestations of a disease which are properly called symptoms but which are common to different disease processes. 3. The title applied to a disease should indicate at least to some extent what the nature of the disease really is. 4. The classification should be established so that new diseases can be added or change in the fundamental information concerning a disease can be recorded by modifying the title or other descriptive features. Furthermore a classification of disease should serve to differentiate clearly between a disease entity and symptoms which may be caused by different disease processes. For example, hypertension, although one of the most common of all diagnoses, is not a disease entity but a symptom which may develop from several kinds of disease processes. It does no disservice to medical education to attempt to force physicians, residents, interns and medical students to clarify their thinking on such differentiations by requiring that symptoms be placed with symptoms and diseases with diseases rather than generally mixed up. If hypertension is not a permissible diagnosis, some effort will have to be made to determine what is the cause of that symptom.

Titles which give no information as to the location or cause of disease are common, and it will be many years if ever before they can be entirely eliminated from medical publications. Among the most striking of the meaningless titles in this sense is the eponym—that disease which has no other name than

that of some man who discovered the disease. A striking example of this is the term Pick's disease, as there are four diseases to which this eponym is attached, each called after a different man of the same name and applying to different conditions.

A satisfactory classification of disease must provide for change in knowledge or for the discovery of some new disease. Any attempt to standardize the expression of present knowledge must recognize that medicine is dynamic and that what today is considered standard may tomorrow be viewed as an old fashioned idea. Nevertheless the very attempt to label disease has resulted in much progress in medicine and there should be no danger of stifling medical thought by adopting a rational method of disease classification.

The Standard Nomenclature of Disease was initiated in 1928 by the New York Academy of Medicine and became fathered by the National Conference on Nomenclature of Disease. The basic plan was officially adopted in 1930. Under the editorship of Dr. H. B. Logie, the first edition appeared in 1933 and a second edition in 1935. The method adopted was to classify each disease according to its anatomic location and etiology. Numerals were adopted to promote flexibility and accuracy and to facilitate filing purposes. Three digits are used to describe the anatomic site. There are twelve main anatomic divisions, beginning with 000, Body as a Whole, and proceeding with the various systems such as 300, Respiratory System, 700, Urogenital System, and the like. Each diagnosis involving the same region of the body always receives the same anatomic numerical designation. Similarly, any one etiologic factor, regardless of what part of the body is involved, always receives the same etiologic designation. The Standard Nomenclature thus attempts to answer the problems of placing like diseases in the same pigeonhole and the comparability of disease diagnoses in various institutions.

The Standard Nomenclature does not allow the entry as a disease of such terms as dysuria, leukorrhea, anuria or hypertension, all of which are symptoms. Since it is recognized, however, that symptoms may be of interest for certain types of medical investigation as a matter of record, the Nomenclature contains lists of supplementary terms, which can, if an institution or an individual physician desires, be entered on separate manifestation cards and recorded with the understanding that they are not themselves diseases. The Standard Nomenclature represents a step toward the use of descriptive titles and it employs English terms in good usage when possible. The copyright and editing were transferred to the American Medical Association in 1937. Its periodic revision for an indefinite period is contemplated.

No disease nomenclature can be above criticism, and the Standard Nomenclature of Disease has proved to be no exception. One must take cognizance of the objections, and with this purpose in mind the present revision of the Standard Nomenclature, which is almost completed, will present a somewhat changed form and arrangement. The changes, however, will not result in any serious disturbance for institutions already employing the Nomenclature. The demand for a surgical nomenclature to accompany the disease nomenclature has been so overwhelming that it was decided by the National Conference on Medical Nomenclature to authorize such a compilation. This is in process of preparation.

Objectives of Medical Education

DR. SAMUEL C. HARVEY, New Haven, Conn.: The more important qualities required of the physician, whether in practice or otherwise, are those of integrity, intelligence, capacity for work, judgment and a faculty for ascertaining the truth. None of these can be favorably determined by the traditional didactic and obligatory approach to education but rather by example and by the actual experience of the student. The one objective that can be best learned in the medical school is that of the method for determining the truth, that is the scientific method. This is fundamental to every variety of professional activity in which the future physician may engage. The educational experience should be so directed as to ensure the continuation of learning throughout one's professional life and not cessation with the obtaining of a degree. By direct

experience, correlated with the accumulated experience of others, not only can the scientific method be learned but also an adequate basic content of knowledge. It is the obligation of the faculty to provide the student with opportunity for learning, but it is primarily the responsibility of the student to take advantage of such.

A School of Dental Medicine

DR. C. SIDNEY BURWELL, Boston: In June 1940 Harvard University announced the proposed transformation of the Harvard Dental School into the Harvard School of Dental Medicine. Under this plan, men seeking to enter dentistry will register in both the School of Dental Medicine and in the Harvard Medical School. At the end of five years they will receive both the M.D. and the D.M.D. degrees. They will thus be both medical students and dental students.

There are two points about this plan which should be considered here. First, what is the reason, if any, for suggesting that men planning to enter dentistry should have medical training in addition to dental training? Second, if it can be shown that both types of training are desirable for these men, is the proposed plan a good way to attain this objective? Clinically or physiologically speaking it is impossible to separate any part of the body from the other parts and unwise to neglect or minimize the importance of general factors in their effect on those reactions to injury which constitute disease. There is a wholesome crumbling of barriers between departments in schools and hospitals and a useful extension of cooperative undertakings in the care of patients, the instruction of students and the prosecution of research. The growing appreciation that, while specialization is useful, isolation is dangerous is shown in the changing attitude toward special hospitals. It is now widely accepted that such hospitals are usually better as special departments of general hospitals than as segregated institutions.

The course at Harvard which is proposed as a basic preparation for dentistry is to include, essentially, the basic course now given in the Medical School as a preparation for medicine. In planning the course it has been carefully kept in mind that this biologic training, this basic medical experience, is to underlie and supplement and not to overlie and supplant the technical preparation necessary for immediate remedial intervention in dental disorders. What is desired to train is an individual competent to deal, from the point of view of reparative and restorative procedures, with the dental problems of his patients and to provide this individual with such a basic experience that he can take advantage of certain opportunities now existing in the field of dental medicine. These opportunities include, in addition to the general practice of reparative and restorative dentistry, teaching, research, special types of practice and public health. There is an opportunity for the study of dental disease by men who have a first class training in dentistry and a better biologic and medical background than is given by any existing dental school. Accordingly, men will be admitted to a combined course which will include the essentials of the four year medical school curriculum, plus a basic training in dentistry as such. These men will not be segregated but will be integral members of the medical school classes. The plan makes possible the recognition of certain courses in dental subjects as appropriate training for the M.D. degree and of certain courses in medical subjects as appropriate for the D.M.D. degree. There is already some opportunity for election in the course leading to the M.D. at Harvard. We hope there will be more. At any rate, a certain amount of leeway is permitted the medical student in his choice of subjects. The Faculty of Medicine is rightly prepared to accept courses dealing with oral and dental disease in this elective. This seems to me a cordial cooperation in the joint effort toward a closer relationship between medicine and dentistry. It is not a lowering of the standards of medical education, nor can I see how any one, least of all dentists with their first hand knowledge of the relations of oral disease and general health, can question the validity of an appropriate amount of work dealing with oral disease as part of the qualification for a medical degree. The presence in the class of a considerable number of men who have a deep interest in den-

tistry, the responsibility on the teachers in the medical school of remembering that the teeth and jaws are actually part of the human body, are calculated to improve rather than to depreciate the medical education of all the students in the Harvard Medical School.

The dental training of these candidates for the two degrees will not be concentrated at the end of their course but will be scattered throughout the five years, increasing in amount from 5 per cent the first to 87 per cent the final year. Special opportunities will be developed in hospitals and clinics for new forms of clinical teaching in dentistry and medicine as related fields. A group of small, active departments in the School of Dental Medicine will include the Department of Orthodontics, the Department of Oral Surgery and the Department of Clinical Dentistry. These departments will work in close cooperation and collaboration with the pediatricians, the obstetricians, the anatomists, the biochemists, the surgeons, indeed with all the divisions of the medical school, since all are concerned in this important problem. The purpose of the plan is to train dentists, and they will have opportunity to acquire not only the requisite knowledge but also the requisite skill.

The present plan for the Harvard School of Dental Medicine is not a new idea. The tendency or trend of development of dental education for twenty-five years has been toward a new and effective relation with other divisions of the sciences concerned with health matters, and perhaps the plan may be described as a recognition of changes which have already taken place in dentistry. The plan has been set up. As an educational experiment, it may be important not only to the future of dentistry but also to the future of medicine. It will not only supply the country with a group of men with a training applicable to the practice and study of dentistry but we hope it will also result in experience which may be useful in planning the training of men concerned with other special fields of medicine.

The Problem of the Premedical Student in a Physics Department

HARVEY B. LEMON, PH.D., Chicago: We have before us today the specific problem of the rigorous analytic second year sequence in physics as it is now being given. To this course no one is admitted who is not adequately prepared in high school in mathematics and elementary physics or has been successful in our introductory general course. This sequence is rigorous and preprofessional from the very start. It is fully at that level of rigor with the corresponding physics courses in our best engineering schools. Of the one hundred and twenty-five odd students who sit before us each year in this course, 50 to 60 per cent are premedical students of whom its successful completion is required for entrance to medical school. This course was but the first of many hurdles which the student must take before he could qualify himself to enter the practice of medicine. Those that we eliminated were alleged to be of the type that would ultimately be eliminated anyway long before work to an M.D. degree was completed. Although we find no significant difference between the average grades of the premedical students and the others, it has been true for some time that the 5 to 6 per cent of failures in this course are of the premedical group, with an exception now and then. The low grades of these failures are offset in the average by the almost equal number of exceedingly able students having the same professional destination. Moreover, even the failures are not students whose capacity for intellectual effort is especially low. They are those who underestimate the amount of time necessary to get the minimum passing grade in the physics course.

About two years ago the Department of Physics was authorized to segregate the premedical students if this seemed desirable. The medical dean's office was informed that it might be some years before we availed ourselves of this grave responsibility. An attempt has been made already to enlist the interests of a group of medical colleagues in the problem, and progress seemed to be under way until these gentlemen became aware of the great improvements which have been made in physics instruction per se in the last decade. Thereupon our colleagues' opinion was almost unanimous that now, more than

ever before, if the premedical student had any significant difficulty with his college physics he was undoubtedly a hopelessly undesirable candidate for medical entrance. The effort was completely abortive and here we seem still to be stuck. This, therefore is why we are seeking for light on the, perhaps, unwarranted assumption that the problem really has not yet been faced and settled.

The best, most modern attempt at building a year's course in physics, motivated by the needs of the premedical students, has been made by Prof. E. L. Harrington of the University of Saskatchewan, who has spent many years and wide travel conferring with medical men on this problem in this country and abroad. His work deserves great credit. Nevertheless, a careful study of his book revealed too many lacunae with respect to fundamental items necessary to a thorough understanding of the principles and methods. I cannot see in it a solution to this problem. Indeed I wonder if it might be possible to make physics much better integrated with biology if we should not make such a course available to all our students—not just the premedics. It would certainly be inconsistent with our previous experience and the trend of curriculums today if we did otherwise.

We finally came to the opinion that today no single individual could possibly encompass this task. A lone physicist working on this problem, and finding for himself great interest in the newly opened vistas of biology, becomes unconsciously a biologist. His attention to and substitution of biologic illustrations for those taken from geometry and engineering desensitizes him to the importance of some of the simpler fundamental aspects of geometry and logic that must not be omitted. His book makes interesting reading, but the premedical student going through it will emerge with only the vaguest ideas about some matters on which for all his future work he should be crystal clear.

Then to what has the enormously increasing use of the methods of physics in physiology and in medical research been due? In the main, is it not true that usually it is not one person but teams of two or more who, by means of cyclotrons, are producing artificial radioactive materials whose biologic importance is the focus of attention? Do not the increasing uses of detecting and amplifying circuits in neurology and neurosurgery, the adaptations of long established methods in optics and electrolysis now used to separate and segregate various proteins and enzymes by electrophoretic transfer in solutions, and many other illustrations, testify to the efficiency of teamwork between specialists in different fields? If this is true, I submit that the solution of this problem of the premedical student in the physics course will lie in some institution or organization making available the time of three or four well trained young men of a maturity and expertness to be expected in the ranks of senior instructors or assistant professors, and assistant or head residents, and comprising a physicist, a chemist, a physiologist and a clinician. These men must be enthusiastic to devote the best part of a year to this job. Their reward will be great, for they will acquire a liberal education in these specialties from one another. Furthermore, the sponsors of the enterprise should be willing to go "all out" in their administrative organizations to see that such a task is crowned with as much recognition as is accorded similar outstanding and creative work in pure research.

As one example of the methods which the physicist member of such a team could bring to it for adaptation let us glance at one of the new methods which have been developed at the University of Chicago and now are finding adoption elsewhere. This is the demonstration laboratory method. Through it in physics we have been able to increase fivefold the number of experiments in a college physics course and at the same time leave about the same number of hours available for classroom work, problem solving and more conventional laboratory exercises. We do not think much of all that time-honored cook-bookery and skulduggery of the traditional and conventional laboratory work. May I appeal to you to give this matter the benefit of your serious reflection. A group such as yours within a week could set appropriate machinery in motion directed toward finding a solution. If, on the other hand, this is not a real problem to you, please accept my apologies for

taking precious minutes of your time. If you don't wish to take my word for it, talk to any thoughtful group of pre-medics or interns about it.

Undergraduate and Graduate Medical Education for Negroes

DR. EDWARD L. TURNER, Nashville, Tenn.: This article will be published in full in THE JOURNAL.

JOINT SESSION OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS AND THE FEDERATION OF STATE MEDICAL BOARDS

FEBRUARY 18—MORNING

DR. JOHN R. NEAL, Los Angeles, in the Chair

The Function of the Museum in the Medical School

DR. WILLIAM BOYD, Toronto: This article will be published in full in THE JOURNAL.

Purpose, Content and Methods of Teaching Public Health to Medical Students

DR. HAVEN EMERSON, New York: This article appeared in full in THE JOURNAL, March 15, page 1040.

The Confused State of the Internship

DR. REGINALD FITZ, Boston: This article appeared in full in THE JOURNAL, March 15, page 1037.

DISCUSSION

MALCOLM T. MACEachern, Chicago: A great deal has been said on the subject of internships and the manner in which they are approved. The tone of the discussions has been somewhat tempered as verbal expression has been supplemented by investigation. The Continuation Report of the Subcommittee on Intern Education submitted to the Association of American Medical Colleges in October 1940 contained the admission that it was difficult to evolve "clearcut standards for the training of interns." The reasons given for the difficulties were the enormous variations in clinical resources, type of service, educational affiliation and financial support of the hospitals offering internships. Of these difficulties, of course, the Council on Medical Education and Hospitals has long been aware. It takes actual, close working with a problem to learn all the conditions that interfere with its solution. I think that there is room for improvement in every activity of the hospital, including professional education, and that improvement can best be achieved by utilization of the interest of every group concerned in any way with hospitals. The internship is more than an educational discipline. It is a start toward putting education to use in a controlled situation. That aspect sharply differentiates it from the medical school course. The chief responsibility for the intern cannot logically be transferred from the hospital heads to the deans of the medical schools. In a few hospitals closely allied with or controlled medical schools there is, of course, formal integration, but how the schools in general could direct the internships in all hospitals is difficult to conceive from a practical point of view, and how the hospitals could adapt themselves to such direction is more problematic because of their great variations. A complicating factor is the withholding of the degree in medicine by twelve medical schools until completion of the fifth year, and the requiring of a year's internship before granting a license to practice medicine by twenty-two states and Alaska, the District of Columbia and Puerto Rico. In 1940 there were eighteen hundred more internships available than there were graduates of the sixty-six medical schools giving four year courses. The quality of internships from both the educational and the clinical point of view could undoubtedly be raised by achieving a better balance between these figures. This might be accomplished by withholding approval from those hospitals which are now barely within the present interpretation of the requirements. Dr. Fitz has spoken of the futility of trying to get action from representative groups because of the many divergent views. I would not say that it is futile. It is the democratic way. In no other way than by endless con-

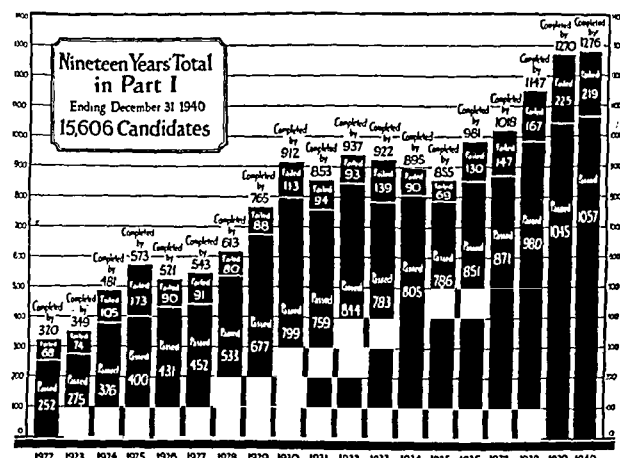
sulting and conferring can we gain the advantage of the interest and constructive ideas of all the groups concerned. There is an abundance of excellent literature containing conclusions of investigating committees as to the content of the training for the intern year. Special studies fully set forth the educational objectives. A minimum standard for training interns has been developed and promulgated by the American Medical Association. The standard should not be viewed as static; it must be interpreted in accordance with the trends of the day. The Council on Medical Education and Hospitals has an open mind in respect to progressive interpretation of the standard. Machinery has been set up and has been in operation for years by the Council. This survey is a huge task, involving hundreds of hospitals, of which seven hundred and thirty-two are on the last approved list for intern training. I venture to say that more than a million dollars has been spent by the American Medical Association on the surveys of medical schools and hospitals since the movement commenced. Survey work is a special art and science. In the hospital field it requires special training and careful supervision to make men competent in such highly specialized work. Accrediting or approval programs carried on by questionnaires, correspondence, casual conversation, personal acquaintance and the like are comparable to making a diagnosis at long distance on patients you have never seen. Inaccuracies are sure to occur in both cases. Multiple inspections of hospitals for the same purpose should be avoided. The American Medical Association and the American College of Surgeons have a plan of coordination and cooperation in inspections so as to prevent omissions of overlapping in their respective fields. These inspections supplement and complement the work of each organization. It is impossible to police all the hospitals when there are more than seven hundred of them approved for intern training. The fundamental difficulty is that the hospital is not primarily an educational institution. The educational program must be superimposed on the primary purpose of the hospital; that is, care of the patient. The average hospital not connected with a university has economic and other practical difficulties to surmount in its educational program, and all the circumstances in each individual case need consideration before we can arbitrarily withhold approval because the plan seems to fall short on account of educational deficiencies. America has the opportunity to lead the world in medical education, and we cannot put too much thought into laying a good foundation in the medical schools and in the years of internship and training in the specialties. The Association of American Medical Colleges, the Commission on Graduate Medical Education, the Federation of State Medical Boards, the Council on Medical Education and Hospitals and the American Hospital Association should work out this problem together and continue to use the existing machinery for the steady improvement of both the educational and the clinical aspects of medical training. These two phases cannot be separated but must be merged, and both points of view must be integrated to assure the advancement of medical science and practice that we all desire.

The National Board of Medical Examiners as Related to Medical Licensure

MR. EVERETT S. ELWOOD, Philadelphia: Medical licensure in this country by state boards of medical examiners had its beginnings in a few states in colonial days. The last quarter of the nineteenth century saw rapid progress in the establishment of state licensure boards, and by 1895 nearly all the states were so provided. The National Board of Medical Examiners has no licensing power and could not obtain this power if it so desired. Its work is related to medical licensure only through the cooperation of the state boards of medical licensure. The National Board is a qualifying body that was organized for the sole purpose of examining applicants for licensure. The certificate which it gives the physicians who pass its examinations is recognized and accepted by nearly all the state boards as a proper passport at the gateway to medical practice.

When the National Board was launched twenty-five years ago, reciprocity between the states in respect to medical licensure was almost unknown. This board was inaugurated to provide

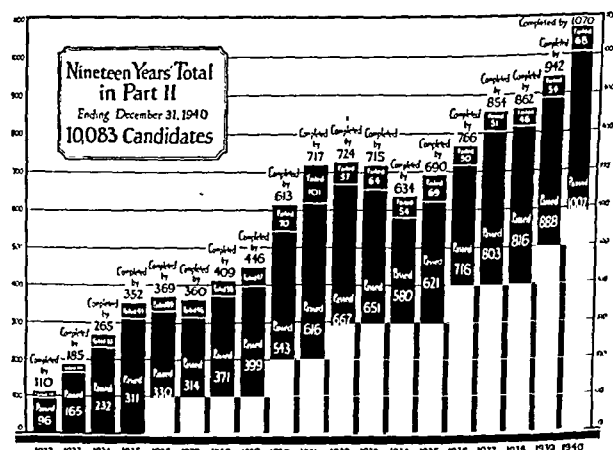
the means whereby well trained men and women in medicine could obtain a license in any state without being required to pass an examination whenever they crossed state lines. Soon after the National Board was organized, eight states reported that they would accept its certificate as an adequate qualification for a medical license. At present forty-three states, three terri-



Results of examinations in Part I of the National Board of Medical Examiners, taken by 15,606 candidates during the nineteen years ended Dec. 31, 1940.

tories and the District of Columbia issue medical licenses to those who have passed the National Board examinations without requiring that these applicants take further written examinations. It is this cooperation on the part of the state boards that gives the National Board a part in the process of medical licensure. There are now only five states that do not cooperate with the National Board of Medical Examiners, and the state boards of nearly all these have given assurance of their desire to cooperate as soon as certain legal and other difficulties can be composed.

The National Board is a composite organization with a maximum of thirty members, five of whom are representatives



Results of examinations in Part II of the National Board of Medical Examiners, taken by 10,083 candidates during the nineteen years ended Dec. 31, 1940.

nominated by the Federation of State Medical Boards. Six memberships include the three surgeon generals of the Army, Navy and Public Health Service, and a second representative from each of these three services. Three members are representatives of the Association of American Medical Colleges and two additional members are representatives from the Council on Medical Education and Hospitals. The remaining minority members are elected by the board.

As the work of the board has developed, other benefits have proceeded from its examinations. These are more or less of a

professional nature. A high type of examination given three times a year on a nationwide basis has been said to be one of the best barometers of medical education in that the various schools may have the results of their students in the examination to compare with the results throughout the country. It is also of some professional value to the physician himself to have a certificate which says that he has passed what is generally recognized as the most thorough examination for entrance into the practice of general medicine.

There are undoubtedly grounds for criticizing examinations because the best examinations are not yet perfect. This may be said of all methods thus far devised for the appraisal of mental capacity. The deans of many of the medical schools

license. A problem that has given the state boards and the National Board much concern is the great increase in the number of foreign-trained physicians who have applied for examination and licensure. Some of the state boards have adopted the requirement that the foreign-trained physician must pass the National Board's examinations. The National Board has been willing to assume this burden for the sake of doing its share in the solution of the difficulties presented by the foreign-trained physician.

The basic science boards, of which there are now fifteen, have in a number of instances placed a check on reciprocity between the states and have complicated the granting of medical licenses on the certificate of the National Board. There is apparently no adequate reason why the basic science laws should not contain a provision giving the board discretionary authority to endorse an examination of such proved quality and character as that of the National Board. Generous and complete cooperation on the part of all of us is the only way in which our lofty purpose can be fully achieved.

DISCUSSION

DR. ROY B. HARRISON, New Orleans: The National Board of Medical Examiners has reached the stage where it is part and parcel of licensure. The cooperation that the National Board has given to the different licensing boards has been happy. Its examination I think is one of the best licensing examinations that are given, and as time goes on it is going to play a more prominent part in licensing. Owing to technicalities, Louisiana has not been able to recognize the National Board certificate. All the members of our state board are in favor of it and, I am happy to say, I think that within a year all these technicalities will be smoothed out and that we shall recognize the National Board.

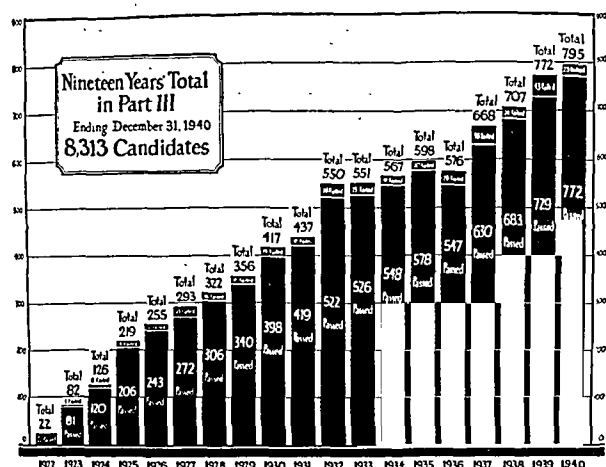
Basic Science Boards and Medical Licensure

CHARLES CARTER, PH.D., Fairfield, Iowa: Since the organization of the first basic science boards in Wisconsin and Connecticut in 1925, states from the Atlantic through the Middle West to the Pacific Coast have set up such boards. No state having established such a board has discarded it. The objective of basic science boards is to insure that all candidates seeking the right to care for the sick and the injured shall possess a reasonable knowledge of the sciences fundamental to the healing art. A basic certificate is only a preliminary step toward licensure. Until there is greater uniformity among the states as to the scope and thoroughness of the examinations, a basic science examination should not be substituted for any part of the tests employed in determining the fitness of a candidate for licensure.

There are weaknesses in these examinations as there are in all examinations. They are not always a test of knowledge.

The educational requirements for admission to examinations is a four year high school education. If the candidate passes, he is entitled to a certificate. If he fails, he may take the examination at a later date without any evidence of advanced training. By a series of crams and drills in questions and answers from a compendium, he may pass at the second trial or at the third or fourth. This weakness of the system must be corrected. Rhode Island is to be congratulated on evidence of professional training beyond the usual high school course. Some boards have set a 70 per cent minimum for passing. Others have 75 per cent. This lack of uniformity causes disturbances when holders of certificates ask for reciprocity. A conference of basic science board members held in connection with federation meetings might result in a better understanding of disturbing problems.

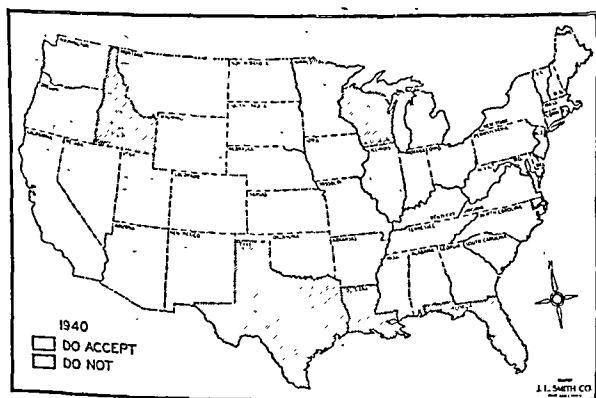
The Iowa board has six men appointed by the governor from the faculties of the state schools and independent colleges. They are not medically trained. Each man prepares his examination questions and grades the answers in his own field. This method is at variance with practices among other boards. In some cases the boards are wholly executive. The examinations are set by experts or are taken from lists of questions formulated by



Results of examinations in Part III of the National Board of Medical Examiners, taken by 8,313 candidates during the nineteen years ended Dec. 31, 1940.

have stated that the examinations given by the National Board have been of real value in the operation of their schools. A few schools have made these examinations a part of their educational system by using them as a substitute for their own comprehensive examinations. The members of many of the state boards have also generously stated that the examinations have been of help to them in the conduct of the state board examinations.

It would be a mistake to say that the present cordial relations that exist between the state boards and the National Board of Medical Examiners have always been entirely satisfactory. There is at present one practice which obtains in certain states



Acceptance of the certificate of the National Board of Medical Examiners by the various states.

that should be changed as soon as possible, not so much for the benefit of the National Board as for the benefit of the young men who are just entering medical practice. This is the custom which some state boards follow of charging all diplomates of the National Board, whether they have previously been licensed by another state or not, the full reciprocity fee for their medical

persons other than board members. The Iowa board permits teachers to set an examination without regard to medical content. Since the examiners are not medically trained, the objection to the basic science law that it is administered by a group in its own class falls.

The Iowa law sets out the usual basic science subjects and attempts to evaluate them in hours. Our board early in its history set the equivalent of these hours into semester hours. Our questions are prepared on that basis. This weighting of subjects has a value over the uniform evaluation of some boards. The time has not come to set a board for all boards, but perhaps the idea is not fantastic. In 1939 all boards examined 1,359 applicants. The percentage of failures was 18.3. In the thirteen years since 1927, 11,660 individuals have been examined. The continued growth of the basic movement indicates that it is gradually attaining its objective.

DISCUSSION

DR. THOMAS P. MURDOCK, Meriden, Conn.: The specific cause for the adoption of the basic science law in Connecticut was the national eclectic scandal in the years immediately preceding 1925. The law was passed on June 23, 1925. The board requires as preliminary education a high school certificate or its equivalent, but in addition to that, by rule of the board, it requires the same requirements as the board before whom the candidate finally appears. This rule of the board has not been successfully challenged to date. The act in Connecticut is called the "Healing Arts Act." The board examines in anatomy, physiology, hygiene, pathology and diagnosis. A certificate from the Healing Arts Board is a prerequisite for appearance before the final and specific boards. One thousand, two hundred and fifty-four individuals have appeared before the Healing Arts Board. This does not take into consideration the repeaters. Of this number, one thousand, one hundred and twenty-five have been medical men with twenty-eight failures, or 2.4 per cent. Ninety-nine have been osteopaths with seventeen failures, or 17.1 per cent. Twenty-six have been chiropractors with fifteen failures, or 57.6 per cent. Four have been naturopaths with three failures, or 75 per cent. In other words, in the fifteen years eighty-two osteopaths, eleven chiropractors and one naturopath have been successful before the board. The law further provides that diplomates of the National Board will be certificated without examination. Men in practice in another state for a period of five years or more are not required to take the examination. Men in practice in another state for a period of three to five years must be certificated by the Healing Arts Board. In this time four hundred and thirty-seven men have been so certificated and all have been medical men. The Healing Arts Board in Connecticut has been most cooperative. The people and the medical profession owe it a debt of gratitude.

FEBRUARY 18—AFTERNOON

What Is Wrong with the Teaching of Materia Medica and Therapeutics in Medical Schools?

DR. ADAM P. LEIGHTON, Portland, Maine: For twenty-six years I have been a member of the Maine Board of Registration of Medicine. We have given comprehensive, fair and practical examinations in all these years. The doctor of medicine who graduates today is a better man in theory at least than was he who graduated shortly after the turn of the century. I believe, however, that the present-day graduate lacks much of the practical knowledge that was ours, especially in the administration of drugs as therapeutic agencies. When I graduated, the men from my school could write a prescription correctly and in proper Latin form and we knew there was such a thing as a National Formulary and a U. S. Pharmacopeia. That is more than I can say for the schools of today.

Two years ago the Maine Medical Association and the Maine Pharmaceutical Association commenced the exchange of delegates to their respective annual meetings. I think it is time the medical and pharmaceutical brethren met together for consideration of the many professional matters with which we

are closely concerned. We can learn much that is mutually profitable by meeting regularly together. A druggist from Maine stated to me that a young doctor who recently located in his town came into his store and said "I'll have to have your help! I really don't know how to write a prescription." I knew the young man as a graduate of one of the leading medical schools.

As secretary of our board I do not routinely take part in the actual examination of applicants. In the last five examinations given by the Maine Board, however, I have set the questions in materia medica and therapeutics. Fifteen out of the eighteen applicants who took the examination in November 1940 did not attain the passing average. After its completion, several men came to my office and each one admitted that the examination was fair but he "knew he hadn't passed it." They stated it was about what they expected, for they were not being taught materia medica and therapeutics adequately in their schools. Certain members had complained to the dean of their institution regarding the teaching, but to no avail.

After giving them an additional oral examination, I realized that a few did have fair comprehension of pharmacology and, with the promise that they would seek out some druggist or other suitable person and attempt to learn to write prescriptions, I passed nine of them. The other nine will have to be reexamined, for their ratings were from 17 to 50 per cent. Do their teachers plan that they shall supplement their collegiate instruction by a postgraduate course given by detail men from pharmaceutical houses? The medical profession has "put over" too many nostrums, "patent medicines" and low grade proprietaries. I had occasion a few weeks ago to look over a druggist's prescription file of a week previous. I counted fifty-one so-called prescriptions before I came across one that was written correctly or scientifically and which called for official drugs and medicines in its compounding. The members of the medical profession have been shortsighted, because in later years they have been wont to cast aside their knowledge of materia medica.

The medical student should be given a course of adequate instruction during his medical study which would guarantee that he was properly schooled in his materia medica before he attempts to obtain licensure.

DISCUSSION

DR. CHAUNCEY D. LEAKE, San Francisco: The question that has been raised is extremely important. Our medical schools teach pharmacology but they do not teach materia medica and there is no room provided at present in the curriculum for materia medica. Materia medica is a subject that has to be taught in the clinic by clinical example and with clinical precepts, and it is difficult to handle materia medica in a way that is at all adequate in a pharmacology setup. It is important that we begin to understand one another with regard to these matters and that we come to agreement as to what is desirable from the standpoint of the public with respect to drugs. I agree with everything that has been said with respect to the unwarranted and indiscriminate use of proprietary preparations of all sorts. All courses in pharmacology with which I am familiar are well organized from the standpoint of dealing with chemical agents and they attempt to show how the demonstrable actions of a chemical on living beings in general may be applied in accordance with one's judgment to clinical problems; but that is something that can be done only in the clinic to advantage as far as carrying over the point that has been made by Dr. Leighton is concerned. However, we are not taking advantage of the opportunity involved in modern pharmacology if we limit it only to therapeutics, because the action of many drugs on living beings may be utilized in diagnosis, in prevention, in addition to therapy and for many other purposes. The action of chemicals on living beings becomes important in industrial hygiene, in connection with household poisons, and with the exposure that we are increasingly having to chemicals of all sorts. The fact simply is that our knowledge has gone so far ahead of the time allotment for adequate teaching in accordance with the ideals that we hold that we are stuck. Now

the recommendations that you make, as a body retaining social control over licensure; will, of course, have paramount importance in teaching. We must, as teachers, yield to what you want and expect, but we cannot do our job in teaching in the way that you want until we get ourselves together, as we are doing in this meeting, to talk over these problems. There are reasons. For example, in the teaching of pharmacology most pharmacologists prefer not to burden students with the apothecary system or with Latin. If, however, you feel that we must continue to teach the apothecary system and the use of Latin, then we shall have to do that. That is just one more thing to do, and if we have to do it you may expect that your students will not get adequate preparation in something else. We are limited by time and you must tell us what you think is most important to put into that time.

DR. STEPHEN RUSHMORE, Boston: Dr. Leighton asks the question Is the graduate of today as well prepared as was the graduate of twenty-five years ago? His immediate answer is, in substance, "Yes, of course," but later he qualifies it. I agree with the qualification, because while the candidates may be in some respects far better prepared than they were twenty-five years ago, in other respects they are not as well prepared and their knowledge of materia medica and drug therapy is distinctly inadequate. Dr. Leighton's thesis is that the teaching of materia medica and drug therapeutics is seriously wrong. He does not specify in what respect it is wrong. He bases his conclusions on his experience with these examinations and he uses the November 1940 examination as an illustration. Of course, he would not draw sweeping conclusions from one examination of that sort. I call your attention to the fact that, of ten questions, five were in writing prescriptions. Of course, if the physician prescribes medicine it is necessary that the prescription be clear, correct, intelligible and with proper directions for the patient, so that the patient understands what to do with the medicine when it is obtained from the druggist. I do not see why it should be in Latin. I do not see why he should use one system of measurements rather than another. In considering a field so vast there is danger in getting lost in detail. What has happened in the field of materia medica and drug therapy is that the content has been tremendously increased in recent years. It has been so increased that many persons think that in the medical course the student can be given only a smattering of this subject. Well, in a modern, scientific course in medicine there is no place at all for a smattering of any subject. What has happened is that in this field there have been set forth explicitly by the teacher for the benefit of the student no guiding principles. If it was possible—and I think it is—to make explicit for the benefit of the students and to formulate for them certain guiding principles in materia medica to which they could cling, I think it might be a permanent contribution to their medical experience. If the physician is fortified by a grasp of these fundamental principles, he is able to find his way around in materia medica in the vast fields which he cannot take up thoroughly in medical school, and he is much better prepared to care for his patients. He may even obtain a judicial skepticism with reference to the claims of the commercial interests, so that when the detail man comes to his office he is prepared to meet him and to understand how much there is of salesmanship and how little often there is of scientific medicine. What we want to give the student is balance, perspective, so that he won't be thrown off his feet by some passing whim in drug therapy. We are indebted to Dr. Leighton for his calling attention to this important problem.

DR. ADAM P. LEIGHTON, Portland, Maine: I hope that the time has come when we shall wake up to the fact that we are not pseudomedical practitioners. We are medical men, and if it has come to such a pass that the medical curriculum is so full of important things that materia medica and therapeutics and proper treatment, the giving of relief to our patients is to be cast aside, I say let's think it over. Let's get rid of some of the nonessentials. Let's stimulate our course in materia medica. Let's teach our boys to practice medicine, not to be pseudomedical practitioners.

A Naturopathic Subterfuge: Purported Licensure by State Naturopathic Associations

J. W. HOLLOWAY JR., Chicago: This article appears in full in this issue, page 1706.

DISCUSSION

DR. GEORGE M. WILLIAMSON, Grand Forks, N. D.: I come from a state where we have just had some actual experience and we came out fortunately. In April 1938 the North Dakota Naturopathic Physicians, Incorporated, was incorporated as a private corporation at Bismarck. Its purposes were to examine applicants who might be licensed to practice naturopathy in the state of North Dakota. It developed that this corporation proceeded to issue licenses to various members of this corporation. As each of the members of the corporation who received a certificate from the Board of Naturopathic Examiners professed to be a naturopathic physician, an action was started in May 1940 by the North Dakota State Board of Medical Examiners to annul and cancel the corporate charter of the corporation. Some rather amusing conditions came up in connection with this act. Unfortunately they got one fellow in who was a successful masseur, and he was the vice president. They said they could make him a naturopathic physician if he would join with them. He did and was active until the general counsel for the board filed a complaint, whereupon he became frightened and engaged an attorney to see how he could get out of the Naturopathic Physicians, Incorporated. He gave us a great deal of information. Our counsel filed complaint and went before the district judge. The judge overruled the demurrer and gave them thirty days in which to put in an answer to the complaint and assessed them \$25. This was instituted against all the naturopathic physicians and every person who had a naturopathic license in North Dakota. At the end of thirty days the judge overruled the demurrer and assessed them \$25. The judge issued an extensive opinion. Mr. Holloway showed you some photostatic copies. There is the real naturopathic physicians' certificate issued to one fellow who sent this up a few days before I came away with his check for \$67.70. There are about thirty naturopathic physicians of whom we know, and we shall try to collect \$67.70 from all of them.

Medical Laws and Their Enforcement

DR. JULIAN F. DU BOIS, Secretary, and F. MANLEY BRIST, Attorney, Minnesota State Board of Medical Examiners, St. Paul: In 1883 the legislature of Minnesota passed a law creating the Minnesota State Board of Medical Examiners. From 1883 until 1927 the board took no part in the investigation of quackery, having no funds with which to carry on the work. Only on a rare occasion was there a prosecution of a person charged with practicing medicine without a license. Likewise it was rare when a licensed physician was disciplined by revocation of his license. In 1927, with the endorsement of the Minnesota State Medical Association, the legislature enacted a basic science law which also requires every physician to register with the state board of medical examiners during January each year and to pay a registration fee of \$2 a year. This fee produces about \$8,000 a year in revenue in addition to \$6,000 from examination fees paid by new applicants, making it possible for the board to obtain the services of a lawyer to investigate persons who practice medicine without a license, complaints against physicians of such a nature as drug addiction, violations of the Harrison Narcotic Law, criminal abortions and professional misconduct in general. The success of the work is due in large part to the splendid cooperation that has been given by all of the various law enforcement agencies.

Occasionally the board has found it necessary to institute criminal proceedings against osteopaths and chiropractors. These two groups are licensed in Minnesota by separate examining boards, but every so often one of their number goes beyond the scope of his license and engages in the practice of medicine. These cases are handled in the same manner as cases against unlicensed practitioners. Since the passage of the Minnesota basic science law there has been a large decrease in the number of osteopaths and chiropractors licensed to practice in our state. The accompanying table gives a bird's eye view of licensure in Minnesota.

The medical board in Minnesota has been confronted with another type of imposition on the public which concerns so-called itinerant health lecturers. This group always has a long array of titles but invariably is short on licensure. The board had an investigation made, with the result that the quackery in this type of racket has been exposed and greatly minimized. In one of these prosecutions a young woman announced through the public press that she would give health lectures, for women only, at a leading St. Paul hotel. The medical board in cooperation with the St. Paul police department discovered that she had a business connection with a Kansas City osteopath and that her real purpose was to lecture and then sell the women a variety of concoctions at prices ranging from 50 cents to \$5 a box. A warrant was issued for her arrest for practicing healing without a basic science certificate. It was estimated that she had taken in between \$500 and \$1,000 during her week in St. Paul. The defendant contended that she was not practicing healing and the case was certified to the Supreme Court of Minnesota, which held that the defendant was engaged in the practice of healing. Following this decision the defendant entered a plea of guilty. The board then noticed that a new crop of health lecturers was attempting to evade this law by giving a lecture and then attempting to enroll members in a class of instructions which would be sent to them from outside

Licensure in Minnesota

Osteopathic licenses issued up to 1927.....	465
Osteopathic licenses issued 1927 to 1940.....	59
Total number osteopaths registered in Minnesota in 1940..	165
(A loss of 300 osteopaths, or 64 per cent)	
Average annual number of osteopathic licenses issued 1922 to 1927	10
Average annual number of osteopathic licenses issued 1927 to 1940	5
Chiropractic licenses issued up to 1927.....	592
Chiropractic licenses issued 1927 to 1940.....	27
Total number of chiropractors registered in Minnesota in 1940	379
(A loss of 213 chiropractors, or 36 per cent)	
Average annual number of chiropractic licenses issued 1922 to 1927.....	46
Average annual number of chiropractic licenses issued 1927 to 1940.....	2
Number of physicians and surgeons registered in Minnesota in 1928.....	3,402
Number of physicians and surgeons registered in Minnesota in 1940.....	4,160
(An increase of 1,242)	

the state and which were accompanied by medicinal preparations for the use of the individual. A complaint was issued against one of these so-called health lecturers charging him with practicing healing without a basic science certificate. When arraigned in court he pleaded guilty to both charges and contributed about \$450 to the treasury of Morrison County.

Since January 1928, when the medical board first employed the services of special legal counsel to aid in the enforcement of the medical laws, we have conducted five hundred and twenty investigations. One hundred and ninety-five persons have been arrested for violating the medical laws, of whom one hundred and sixty-seven were convicted, twelve were found not guilty, fourteen cases were dismissed, one person forfeited \$750 bail and one died.

One hundred and three physicians were brought before the medical board in disciplinary actions, resulting in twelve having their licenses suspended, nineteen having their licenses revoked, sixty-seven being reprimanded and five with no action being taken. The medical association has encouraged the board to clean out disreputable physicians irrespective of whether or not they hold membership in that organization.

Professional Delinquency

DR. IRVIN D. METZGER, Pittsburgh: As the young physician faces the perplexities of medical practice, he learns of many problems aside from those of diagnosis and treatment. Ignorance, poverty, charlatanism, pseudoscience, physical and mental perversions and other disconcerting factors thwart his efforts in preconceived plans and seem to be overwhelming barriers to success. To survive, it means for many young physicians a

tolerant acceptance of the conditions. Routinism with submergence of his lofty conceptions is apt to be the result. Few accept these problems as a challenge and by prodigious effort rise above them. The physician is trained to rely on himself, especially in respect to the care of his patients. It is this traditional policy that has ennobled the profession. However, this self-concerned attitude is apt to involve him in difficulties when it reaches beyond the jurisdiction of his professional province. Narcotic irregularities, vital statistics slips, quarantine oversights, registration omissions and other inexcusable delinquencies show his narrowmindedness in respect to matters outside his professional realm. Judicial leniency in his first offense is apt to encourage this indifference until, eventually, he becomes involved in graver misdemeanors.

One essential requisite for licensure is a knowledge of medical law, of professional ethics and of responsibility in respect to character in medical practice. Laxness in such matters, therefore, reflects on the physician's worthiness to continue in practice. Moral laxity becomes a pitfall to many promising physicians. Their high calling should prompt them to rise above the boorish vulgarities of life. The high quality of leadership of noble-minded physicians exhibits the fact that they were not only good doctors but that they were great men.

It is disconcerting to hear students say that medical practice will assure them of a good living rather than say that it will guarantee them a serviceable life. Building into their minds essential knowledge means also a simultaneous reconstruction of ideals in the application of this knowledge. Science may be a direful weapon for ill as well as a beneficent boon for good. The world is looking for practitioners who will remain loyal to their inherent urges for mental and moral stability. I wonder whether medical colleges are developing such minds.

The happy-go-lucky candidate of a quarter of a century ago no longer appears for medical licensure. The modern applicant is serious minded and mature.

The art in medical training, sadly neglected in the past, is being recaptured through intern apprenticeships. Another difficulty, however, arises from this very means of professional perfection. The overinstitutionalization of these novices in medical practice tends to result in professional weaklings when they are compelled to rely on their own initiative. This accounts for their attitude toward assuming rural practice, as has become so evident in recent years. Furthermore, the elective internships, and the desire to keep good prospective physicians as residents year after year tend toward the development of amateur specialists and rob communities of the services of the best of the college output. The already high percentage of specialists is disconcerting, especially with the increasing cost of medical care and its reactions. We need specialists of a still higher grade of efficiency, but to bring forth an excess of mediocre ones at the expense of communities that need promising general practitioners seems shortsighted. An intensive apprenticeship internship of a limited length of time during which all the branches of medicine are covered gives a comprehensive outlook to the practice of medicine and leads into general practice for which the need is progressively increasing.

Professional people are the stalwart people of any civilization. Most of the professionals readily assume their public responsibilities, but rarely the physician. All praise to them for their whole-souled devotion to professional duty, but much blame for their failure to recognize their equal duty toward the larger and more urgent needs of state and nation. Their responsibility reaches into every phase of human life. With nobler purposes, medical schools might well modify their courses to develop a saner philosophy of medical practice and thus send out physicians who not only can rescue lives that are threatened by disease but also can help to evolve a higher and safer course of living.

Engineering schools are establishing courses in psychology and sociology as essential in the training of graduates who shall deal with material things; how much more should medical schools prepare their graduates in these branches which are peculiarly essential to a thorough understanding of human beings? A deficiency in medical preparation also is shown by the inability of the average physician to deal with mental maladies. Fortunately, governments are now constructing hospitals near medical schools so as to induce the more critical study of such

cases. More thorough instruction and more practical training in this line of care to graduates is an imperative duty facing each medical school.

Finally, there is no legal way to halt the activities of unworthy practitioners except in the event of a gross misdemeanor. Our hope of maintaining high ideals and of securing continuously efficient work in practitioners rests largely on the organized medical societies. It behooves those of higher integrity to help the weak. By so doing in medicine we may raise the standard of all, assure better service and thus prove ourselves worthy of this noble calling.

Residency and Problems of Interstate Endorsement

DR. J. W. BOWERS, Fort Wayne, Ind.: Interstate endorsement of medical licensure is one of the outstanding accomplishments of the state medical boards. Endorsement has never been obligatory but a courtesy extended to the applicant desiring to move from one state to another. The public interest and that of the profession and of medical education would be better served by a satisfactory method of endorsement of licensure by all state licensing bodies endorsing without further examination the license of an applicant previously obtained by examination in another state whose standards of education and examination are not lower than their own, provided the applicant is a graduate of a medical school in the United States and its possessions which at the time of his graduation was on the list of approved medical schools.

Many states have basic science boards for the purpose of examining all applicants in the basic sciences before they are admitted to licensure. In the case of interstate endorsement, the applicant is required to be reexamined before a basic science board regardless of his scholastic qualifications, the time spent in his profession in the practice of medicine and the fact that he has passed these basic science subjects at the time he qualified for licensure in another state. This works a hardship on such applicants. There is no objection that all should pass a basic science examination prior to the original licensure; in fact, it is an essential. But all graduates of our schools today do take the basic science subjects in examinations, whether it be before a specific basic science board, before a state board of medical examiners or before the National Board of Medical Examiners. In view of these facts, all applicants who take a recognized board examination do qualify in this respect, and it is recommended that they receive the benefit of endorsement reciprocally to basic science boards, state medical boards or the National Board of Medical Examiners and be exempt from reexamination in the basic sciences.

Some state boards require a practical examination of all applicants for interstate endorsement. This not only places a barrier to friendly reciprocal relations but compels other state boards to set the requirements of a like examination to meet the demands of those desiring to obtain a license in their state.

Most states require a period of practice, or residency, in a given state before accepting the applicant reciprocally. When these rules were made, universal internships, residencies, fellowships, trained specialists and technical men were not known. But today, after serving internships and residencies, the applicant does not know what state will present the opportunity or position of which he is desirous, and this may be a barrier that would prevent his acceptance of a position. It is recommended that there be no time of practice, or residency, required in any state prior to application which would deprive the applicant the courtesy of endorsement. Annually there are about three thousand physicians licensed by interstate endorsement. In the interest of fair recognition to licensed physicians, all boards of the United States should be in accord. Superfluous rules and red tape should be eliminated and endorsement of license be based on scholastic qualifications, moral and professional character, and equal requirements in the respective states at the time the original licensure is granted. The time has arrived when state boards of medical examiners should have more uniform requirements and a better understanding in order to meet the demands of the times effectively.

DISCUSSION

DR. E. S. RYERSON, Toronto, Ont.: I happen to represent our university on our provincial board, and at our last two or three meetings we have had a problem with reference to how to deal with certain medical men who happen to have been in mental institutions. Dr. Metzger mentioned that we should be more capable of handling mental conditions as far as our patients are concerned. Certain mental deficiencies occur in the members of our profession as they do in the public. One young man was in an institution for some time and was discharged as being capable of carrying on, but certain of his fellows where he is practicing are a little nervous about his condition. By cooperation we got him to agree to have a psychiatric examination once every six months for two or three years to make sure that he isn't sick, but there is no way by which we can compel him to do so. An older man is willing to go into an institution but the institutional officers and psychiatrists say that he is not sufficiently upset mentally that he should be in an institution. He is capable of carrying on where he is an ordinary citizen, but he is not capable of carrying on as a medical practitioner. We have no way of striking his name off the register. I should like to know whether any of the states have any means whereby medical men who become mentally incapable of carrying on their practice can be dealt with.

DR. I. D. METZGER, Pittsburgh: We have the same problem in Pennsylvania. There are about a dozen and a half doctors in insane institutions more or less constantly. Once in a while one of them runs away and practices and does some bad work and the report comes to us that he has done so, and the district attorney who has to prosecute him wonders why we did not take his license away. We have before the legislature a bill, an amendment to the act, which makes possible stopping that person in practice if it passes. We have a registration act, which is a working act very much like a driver's license to drive a car. This working license or registration does not affect the licensure. The amendment which we are now proposing is that any one who is committed to a state institution shall automatically have his registration suspended. It does not catch the ones who voluntarily go into institutions. The amendment further states that they shall not have the registration reinstated until they comply with the act which has to do with suspension or revocation of licenses in other respects, which means that they must have a hearing and have certification. We wanted to take the license away from these men. The institutions would not say that they were insane. It put them on the spot, as they said, and we could not have a trial because we had no definite evidence of any one who was willing to swear to the fact that they were not fit to practice, and the effect was that we could not do anything. By this registration act we may stop their practice. In our state every practitioner of medicine must register annually to practice legally in the state. His licensure gives him the right to practice but not to enter into the actual work of practice.

DR. H. M. PLATTER, Columbus, Ohio: I do not believe that Dr. Metzger answered Dr. Ryerson. I believe that a man is sane until he is declared insane. Now when he is declared insane so far as Ohio is concerned we can get a service on an insane person. However, the effect is equivalent to a suspension. During all the time that he is declared insane his license is automatically suspended and it is not restored to him until the court declares him sane. There are obstacles in procedure in cases of this sort, but if the state authorities in charge of the insane institutions will do their duty and not certify men as sane who are still suffering from mental derangement the problem is solved. It is hard to bring action against an insane person. In some states there has been a requirement by which any proceeding may be instituted against a man who commits an indiscretion during his period of insanity. That particularly applies to damages that he inflicts during his period of insanity. I don't believe, generally speaking, that much can be done with a man until there has been an action instituted and a competent tribunal has passed on his insanity, and I think when that is done his license is automatically suspended.

MR. J. W. HOLLOWAY JR., Chicago: I don't think his license would be automatically revoked. As far as his license is concerned, it would still be valid. We had a letter from an attorney in California who was investigating the states in which an attorney's license could be revoked because of insanity. He wanted to know what the situation was with respect to medical licensure. I went over the medical practice acts to see in what states a physician's license could be revoked on account of insanity, and there are only six or seven states in which the medical practice acts definitely provide that a license can be revoked for insanity. We also went over the indexes to the medicolegal cases that have been decided in the last twenty years and could find no instance in which a license had been revoked for insanity.

DR. ARTHUR T. McCORMACK, Louisville, Ky.: With regard to the matter, we have adopted a resolution that when the superintendent of an institution for the insane certifies that a man has been committed to his institution he is suspended, and we notify the county clerk that the man has been judged insane and incompetent to resume the practice of medicine. About eighteen men in the state are suspended under that regulation at present and none of them have attempted to practice.

DR. JULIAN F. DU BOIS, St. Paul: If I understand the problem, we have answered one half and not the other half. We have a solution in our law for that because conduct unbecoming a person licensed to practice medicine or detrimental to the best interest of the public may bring the person before our board. I am under the impression that we had one doctor who was committed and was released to a guardian. We had an agreement with his guardian that we would do nothing as long as his guardian saw to it that he did not practice medicine and that if his guardian was removed we would revoke his license. The other one was apparently a mental aberration. We waited until there was a complaint against that individual and then brought him in on the complaint. If a man is mentally unsound soon there will be a complaint on his conduct, which gives our board the right to call him in, hold a hearing, discipline him, suspend him or revoke his license.

FEBRUARY 17—FEDERATION DINNER

Medicine in National Emergencies

DR. RAY LYMAN WILBUR, Stanford University, Calif.: The massive plans we are making at present for our democracy must have a profound influence on every part of our population. To take hundreds of thousands of young men out of their homes and out of industries and put them under a military regimen is a major operation. When we add the marshaling of industry, the development of new plants in remote areas and the building of ships, we bring in almost all the elements in our population. A part of our economic maladjustments has come from the diversion of women from the home into outside jobs. It has gone so far as seriously to change family life, to affect the birth rate and to increase the responsibilities of the schools. We see abroad the requirements that medicine must meet in a war-torn world. Some of these must be kept constantly in mind that we may not lose the advantages which we have gained for the human race. Total war means such destruction and interruption of the essentials of collective living that every effort should be made to avoid war. The more complicated the community, the more damaging is total war. When water supplies are interfered with, the transportation and distribution of food made difficult and all systems of heating, lighting, refrigeration and communication paralyzed, the problems of medicine become almost completely transformed. Modern sanitation and preventive medicine provide no guaranties against pestilence and famine. A whole chain of new physical ailments appears with a diminishing food supply. Epidemics arise. As long as we maintain war as a method of settling difficulties we are denying to the human race the benefits that medical science can offer when there are well ordered surroundings. If young men are subjected to military training they may give evidence that they are better off physically than those in the population who remained at home.

In military service there is the opportunity of careful physical examination and of free hospital and medical care during a period that has unusual hazards but which in many ways is not very different from that of aggregations of men working in industrial plants. One of the differences is the dislocation of the individual from the ordinary relationships of family and community life and the redistribution of males which takes place in a community. There is more definite exposure of the individual to communicable diseases.

One of the most serious factors has to do with the mental health of the soldier. The greatest discretion should be used in admitting to military service only those with sound nervous systems. Everything from war anxiety to so-called shell shock is likely to result in those who have minds that can be turned over easily. Large elements in our population have insufficient instruction in health care. Others are subjected to social conditions that together with their special susceptibilities make them more easy prey to tuberculosis and syphilis than at present in the rest of the population. Such individuals, brought together into army service, with adequate physical examinations and medical care can, if properly protected, be returned to civilian status in better condition than when they entered military service.

The family and war are naturally antagonistic. The family requires the conditions of peace for its proper protection. To take away from the family the head of the household for military service is damaging enough in itself. To remove young men from their normal social relationships and environment and give them little contact with wholesome women is in itself a great social injury. Since it is on the family that all the future of society rests, every effort should be made, in spite of the exigencies of war and national emergencies, to keep the family intact and to preserve its food supply, its tranquility and the education of its younger members. The family doctor is useful at all times, but at no time is he more useful and more needed than during war time. His guidance as to food supply and protection from epidemic and other diseases becomes of unusual importance. There can be no superior human family until the young and most vigorous males are protected from death in battle, and young women can raise their families in an atmosphere of peace. The very best of medical service should be available for those in the military services. This means that the leaders in every field of medicine must provide it or see that it is provided, as is now being done in the United States.

The massive blows to normal human society that come from war are responsible for a chain of problems that weight us and other nations down at present. At every point, whether it is in industry or in education, the scientist and the physician are needed if the most effective results are to be obtained. Now that we are going to face an emergency, it is vital that we begin to foster every sort of social action which is on the constructive side. Medicine's service to society, through hospitals, medical schools, clinics, doctors, pharmacists and nurses is made up of men and of things. As far as the things are concerned, there will be more hospitals developed and the government will project itself with ever increasing financial responsibility into the hospital field. The medical schools will be either protected or harmed in accordance with the wisdom of those handling the Army and the Navy. Physicians will be redistributed in many new ways. In other words, there is a war distortion of the machinery of medicine that is recovered from only after years of peace.

Modern medicine depends on the constant growth of knowledge. Every potential doctor who is diverted from medicine and made a military figure means a permanent loss. Those who are the custodians of the medical knowledge that has been gathered throughout the ages should be a guardian group to make every effort to make medical service effective in emergency, but, above all, we must preserve medicine for the future.

The Status of Drugless Healers in the United States

DR. JOHN R. NEAL, Chicago: This article appears in full in this issue, page 1736.

Medical Examinations and Licensure

NATIONAL BOARD OF MEDICAL EXAMINERS

EXAMINING BOARDS IN SPECIALTIES

Examinations of the National Board of Medical Examiners and Examining Boards in Specialties were published in THE JOURNAL, April 5, page 1599.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: Montgomery, June 17-19. Sec., Dr. J. N. Baker, 519 Dexter Ave., Montgomery.

ARKANSAS: * Medical. Little Rock, June 5-6. Sec., Dr. D. L. Owens, Harrison. *Electric.* Little Rock, June 5-6. Sec., Dr. Clarence H. Young, 1415 Main St., Little Rock.

CALIFORNIA: *Oral examination* (required when reciprocity application is based on a state certificate or license issued ten or more years before filing application in California), San Francisco, April 16. *Written.* San Francisco, June 30-July 3. Sec., Dr. Charles B. Pinkham, 1020 N St., Sacramento.

DELAWARE: July 8-10. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, 229 S. State St., Dover.

DISTRICT OF COLUMBIA: * Washington, May 12-13. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: * Jacksonville, June 23-24. Sec., Dr. William M. Rowlett, Box 786, Tampa.

GEORGIA: Atlanta, June. Sec., State Examining Boards, Mr. R. C. Coleman, 111 State Capitol, Atlanta.

HAWAII: Honolulu, July 14-17. Sec., Dr. James A. Morgan, 48 Young Bldg., Honolulu.

INDIANA: Indianapolis, June 17-19. Sec., Board of Medical Registration and Examination, Dr. J. W. Bowers, Citizens Trust Bldg., Fort Wayne.

KANSAS: Kansas City, June 17-18. Sec., Board of Medical Registration and Examination, Dr. J. F. Hassig, 905 N. 7th St., Kansas City.

KENTUCKY: Louisville, June 5-7. Sec., State Board of Health, Dr. A. T. McCormack, 620 S. Third St., Louisville.

MARYLAND: Medical. Baltimore, June 17-20. Sec., Dr. John T. O'Mara, 1215 Cathedral St., Baltimore. *Honopathic.* Baltimore, June 17-18. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MICHIGAN: * Ann Arbor and Detroit, June 11-13. Sec., Board of Registration in Medicine, Dr. J. Earl McIntyre, 202-4 Hollister Bldg., Lansing.

MINNESOTA: * Minneapolis, April 15-17. Sec., Dr. Julian F. Du Bois, 350 St. Peter St., St. Paul.

MISSISSIPPI: Jackson, June. Asst. Sec., State Board of Health, Dr. R. N. Whitefield, Jackson.

NEBRASKA: * Omaha, June 12. *All applications must be on file not later than May 29.* Dir., Mrs. Jeanette Crawford, 1009 State Capitol Bldg., Lincoln.

NEVADA: Carson City, May 5. Sec., Dr. Fred M. Anderson, 215 N. Carson St., Carson City.

NEW JERSEY: Trenton, June 17-18. Sec., Dr. Earl S. Hallinger, 28 W. State St., Trenton.

NEW MEXICO: Santa Fe, April 14-15. Sec., Dr. Le Grand Ward, 135 Sena Plaza, Santa Fe.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 23-26. Chief, Bureau of Professional Examinations, 315 Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 16-20. Sec., Dr. W. D. James, Hamlet.

NORTH DAKOTA: Grand Forks, July 1-4. Sec., Dr. G. M. Williamson, 4½ S. Third St., Grand Forks.

OKLAHOMA: * Oklahoma City, June 11-12. Sec., Dr. James D. Osborn Jr., Frederick.

PENNSYLVANIA: Philadelphia and Pittsburgh, July. Act. Sec., Bureau of Professional Licensing, Department of Public Instruction, Mrs. Marguerite G. Steiner, 358 Education Bldg., Harrisburg.

SOUTH DAKOTA: * Pierre, July 15-16. Dir., Medical Licensure, Dr. J. F. D. Cook, State Board of Health, Pierre.

VERMONT: Burlington, June 17-19. Sec., Dr. F. J. Lawliss, Richford.

VIRGINIA: Richmond, June 17-20. Sec., Dr. J. W. Preston, 30½ Franklin Road, Roanoke.

WISCONSIN: * Milwaukee, June 24-27. Sec., Dr. H. W. Shutter, 425 E. Wisconsin Ave., Milwaukee.

WYOMING: Cheyenne, June 2-3. Sec., Dr. M. C. Keith, Capitol Bldg., Cheyenne.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ARKANSAS: Little Rock, May 19. Sec., Mr. Louis E. Gebauer, 701 Main St., Little Rock.

CONNECTICUT: June 14. Address State Board of Healing Arts, 1945 Yale Station, New Haven.

DISTRICT OF COLUMBIA: Washington, April 21-22. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: De Land, June 7. *Applications must be on file not later than May 24.* Sec., Prof. J. F. Conn, John B. Stetson University, De Land.

NEBRASKA: Omaha, May 6-7. Dir., Mrs. Jeanette Crawford, 1009 State Capitol Bldg., Lincoln.

OKLAHOMA: Oklahoma City, May 22. Sec. of State, Hon. C. C. Childress, State Capitol, Oklahoma City.

OREGON: Corvallis, July 12. Sec., State Board of Higher Education, Mr. Charles D. Byrne, University of Oregon, Eugene.

SOUTH DAKOTA: June. Sec., Dr. G. M. Evans, Yankton.

New York Endorsement Report

Mr. Herbert J. Hamilton, Chief, Bureau of Professional Examinations, reports 107 physicians licensed to practice medicine by endorsement from July 1 through Oct. 15, 1940. The following schools were represented:

School	LICENSED BY ENDORSEMENT	Year Endorsement Grad. of
College of Medical Evangelists.....	(1940)	N. B. M. Ex.
University of California Medical School.....	(1937)	California
University of Colorado School of Medicine.....	(1938)	N. B. M. Ex.
Yale University School of Medicine.....	(1935), (1937), (1938)	N. B. M. Ex.

Georgetown Univ. School of Med. (1936), (1938, 2), (1939, 3)	N. B. M. Ex.
Howard University College of Medicine.....	(1932) Kansas
Emory Univ. School of Medicine.....	(1933) Georgia, (1938) N. B. M. Ex.
Loyola University School of Medicine.....	(1938) N. B. M. Ex.
Northwestern University Medical School.....	(1935) Illinois
Tulane University of Louisiana School of Medicine.....	(1919) Louisiana, (1933) N. B. M. Ex.
Johns Hopkins Univ. School of Medicine.....	(1936), (1937, 2) Maryland
University of Maryland School of Medicine and College of Physicians and Surgeons.....	(1936) Maryland
Boston University School of Medicine.....	(1934) N. B. M. Ex.
Harvard Medical School.....	(1935) Maryland, (1935), (1936, 2), (1937, 2), (1938) N. B. M. Ex.
Tufts College Medical School.....	(1938), (1939, 2) N. B. M. Ex.
St. Louis University School of Medicine.....	(1936) Penna., (1938) Tennessee, (1939) N. B. M. Ex.
University of Nebraska College of Medicine.....	(1937) Nebraska
Albany Medical College.....	(1938) N. B. M. Ex.
Cornell University Medical College.....	(1934), (1939, 2) N. B. M. Ex.
Long Island College of Med.....	(1936), (1937), (1938), (1939) N. B. M. Ex.
New York Medical College, Flower and Fifth Avenue Hospitals.....	(1938, 8), (1939, 2) N. B. M. Ex.
New York University College of Medicine (1937, 2), (1938, 3), (1939) N. B. M. Ex.	
Syracuse University College of Medicine.....	(1935), (1938) N. B. M. Ex.
Univ. of Buffalo School of Med. (1933), (1938, 2), (1939, 11)	N. B. M. Ex.
Univ. of Rochester School of Medicine and Dentistry..	(1931) N. B. M. Ex.
Duke University School of Medicine.....	(1936, 2), (1938) N. B. M. Ex.
Western Reserve University School of Medicine (1934), (1937), (1938)	Ohio
Jefferson Medical College of Philadelphia.....	(1936) New Jersey, (1938) Pennsylvania
Temple University School of Medicine.....	(1936), (1937) Penna.
University of Pennsylvania School of Medicine.....	(1932) Penna.
Woman's Medical College of Pennsylvania.....	(1936), (1939) N. B. M. Ex.
University of the South Medical Department.....	(1908) Tennessee
Baylor University College of Medicine.....	(1933) Texas
University of Vermont College of Medicine.....	(1932), (1935) Vermont, (1935), (1939) N. B. M. Ex.
Marquette University School of Medicine.....	(1939) N. B. M. Ex.
University of Wisconsin Medical School.....	(1933) Penna.
University of Toronto Faculty of Medicine.....	(1938) N. B. M. Ex.
McGill University Faculty of Medicine.....	(1923) Kansas, (1937), (1939, 2) N. B. M. Ex.
Deutsche Universität Medizinische Fakultät, Prag.....	(1920) N. B. M. Ex.
University of Edinburgh Faculty of Medicine.....	(1933) N. B. M. Ex.

Maryland December Report

Dr. John T. O'Mara, secretary, Board of Medical Examiners of Maryland, reports the written examination for medical licensure held at Baltimore, Dec. 10-13, 1940. The examination covered 9 subjects and included 90 questions. An average of 75 per cent was required to pass. Forty-two candidates were examined, 28 of whom passed and 14 failed. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
Georgetown University School of Medicine.....	(1940)		85.4
Howard University College of Medicine.....	(1938)		87
Rush Medical College.....	(1937)		87.3
Johns Hopkins University School of Medicine.....	(1939)		83,
(1940) 79.2, 79.3, 87.2			
University of Maryland School of Medicine and College of Physicians and Surgeons....	(1939) 84.1, 84.3,	(1940)	85.2
Tufts College Medical School.....	(1939)	83	
Jefferson Medical College of Philadelphia.....	(1940)	84	
Temple University School of Medicine.....	(1940)	76.4, 81.2	
University of Pennsylvania School of Medicine.....	(1939)	91.2	
Marquette University School of Medicine.....	(1940)	80.5	
Medizinische Fakultät der Universität Wien.....	(1920)	80,	
(1922) 75.3, (1928) 76.3, (1932) 83			
Albert-Ludwigs-Universität Medizinische Fakultät, Freiburg.....	(1927)	80.3	
Eberhard-Karls-Universität Medizinische Fakultät, Tübingen.....	(1922)	81.4	
Ludwig-Maximilians-Universität Medizinische Fakultät, München.....	(1902)	82.1	
Schlesische-Friedrich-Wilhelms-Universität Medizinische Fakultät, Breslau.....	(1932)	76.1	
Magyar Királyi Pázmány Petrus Tudományegyetem Orvosi Fakultasa, Budapest.....	(1924)	85.4	
Regia Università degli Studi di Roma. Facoltà di Medicina e Chirurgia.....	(1935)	76.2, 82.2	
American University of Beirut School of Medicine.....	(1935)	88.1	
School	FAILED	Year Grad.	Number Failed
University of Maryland School of Medicine and College of Physicians and Surgeons.....	(1940)		1
Hahnemann Med. College and Hospital of Philadelphia..	(1939)		1
Karl-Franzens-Universität Medizinische Fakultät, Graz	(1922)		1
Medizinische Fakultät der Universität Wien.....	(1922)		1
Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin.....	(1915), (1919)		2
Ludwig-Maximilians-Universität Medizinische Fakultät, München.....	(1906)		1
Universität Heidelberg Medizinische Fakultät.....	(1912)		1
Magyar Királyi Pázmány Petrus Tudományegyetem Orvosi Fakultasa, Budapest.....	(1930)		1

Regia Università degli Studi di Napoli Facoltà di Medicina e Chirurgia.....(1923), (1934)	2
Regia Università degli Studi di Siena. Facoltà di Medicina e Chirurgia.....(1936)	1
Universität Basel Medizinische Fakultät.....(1936)	1
Second Leningrad Medical Institute.....(1926)	1

Eight physicians were licensed to practice medicine by reciprocity and 8 physicians so licensed by endorsement from August 2 through December 27. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Colorado School of Medicine.....(1934)			New York
State University of Iowa College of Medicine.....(1936)			Iowa
University of Michigan Medical School.....(1929), (1936)			Michigan
Jefferson Medical College of Philadelphia.....(1915)			Penna.
Temple Univ. School of Medicine (1936) New Jersey, (1938)			N. Carolina
University of Texas School of Medicine.....(1931)			Texas
School	LICENSED BY ENDORSEMENT	Year Endorsement Grad.	
College of Medical Evangelists.....(1940, 4)			N. B. M. Ex.
Georgetown University School of Medicine.....(1938)			N. B. M. Ex.
Duke University School of Medicine.....(1937), (1938)			N. B. M. Ex.
Western Reserve University School of Medicine.....(1936)			N. B. M. Ex.

Miscellany

THE STATUS OF DRUGLESS HEALERS IN THE UNITED STATES

JOHN R. NEAL, M.D.
CHICAGO

With the world aflame with the spirit of war it may seem of little moment and of minor concern to discuss such a prosaic subject as the status of drugless healers in the United States. Past experience, however, suggests that it is during times when international affairs absorb public interest and thought or in times of national stress when public attention is focused on large specific problems of economics or on general governmental matters that successful efforts are frequently made to break down the legal and other conventional barriers which protect a civilized society from ill conceived and unpractical reforms.

That drugless healers recognize the psychologic advantages of seeking favor in times of general stress or in periods of governmental transition and are alert to put forward energetic efforts to gain ground under such circumstances was well illustrated in Illinois recently. On the death of the governor, the lieutenant governor came into power for one hundred days. Factional dissension in the party represented by the administration set the stage for large scale political changes and intrigues during the brief tenure of the chief executive. The osteopaths recognized quickly the potential opportunity to gain advantage. This they attempted to seize by a well devised scheme to persuade the governor to dismiss the secretary of the medical examining board and replace him with a man whose sympathies were favorable to the osteopaths. Although the scheme miscarried, it demonstrated the ingenuity, the brilliant alertness and the boldness of osteopaths in seizing on every opportunity which offers the hope of gaining advantage in their behalf.

The legislature is now sitting in most of the states. Congress is in session. National defense and international affairs are subjects of overwhelming interest. Other matters are likely to be secondary in thought and in attention. The public, surely, is not likely to be aroused concerning the status of or proposed legislation relating to drugless healers or to the standards of medical practice. Members of the several legislatures are likely to fall in with the general prevailing spirit. The astute representatives of the drugless healers are not likely to close their eyes to the situation. Strong efforts along well planned lines will be made undoubtedly to gain advantages wherever these potential opportunities arise.

President's address, read before the Federation of State Medical Boards of the United States at the Thirty-Seventh Annual Congress on Medical Education and Licensure, Chicago, Feb. 17, 1941.

There is no uniformity in state laws relating to the drugless healers. As to osteopaths, they claim that they are discriminated against in only five states, Alabama, Illinois, Mississippi, Delaware and New Hampshire. Usually they mean by discrimination that they are not permitted privileges of practice equivalent for practical purposes to an M.D. One gains the impression from an examination of the laws, however, that privileges are assumed by the osteopaths in many instances, if their claims are accurate, rather than that the privileges are legally granted.

In three states, for example California, Texas and Wyoming, and in the District of Columbia, the medical practice laws either do not mention osteopathy or provide for licenses on the same basis as for an M.D. If osteopaths enjoy the full privileges of regularly licensed physicians in these states, presumably they are able to pass a regular medical examination or they obtain licenses through some kind of control over the licensing machinery.

In some twenty odd states the laws permit osteopaths generally to practice in accordance with the teachings in standard schools of osteopathy. A legal distinction is made between practice by an M.D. and that by an osteopath in these states but it is ill defined so that the osteopaths, according to claims set forth in their blue book, exercise broad privilege in the interpretation of the laws. One gains the impression that in these states they feel but little limitation in their practice.

In nine states, including Arizona, Florida, Georgia, Kentucky, Maine, Massachusetts, Minnesota and Montana, there seems to be but little difference between the privileges of practice of osteopaths and M.Ds. Some of these states specifically require, however, that osteopaths must pass a regular medical examination or a special examination in surgery in order to practice medicine legally in all its branches, and in some, as Michigan, the use of drugs by osteopaths is limited to narcotics and antiseptics for emergency only.

Several states, of which Kansas and Missouri are examples, permit by law the practice of osteopathy as taught and practiced by the standard schools of osteopathy but declare that this privilege is not the same as the practice of medicine in all its branches. The standard schools of osteopathy claim to teach and practice surgery generally. The supreme court in Kansas, however, has held that an osteopath may not practice operative surgery with surgical instruments or use drugs as remedial aids. In Missouri the law declares that

The system, method or science of treating diseases of the human body, commonly known as osteopathy, and as taught and practiced by the American School of Osteopathy at Kirksville, Missouri, is hereby declared not to be the practice of medicine and surgery within the meaning of Article 1, of Chapter 53, and not subject to the provisions of said article.

The report of the Bureau of Legal Medicine and Legislation of the American Medical Association in discussing osteopathy in the United States in part says:

Osteopaths may attempt to bolster up their claim to competency by pointing to the fact that in some states they may receive licenses comparable in scope to licenses issued to doctors of medicine. At the outset, it must be recognized that competency cannot be destroyed by legislative fiat. The fact, therefore, that osteopaths are by statute accorded, in a few states, privileges equal to those exercised by doctors of medicine contains no assurance of competency, for, so far as is known, no state legislature has ever seriously investigated the merits of osteopathy.

THE KIRKSVILLE COLLEGE

Two years ago the legislature of the state of Kansas ordered a committee to investigate the Kirksville College of Osteopathy and Surgery. The committee's report, dated Feb. 17, 1939, in part was as follows:

1. Concerning the ownership and control of the college, no information was furnished.
2. Concerning the financial resources of the college, no information was furnished.
3. Concerning the faculty, we were told by the Dean that there were about twenty-five full time salaried teachers and about twenty-five other part time teachers.

However, the annual catalogue for 1938-1939 under the heading "Faculty of the College" lists twenty-eight persons, of whom two have no teaching assignments. The schedule of classes for the spring semester 1939 also includes the names of twenty-one teachers. It therefore seems reasonable to conclude that other faculty members play no significant role in the program of instruction.

Of the preclinical sciences there are five which are taught at Kirksville and also in all recognized medical schools. These five subjects are anatomy, bacteriology, biochemistry, physiology and pathology. According to the catalogue and the current schedule, there are seven members of the faculty responsible for the teaching of these five subjects. Using the catalogue figures for student enrolment in the freshman and sophomore years, it is found that the ratio of teachers to students in these five departments is one to seventy-five. At the University of Kansas the corresponding ratio is one to four and two tenths and at the University of Illinois one to three and eight tenths. Although it would have been very desirable to discuss the work of each department with the instructor in charge, no members of the faculty were available for such conferences at the time of our visit.

4. The lack of numbers is no more significant than the lack of training of the faculty. Of the seven engaged in teaching the preclinical subjects mentioned above, no one has had the kind of training which would be required in any reputable medical school. Generally speaking, men are not promoted to the rank of assistant professor until after they have had five years of specialized scientific training under a recognized leader after obtaining their M.D. or Ph.D. degree. For a professorship, the customary standard is five years more, or ten years in all.

5. Neither medicine, osteopathy nor any other form of healing can be learned without continuous observation of the sick. The adequacy therefore of clinical facilities constitutes one of the most important criteria for measuring the efficacy of any teaching program having to do with the diagnosis and treatment of disease.

The Kirksville school maintains a hospital which is said to contain sixty beds. The Laughlin Hospital, across the street, is a private institution and cannot be counted as a part of the teaching resources of the school.

The student enrolment in the junior and senior years at Kirksville is approximately three hundred, so that the number of hospital patients available for purposes of instruction is approximately one fifth of a patient per student.

At the University of Kansas there are 700 patients under the control of the medical faculty and one hundred and forty students enrolled in the third and fourth years. For each student therefore there are 5 patients available for study, twenty-five times as many as are found at Kirksville.

6. At Kirksville it was stated that there were during the year one hundred and seventy deliveries, an average of one and two-tenths per cent per senior student.

At the University of Kansas eight hundred annual deliveries afford 11 cases per senior student.

7. According to the class schedule for the current semester, a very large part of the students' time is taken up with didactic instruction and a very small time devoted to laboratory work. This is contrary to the universally recognized principles of scientific instruction. For example, the lower freshman class has daily seven lecture periods scheduled at 8, 9, 10, 11, 1, 2 and 3 o'clock. It is customary to assume that each classroom hour demands two hours of preparation. Such a program, to say nothing of the laboratory exercises, is a manifest absurdity.

8. The various laboratories are entirely inadequate for the number of students which are enrolled. Of necessity the class is divided into as many as four or five sections compelling the instructors to repeat the same exercises day after day and preventing the students from devoting an adequate amount of time to experimental work. We saw no evidence of any investigative work being conducted by members of the faculty nor any place where such work could be carried on. We were told that there was no animal house and that no animals were kept by the school except the frogs which were used in the department of physiology; that when needed "a dog was brought in from the outside." It is impossible to conceive how pathology and bacteriology can be taught without the use of such animals as rabbits and guinea pigs.

The diagnostic laboratory in the clinic building was provided with means for simple routine examination of blood and urine. It was stated that there was no typing of pneumonia carried on and that all serological work was sent to the state laboratory.

Students do not supply themselves with microscopes. They are furnished by the school. Since we were told that the school owns one hundred and seventy-five microscopes, it is obvious that each student could not have one for his personal use. In the laboratory of pathology we were told that the microscopes were locked up in a closet and we were not able to see them. Apparently they are issued at the beginning of each laboratory exercise and then collected by the department to be used again for other sections of the class at other hours.

9. The library would accommodate apparently about sixty readers at one time. For a student body of nearly eight hundred this would seem to be wholly inadequate. Among the journals received and bound we observed less than half a dozen standard medical journals and none relating to the medical sciences. Most medical schools maintain files of from one hundred to two hundred medical and scientific journals.

THE LICENSING BOARDS

It would seem from these references and from the claims made by osteopaths that the status of these healers is determined to a large extent more through the processes of licensing than by any other particular factor. The laws in many states are vague and not susceptible of exact interpretation. Consequently the methods employed by and the character of licensing boards are the principal means of regulating osteopaths.

The osteopathic blue book of Illinois lists twenty-nine states in which examining boards for osteopaths are composed entirely

of osteopaths, and they list fourteen other states in which one or more osteopaths are full fledged members of the medical examining boards. They regard the control of examining boards as tantamount to obtaining the privileges of practice which they seek.

The other drugless healers, particularly the chiropractors, have sat at the feet of the osteopaths for instruction in the ways and means of obtaining legal advantage. They employ similar tactics and are no less alert to opportunities. They recognize the importance of setting up independent examining boards or of gaining influence on the board of medical examiners. Their legislative efforts are planned on that basis. While they have not succeeded as well as osteopaths in this direction, their efforts are not likely to decline. If the standards of medical practice are to be maintained at a reasonably high level and if the public is to be protected from legally recognized drugless healers, these attempts at gaining legislative advantage must be expected and fought with intelligence and vigor.

The interest of the public in medicine and in health was never before so great as it is now. This interest is likely to grow in volume and intensity. Several important laws, extending the public health program, particularly the Social Security Act and the Venereal Disease Control Act, have been passed by Congress. Other measures proposing to provide systems of medical and hospital care are pending. Still other proposals are likely to be introduced.

Likewise in the various states there have been enacted various laws expanding public health programs. Medical care is provided to certain classes of patients, particularly the victims of tuberculosis, cancer and the venereal diseases, at government expense in many of the states. There will be efforts to extend services in the medical field far beyond those which now prevail.

This situation has come about because medicine has far more to offer than ever before. More medical knowledge of a practical, useful kind has been acquired in the last forty years than in all the centuries that went before. Almost daily some new drug or some new vaccine or some new medical procedure or some new discovery about viruses or bacteria is announced. To use this knowledge advantageously and in the best public interests requires the highest type of training and it requires a high level of professional integrity and skill. It requires, moreover, a humanitarian purpose.

For these reasons the legal control over the standards of medical practice and over the licensing of practitioners will become increasingly important. As appropriations for health protective services become larger and larger the temptation to all manner of alleged healers to find a place of advantage to themselves will grow greater and greater. They will be attracted to the channels through which the money flows as June bugs are attracted to electric lights at night. Already attempts have been made by the osteopaths to be made eligible for commissions in the medical departments of the army and navy.

Their approach is always through the legislature. First they seek merely to be recognized legally in any way at all. Then step by step they seek to obtain privileges which ultimately give them unlimited freedom in the practice of medicine.

The center of attack is invariably the registration system. They seek first to be recognized by the board of examiners, then to gain influence on it through direct representation and finally to establish boards made up entirely of their own choosing.

Since the members of boards of medical examiners are in a strategic position to observe the trends in medicine and in the various cult systems of healing, they might well assume the leadership in molding legislation in this field on a sound basis. Surely the law makers and the public alike need expert guidance in medical legislation, which profoundly affects the health and the life of people generally.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Optometry Practice Acts: Right of Licensing Agency to Revoke License Without Court Order.—The California state board of optometry requested the district court of appeal, fourth district, California, to grant a rehearing on its prior decision which the board interpreted to lay down the rule that a license to practice optometry can be revoked only by an action in the courts and that a statewide licensing agency cannot revoke such a license until a court has ordered such revocation. The court pointed out that such an interpretation was incorrect and, to eliminate any misunderstanding, it restated the applicable law as follows: "If, after proceeding according to law, and after giving an accused licensee notice of a hearing and actually holding a hearing, a board having statewide authority issues its order revoking the license of a licensee, such order possesses finality unless the licensee seeks relief in the courts. If, however, the licensee seeks to have his license restored by appropriate action in mandamus in the courts, then the question must be litigated and a trial de novo must be had." The petition for rehearing was accordingly denied.—*Laine v. California State Board of Optometry*, 102 P. (2d) 538 (Calif., 1940).

Society Proceedings

COMING MEETINGS

American Medical Association, Cleveland, June 2-6. Dr. Olin West, 535 North Dearborn St., Chicago, Secretary.

Alabama, Medical Association of the State of, Mobile, Apr. 15-17. Dr. D. L. Cannon, 519 Dexter Ave., Montgomery, Secretary.

American Academy of Physical Medicine, New York, Apr. 28-30. Dr. Herman A. Osgood, 144 Commonwealth Ave., Boston, Secretary.

American Association for the Study of Goiter, Boston, May 26-28. Dr. W. Blair Mosser, 133 Biddle St., Kane, Pa., Secretary.

American Association for the Surgery of Trauma, Montreal and Montebello, Canada, May 29-31. Dr. Ralph G. Carothers, 409 Broadway, Cincinnati, Secretary.

American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 29-31. Dr. Charles C. Higgins, 2020 East 93d St., Cleveland, Secretary.

American Association of Industrial Physicians and Surgeons, Pittsburgh, May 5-9. Dr. Volney S. Cheney, % Armour and Company, Union Stock Yards, Chicago, Secretary.

American Association of Medical Milk Commissions, Cleveland, June 1-2. Dr. Paul B. Cassidy, 2037 Pine St., Philadelphia, Secretary.

American Association of the History of Medicine, Atlantic City, N. J., May 4-6. Dr. Henry E. Sigerist, 1900 East Monument St., Baltimore, Secretary.

American Broncho-Esophagological Association, Cleveland, June 3. Dr. Paul H. Holinger, 1150 North State St., Chicago, Secretary.

American College of Chest Physicians, Cleveland, June 1-2. Dr. Paul H. Holinger, 1150 North State St., Chicago, Secretary.

American College of Physicians, Boston, Apr. 21-25. Mr. E. R. Loveland, 4200 Pine St., Philadelphia, Executive Secretary.

American Gastro-Enterological Association, Atlantic City, N. J., May 5-6. Dr. Thomas T. Mackie, 16 East 90th St., New York, Secretary.

American Gynecological Society, Colorado Springs, May 26-28. Dr. Richard W. TeLinde, Johns Hopkins Hospital, Baltimore, Secretary.

American Heart Association, Cleveland, May 30-31. Dr. Howard B. Sprague, 50 West 50th Street, New York, Secretary.

American Laryngological Association, Atlantic City, May 28-30. Dr. Charles J. Imperatori, 108 East 38th St., New York, Secretary.

American Medical Women's Association, Cleveland, June 1-3. Dr. Etta Gray, 649 South Olive St., Los Angeles, Secretary.

American Ophthalmological Society, Hot Springs, Va., May 29-June 1. Dr. Eugene M. Blake, 303 Whitney Ave., New Haven, Conn., Secretary.

American Otolological Society, Atlantic City, N. J., May 26-28. Dr. Isidore Friesner, 36 East 73d St., New York, Secretary.

American Physiological Society, Chicago, Apr. 16-19. Dr. Philip Bard, 710 North Washington St., Baltimore, Secretary.

American Proctological Society, Cleveland, June 1-3. Dr. William H. Daniel, 1930 Wilshire Blvd., Los Angeles, Secretary.

American Psychiatric Association, Richmond, Va., May 5-9. Dr. Arthur H. Ruggles, 305 Blackstone Blvd., Providence, R. I., Secretary.

American Radium Society, Cleveland, June 2-3. Dr. William E. Costolow, 1407 South Hope St., Los Angeles, Secretary.

American Rheumatism Association, Cleveland, June 2. Dr. Loring T. Swaim, 372 Marlborough St., Boston, Secretary.

American Society for Clinical Investigation, Atlantic City, N. J., May 5. Dr. Eugene M. Landis, University of Virginia Hospital, Charlottesville, Va., Secretary.

American Society for Experimental Pathology, Chicago, Apr. 15-18. Dr. Harry P. Smith, Dept. of Pathology, University of Iowa, Iowa City, Secretary.

American Society for Pharmacology and Experimental Therapeutics, Chicago, Apr. 15-19. Dr. G. Philip Grabfield, 319 Longwood Ave., Boston, Secretary.

American Society for the Study of Allergy, Cleveland, June 2-3. Dr. J. Harvey Black, 1405 Medical Arts Bldg., Dallas, Tex., Secretary.

American Society of Biological Chemists, Chicago, Apr. 15-19. Dr. C. G. King, Dept. of Chemistry, University of Pittsburgh, Pittsburgh, Secretary.

American Society of Clinical Pathologists, Cleveland, May 30-June 1. Dr. A. S. Giordano, 531 North Main St., South Bend, Ind., Secretary.

American Surgical Association, White Sulphur Springs, W. Va., Apr. 28-30. Dr. Charles G. Mixer, 319 Longwood Ave., Boston, Secretary.

American Therapeutic Society, Cleveland, May 30-31. Dr. Oscar B. Hunter, 1835 Eye St. N.W., Washington, D. C., Secretary.

American Urological Association, Colorado Springs, Colo., May 19-22. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.

Arizona State Medical Association, Phoenix, Apr. 16-19. Dr. W. Warner Watkins, 15 East Monroe St., Phoenix, Secretary.

Arkansas Medical Society, Little Rock, Apr. 14-16. Dr. William R. Brooksher, 602 Garrison Ave., Fort Smith, Secretary.

Association for Research in Ophthalmology, Cleveland, June 3. Dr. Conrad Berens, 35 East 70th Street, New York, Secretary.

Association for the Study of Internal Secretions, Atlantic City, N. J., May 2-3. Dr. E. Kost Shelton, 921 Westwood Blvd., Los Angeles, Secretary.

Association of American Physicians, Atlantic City, N. J., May 6-7. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.

California Medical Association, Del Monte, May 5-8. Dr. George H. Kress, 450 Sutter St., San Francisco, Secretary.

Conference of State and Provincial Health Authorities of North America, Washington, D. C., Apr. 28-May 2. Dr. A. J. Chesley, State Office Bldg., St. Paul, Secretary.

Connecticut State Medical Society, Bridgeport, May 21-22. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.

Federation of American Societies for Experimental Biology, Chicago, Apr. 15-19. Dr. D. R. Hooker, 19 West Chase St., Baltimore, Secretary.

Florida Medical Association, Jacksonville, Apr. 28-30. Dr. Shaler Richardson, P. O. Box 1018, Jacksonville, Secretary.

Georgia, Medical Association of, Macon, May 13-16. Dr. Edgar D. Shanks, 478 Peachtree St. N.E., Atlanta, Secretary.

Illinois State Medical Society, Chicago, May 20-23. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.

Iowa State Medical Society, Davenport, May 14-16. Dr. R. L. Parker, 3510 Sixth Ave., Des Moines, Secretary.

Kansas Medical Society, Topeka, May 13-15. Mr. C. G. Munns, 112 West Sixth St., Topeka, Executive Secretary.

Louisiana State Medical Society, Shreveport, Apr. 21-23. Dr. P. T. Talbot, 1430 Tulane Ave., New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, Apr. 22-23. Dr. Richard T. Shackelford, 1211 Cathedral St., Baltimore, Secretary.

Massachusetts Medical Society, Boston, May 21-22. Dr. Robert N. Nye, 8 Fenway, Boston, Secretary.

Medical Library Association, Ann Arbor, Mich., May 29-31. Miss Anna C. Holt, 25 Shattuck St., Boston, Secretary.

Minnesota State Medical Association, St. Paul, May 26-28. Dr. B. B. Souster, 493 Lowry Medical Arts Bldg., St. Paul, Secretary.

Mississippi State Medical Association, Biloxi, May 13-15. Dr. T. M. Dye, Box 295, Clarksdale, Secretary.

Missouri State Medical Association, St. Louis, Apr. 28-30. Mr. E. H. Bartelsmeyer, 634 North Grand Blvd., St. Louis, Executive Secretary.

National Gastroenterological Association, New York, May 13-16. Dr. G. Randolph Manning, Room 319, 1819 Broadway, New York, Secretary.

National Tuberculosis Association, San Antonio, Tex., May 5-8. Dr. Charles J. Hatfield, 1790 Broadway, New York, Secretary.

Nebraska State Medical Association, Lincoln, May 5-8. Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 13-14. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, May 20-22. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.

New York, Medical Society of the State of, Buffalo, Apr. 28-May 1. Dr. Peter Irving, 292 Madison Ave., New York, Secretary.

New York State Association of Public Health Laboratories, Syracuse, May 19. Miss Mary B. Kirkbride, New Scotland Ave., Albany, Secretary.

North Carolina, Medical Society of the State of, Pinehurst, May 19-21. Dr. I. H. Manning, Chapel Hill, Secretary.

North Dakota State Medical Association, Grand Forks, May 19-21. Dr. L. W. Larson, 221 Fifth St., Bismarck, Secretary.

Ohio State Medical Association, Cleveland, June 3. Mr. C. S. Nelson, 79 East State St., Columbus, Executive Secretary.

Oklahoma State Medical Association, Oklahoma City, May 19-22. Dr. L. S. Willour, 210 Plaza Court Bldg., Oklahoma City, Secretary.

Pacific Coast Oto-Ophthalmological Society, Los Angeles, May 26-29. Dr. C. Allen Dickey, 450 Sutter Street, San Francisco, Secretary.

Philippine Medical Association, Manila, Apr. 22-26. Dr. Candido M. Africa, 547 Herran St., Manila, Secretary.

Rhode Island Medical Society, Providence, May 28-29. Dr. Guy W. Wells, 124 Waterman St., Providence, Secretary.

Society for the Study of Asthma and Allied Condition, Atlantic City, N. J., May 3. Dr. W. C. Spain, 116 East 53d St., New York, Secretary.

South Carolina Medical Association, Greenville, Apr. 15-17. Dr. Julian P. Price, 105 West Cheves St., Florence, Secretary.

South Dakota State Medical Association, Mitchell, May 18-20. Dr. Clarence E. Sherwood, 107 1/2 Egan Ave., Madison, Secretary.

Texas, State Medical Association of, Fort Worth, May 12-15. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.

West Virginia State Medical Association, Charleston, May 12-14. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

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Simplified Zinc Sulfate Levitation Method of Fecal Examination for Protozoan Cysts and Hookworm Eggs. G. F. Otto, R. Hewitt and Dorothy E. Strahan, Baltimore.—p. 32.

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*Familial Microcytic Anemia: Observations on Six Cases of Blood Disorder in an Italian Family. M. B. Strauss, Geneva A. Daland and H. J. Fox, Boston.—p. 30.

*Determinative Background of Subacute Bacterial Endocarditis. H. A. Christian, Boston.—p. 34.

Effects of Tobacco Smoke and Nicotine on Normal Heart and in Presence of Myocardial Damage Produced by Coronary Ligation. S. Bellet, A. Kershbaum, R. H. Meade Jr. and L. Schwartz, Philadelphia.—p. 40.

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Family Outbreak of Pneumococcus Type I Infections. N. Plummer and H. K. Ensworth, New York.—p. 100.

Absorption, Distribution and Excretion of 2-Sulfanilamido Pyrimidine (Sulfapyrimidine, Sulfadiazine) in Man. J. G. Reinhold, H. F. Flippin, L. Schwartz and A. H. Domm, with technical assistance of S. Bethlahmy, Philadelphia.—p. 106.

Behavior of Blood Sedimentation Rate During and After Fever Therapy. F. Fetter and T. G. Schnabel, Philadelphia.—p. 115.

Familial Microcytic Anemia.—The discovery of an unusual blood picture in an Italian woman led Strauss and his co-workers to study 20 other members of her family, with the result that 5 more were found to have a similar disorder. Data obtained from hospital records indicated that 4 deceased members of the family had been anemic; none of them died as a result of the anemia. The erythrocytes of each of the

affected persons number more than 5,000,000 per cubic millimeter with a hemoglobin level of from 9.36 to 10.92 Gm. per hundred cubic centimeters, a mean corpuscular volume of from 56.6 to 66.9 cubic microns and hemolysis complete only in 0.15 per cent saline solution. The icteric indexes, urobilinogen excretion, leukocytes and differential percentages were normal, and the platelets were either normal or increased. Roentgenograms of the skull of the 6 individuals showed a granular appearance. No other osseous changes were observed. The distribution of the 6 cases of this disorder among the 21 members shows that only affected members transmitted it. This points to a mendelian dominant type of inheritance. Treatment over weeks or months with full therapeutic doses of iron by mouth and by injection with 20 mg. daily of copper sulfate, liver extract by injection, raw liver by mouth, 2 grains (0.13 Gm.) of thyroid and high vitamin regimens was uniformly ineffective in altering the blood picture. The only symptoms suffered were those consistent with the relatively mild anemia present. Physical examinations were essentially normal. In no instance was splenomegaly present. The disorder described resembles simple hypochromic anemia and, to a lesser extent, erythroblastic anemia (Cooley).

Subacute Bacterial Endocarditis.—Christian finds that, of 150 consecutive adults with subacute Streptococcus viridans endocarditis admitted to the Peter Bent Brigham Hospital between April 1913 and September 1939, 134, or 89.33 per cent, had rheumatic heart disease. Only 1 patient had uncomplicated syphilitic aortic disease, while 3 had syphilitic aortic disease in addition to rheumatic lesions. This is further evidence of the predilection of Streptococcus viridans to form vegetations on the valves with rheumatic valvulitis. Eight of the remaining 16 patients were diagnosed as having a congenital heart defect (5 with either patent ductus arteriosus or interventricular septum defect and 3 with a congenital anomaly of the aortic cusps) and 8 who had no signs justifying a diagnosis of valvular heart disease and no past history of rheumatic fever or chorea; presumably these were nonrheumatic. In addition to the 150, there were 7 patients with a similar picture of subacute endocarditis, 4 due to Staphylococcus albus, 2 to unidentified staphylococci and 1 to a pleomorphic bacillus. In 6 of these the background was rheumatic heart disease and in 1 congenital subaortic stenosis. There were 17 other patients whose history, physical signs, temperature curve and progress of the disease were analogous to the 150 patients but in whom cultural methods failed to demonstrate bacteria. The development of their endocardiac disease on a background of rheumatic heart disease was applicable. If these 17 patients are added as cases of subacute bacterial endocarditis in a bacteria-free stage when studied, together with the 7 caused by other bacteria, a total of 174 cases of subacute bacterial endocarditis is reached, in which 157 (90.24 per cent) had a determinative background of rheumatic heart disease. Absence of auricular fibrillation is a definite feature of the background of subacute bacterial endocarditis. Only 4 (2.66 per cent) of the 150 patients with subacute Streptococcus viridans endocarditis had auricular fibrillation; 3 had persisting auricular fibrillation with mitral stenosis and aortic insufficiency of long duration and 1 with a history of rheumatic fever thirty-one years before had transient auricular fibrillation in the last few weeks of life. The absence of prior cardiac decompensation of more than slight degree was also characteristic. In only 22 of the 150 patients was shortness of breath observed before the symptoms of endocarditis appeared. Ten of these had experienced congestive heart failure of a sufficient degree to handicap their activities considerably, only an occasional patient had suffered prior congestive failure severe enough to require prolonged bed rest. It would seem that after marked congestive failure develops in a patient with rheumatic heart disease there is little probability of subacute bacterial endocarditis appearing. For some unknown reason heart valves which show chronic valvulitis or scarring do not seem vulnerable to Streptococcus viridans and other bacteria of similar pathogenicity after the more advanced clinical stages of chronic heart disease have been reached. Age seems to show a slight influence on the determinative background. Subacute Streptococcus viridans endocarditis occurred most frequently among

patients between 20 and 29 years of age. The sex preponderance was 92 (61.33 per cent) males against 58 females (38.66 per cent).

Anesthesiology, New York

2:1-120 (Jan.) 1941

- Experimental Studies on Carbon Dioxide Absorbers for Anesthesia. J. Adriani and E. A. Rovenstine, New York.—p. 1.
Clinical and Experimental Studies on Paraldehyde. M. Bodansky, J. L. Jinkins, H. Levine and A. J. Gilbert, Galveston, Texas.—p. 20.
Endotracheal Anesthesia: Relation of Nasotracheal and Orotracheal Intubation to Respiratory Morbidity. N. A. Gillespie and W. A. Conroy, Madison, Wis.—p. 28.
Toxicity of Hypnotics as Affected by Temperature, Thyroxine and Adrenalectomy. R. K. Richards, North Chicago, Ill.—p. 37.
Ether Anesthesia and Cerebral Anoxia: Study of Causative Factors in Serious Anesthetic and Postanesthetic Complications. C. B. Courville, Los Angeles.—p. 44.
Successful Treatment of Hysterical Paralysis with Pentothal Sodium and Psychotherapy. R. Somerfield and R. M. Tovell, Hartford, Conn.—p. 59.
Regional Anesthesia for Operations About Head and Neck. L. H. Mousel, Rochester, Minn.—p. 61.
Studies on Detoxication of Local Anesthetics: Protective Action of Intravenous Injections of Calcium Salts on Respiratory and Circulatory Effects of Pontocaine Hydrochloride. H. Wastl, with assistance of A. E. Pearce and A. A. Libei, Philadelphia.—p. 74.
Influence of General Anesthetic Agents on Bacterial Flora of Upper Respiratory Tract. M. M. Schapiro and L. Arnold, Chicago.—p. 80.

Archives of Internal Medicine, Chicago

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- *Arterial Hypertension and Section of Splanchnic Nerves. D. A. Rytand and E. Holman, San Francisco.—p. 1.
*Staphylococcal Bacteremia: Treatment with Sulfapyridine and Sulfathiazole. W. W. Spink, A. E. Hansen and J. R. Paine, Minneapolis.—p. 25.
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Pleuropulmonary Tularemia. S. D. Blackford and C. J. Casey, University, Va.—p. 43.
Changes in Content of Carbon Dioxide in Venous Blood During Rebreathing Experiments: Comparison of Change in Persons with Normal Heart and in Patients with Cardiac Disease. H. Landt and J. E. Benjamin, Cincinnati.—p. 72.
Diagnosis of Site of Origin of Ventricular Extrasystoles in Human Beings. M. R. Castex, A. Battro and R. González S., Buenos Aires, Argentina.—p. 76.
Tumors of Heart: Report of Four Cases and Review of Literature. J. R. Lisa, L. Hirschhorn and C. A. Hart, New York.—p. 91.
Iodine and Cholesterol Metabolisms in Patients with Primary Myxedema: Clinical and Experimental Study with Report of Results of Treatment. A. M. Greene, Omaha.—p. 114.
Congenital Bicuspid Aortic Valves. S. Koletsky, Cleveland.—p. 129.
Acquired Bicuspid Aortic Valves. S. Koletsky, Cleveland.—p. 157.
*Hyperactive Cardioinhibitory Carotid Sinus Reflex: Possible Aid in Diagnosis of Coronary Disease. L. H. Sigler, Brooklyn.—p. 177.
Time-Activity Curves of Protamine Zinc Insulin: Clinical Application and Significance of Such Curves in Treatment of Patients with Severe Diabetes. Helen Eastman Martin and P. O. Greeley, Los Angeles.—p. 194.
Allergy: Review of Literature of 1940. F. M. Rackemann, Boston.—p. 207.

Arterial Hypertension and Section of Splanchnic Nerves.—In choosing patients with arterial hypertension for splanchnic nerve section Rytand and Holman disregarded age, congestive heart failure, angina pectoris, coronary occlusion, hemiplegia or glomerulonephritis. Forty patients were subjected to operation. The results were generally poor; 8 died within two weeks of the operation, 11 within a year and a half, 5 had their blood pressures reduced to some degree, 6 felt better with no reduction in their hypertension, 9 experienced no change and 1 obtained a brilliant result. As early as three months postoperatively the heart of this patient was reported as normal in size. A year after operation the patient married. She now (three and a half years after operation with a systolic pressure of 145 and a diastolic pressure of 85) complains of fatigue and dyspnea only if she works hard but feels better while taking 0.1 Gm. of digitalis daily. There is no edema. While the symptomatic improvement appeared at once, the main decline in arterial pressure did not occur until six months after operation. The average reduction of the arterial pressure of the 5 patients in whom it decreased was from 200 systolic and 120 diastolic to 155 and 100, respectively. Their ages ranged from 30 to 54 years (average 39 years). They were known to have been hypertensive for from two to ten years. None of these patients had any urinary

abnormality or elevated blood urea concentration, and all but 1 had perfectly normal fundi. All had thickened radial arteries. One had survived an attack of coronary occlusion, and 2 presented themselves with congestive heart failure. Therefore age, duration of hypertension, vascular complications in the brain and heart, heart failure and lability of arterial pressure were not prognostically significant. The deciding prognostic factor seemed to be the presence or absence of malignant hypertension as evidenced by renal and retinal lesions.

Sulfapyridine and Sulfathiazole for Staphylococcal Bacteremia.—During the last three years, Spink and his colleagues encountered 100 patients with staphylococcal sepsis. Staphylococci were isolated from the blood of 50, and 25 of them had staphylococcemia. Sulfapyridine was given to 10 and sulfathiazole or both to 15. Four of the patients treated with sulfapyridine died. There was some variation in dosage, but the usual procedure was to administer orally 4 Gm. as an initial dose and then 1 Gm. every four hours. Essentially the same oral doses were employed for the 15 patients receiving sulfapyridine. Lower concentrations of the drug in the blood were obtained with sulfathiazole than with sulfapyridine. The blood was sterilized in all 15 patients, and they recovered from their acute infections. One patient died subsequently of complicating myelogenous leukemia. Four patients had also received sulfapyridine prior to sulfathiazole with no definite benefit; such was also the case of the 5 patients who were given sulfanilamide prior to the sulfathiazole. Sulfathiazole appears to be superior to sulfanilamide or sulfapyridine in staphylococcal bacteremia. Although sulfathiazole will sterilize the blood stream, viable organisms will persist in localized abscesses and metastatic lesions, and it is imperative that abscessed areas be adequately drained. The drug will not sterilize the contents of an abscess but will aid in preventing its spread to healthy tissue and the consequent dissemination of bacteria to the blood stream. When foci of infection persist, the patient must be kept under observation for a long period, as blood stream invasion may recur.

Hyperactive Cardioinhibitory Carotid Sinus Reflex.—Sigler has found that the hyperactive cardioinhibitory reflex of the abnormal carotid sinus group of responses usually appears before and often commences to subside at a time when the other reflexes reach their highest effects. It occurs with greater frequency and to higher degrees among men of advanced age and in the presence of demonstrable coronary disease. Believing that gradual compression of the carotid arteries against the spinous process at the level of the cricoid cartilage might be used as an aid in the diagnosis of coronary disease, the author studied the records of 1,886 additional patients on whom the test was performed. The series consisted of 1,151 males and 735 females from 10 to 85 years of age. The series was divided into four groups: (1) persons with various grades of demonstrable coronary sclerosis, with or without hypertension or other disease states, (2) persons with hypertension, with or without evidence of arteriosclerosis or other disease states but without coronary sclerosis, (3) persons with cardiac disease other than the arteriosclerotic type and (4) normal persons and persons presenting constitutional disease with no hypertension or demonstrable cardiac disease. A hyperactive cardioinhibitory carotid sinus reflex occurred with greater frequency in coronary disease than in any other condition. Compared with the normal group, the frequency was about 50 per cent greater; compared with persons with other disease states it is about 30 per cent. Among female patients the difference was smaller, perhaps because the incidence of coronary disease is also much smaller. The more advanced the disease, the greater was the incidence and the higher were the degrees of response. Heart disease other than the arteriosclerotic type also showed a slightly greater incidence and higher degree of response than the other conditions, even though such disease in the series occurred in young persons in whom normally the response is rare. The comparative frequency of the reflex among persons with conditions other than heart disease and even in normal persons eliminates heart disease as the cause of the condition. It appears that the reflex is due to lowered resistance at the synapses in the cardioinhibitory center and more so in the extracardiac and intracardiac ganglionic cells

and in the myoneural junctions. This allows voluminous transmission of afferent and efferent impulses. Coronary disease with its associated ischemia is a possible local cause for the lowering of resistance. Other causes may be an abnormal constitutional state and some defect in the nervous system. The hyperactive reflex is recommended as a possible aid in the diagnosis of such disease in persons of arteriosclerotic age who show suggestive signs or symptoms. Additional knowledge of the reflex may help to explain the various cardiac arrhythmias and sudden, heretofore unexplained, death.

California and Western Medicine, San Francisco

54:1-52 (Jan.) 1941

- Changing Conception of Coronary Artery Disease. J. J. Sampson, San Francisco.—p. 6.
Fibroma of Nasopharynx. G. W. Walker and M. F. Stock, Fresno.—p. 10.
Coccidioidomycosis: Relative Values of Coccidioidin and Tuberculin Testing Among Children of the San Joaquin Valley. Juliet E. Thorner, Bakersfield.—p. 12.
Convulsive States: Their Differential Diagnosis and Management. L. W. Empey, Roseville.—p. 15.
Progress in Examination of Semen Relative to Fertility. L. Michelson, San Francisco.—p. 19.
Eczema of Infancy and Early Childhood: Its Pediatric Management. C. Bost, San Francisco.—p. 24.

Endocrinology, Los Angeles

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- Correlation of Physiologic and Cytologic Changes in Neurohypophysis of Rats with Experimental Diabetes Insipidus. I. Gersh and C. M. Brooks, Baltimore.—p. 6.
*Successful Responses in Diabetes Mellitus of Menopause Produced by Antagonistic Action of Sex Hormones on Pituitary Activity. E. Cantilo, Buenos Aires, Argentina.—p. 20.
Inheritance of Glucose Tolerance. Versa V. Cole, B. K. Harned and C. E. Keeler, Philadelphia.—p. 25.
Influence of Thyroid on Resorption of Gonadotropic Hormones. F. Bischoff, Georgena J. Clarke and C. H. Epps, Santa Barbara, Calif.—p. 48.
Inhibition of Mammary Growth by Large Amounts of Estrogen. W. U. Gardner, New Haven, Conn.—p. 53.
Question of Thyroid Weight During Pregnancy with Further Observations of Adrenal Weight in Late Pregnancy. W. F. Hewitt Jr. and E. J. Van Lier, Morgantown, W. Va.—p. 62.
Studies on Corpus Luteum Metabolism: I. Effects of Intermenstrual Administration of Testosterone Propionate. E. C. Hamblen, W. K. Cuyler and G. J. Axelsson, Durham, N. C.—p. 70.
Id.: II. Effects of Intermenstrual Administration of Estrogens. E. C. Hamblen, W. K. Cuyler and G. J. Axelsson, Durham, N. C.—p. 72.
Skeletal Changes in Rats Receiving Estradiol Benzoate as Indicated by Histologic Studies and Determinations of Bone Ash, Serum Calcium and Phosphatase. H. G. Day and R. H. Folliis Jr., Baltimore.—p. 83.
Administration of Rat Thymus to Pregnant Rats and Lack of Effect in Successive Generations. M. W. Burrill and A. C. Ivy, Chicago.—p. 94.
Permanent After-Effects Following Masculinization of Infantile Female Rat. J. T. Bradbury, Ann Arbor, Mich.—p. 101.
Action of Testosterone Propionate on Experimental Menstruation in Monkey. P. A. Duncan, E. Allen and J. B. Hamilton, New Haven, Conn.—p. 107.
Quantitative Relations of Prostatic Component (Acid Phosphatase) of Human Seminal Fluid. A. B. Gutman and Ethel Benedict Gutman, New York.—p. 115.
Cutaneous Vascular and Pigmentary Changes in Castrate and Eunuchoid Men. E. A. Edwards, Boston; J. B. Hamilton, S. Q. Duntley and G. Hubert.—p. 119.
Frog Test (*Xenopus Laevis*) as Rapid Diagnostic Test for Early Pregnancy. A. I. Weisman and C. W. Coates, New York.—p. 141.

Diabetes Mellitus of Menopause and Sex Hormones.—Cantilo tried to inhibit the diabetogenic principle of the anterior pituitary in 40 women in menopause with diabetes mellitus by administering large doses of sex hormones. The diets of the patients were not restricted and they did not receive insulin. A constant improvement, as measured by the dextrose tolerance test, was observed in all patients who showed evidence of a disturbed hormone balance characterized by hyperpituitarism, which should be attributed to decreased gonad activity. The 100 per cent of successful responses, even of some severe cases of diabetes with glycosuria and ketonuria, emphasizes the necessity of separating climacteric diabetes characterized by a diminished carbohydrate tolerance, which does not differ from that of Cushing's disease. While the author's patients were on a regimen of insulin and restricted diets without any other endocrine therapy, the disturbed carbohydrate metabolism remained almost unchanged. Successful responses were obtained only with large doses of estrogen and progesterone. The condition

of the patients after treatment was discontinued showed the remarkable effects of the therapy. The author does not wish to imply that his patients were genuinely cured. However, the marked inhibition exerted on pituitary activity by the sex hormones makes the therapy interesting.

Journal Industrial Hygiene & Toxicology, Baltimore

23:1-54 (Jan.) 1941

- *Some Facts and Reflections on the Problem of Poisoning by Benzene and Its Homologues. E. Schwarz and L. Teleky, Chicago.—p. 1.
Absorption, Distribution and Elimination of Benzene by Body Tissues and Fluids of Dogs Exposed to Benzene Vapor. H. H. Schrenk, W. P. Yant, S. J. Pearce, F. A. Patty and R. R. Sayers, Pittsburgh.—p. 20.
Control of Tuberculosis: III. Management of the Employee with Pulmonary Tuberculosis. Ada Chree Reid, New York.—p. 35.
Acute Silicosis. W. D. McNally, Chicago.—p. 45.

Poisoning by Benzene and Its Homologues.—Schwarz and Teleky attempted to determine the significance of hemorrhages, of a leukocyte and erythrocyte decrease of 25 per cent and of a hemoglobin decrease to less than 70 per cent, as diagnostic signs of benzene poisoning. Analysis of blood from cases of benzene poisoning shows that the balance of destructive and regenerating processes determines the resulting blood picture and the state of the blood forming organs. A review of cases reported during the years 1930 through 1939 shows 156 serious ones; among these there were 67 deaths. The 156 cases do not include the many slight intoxications. The number of cases in the United States is increasing markedly. Toluene and xylene are more widely used today than in earlier years, often mixed with benzene. These homologues have a greater effect on the nervous system than benzene, but they also may rarely injure the blood forming tissues and cause death. The blood changes differ to some degree from those caused by benzene. Other substances (benzene, butyl alcohol and acetate, methyl alcohol) present in mixed solvents may (especially under certain circumstances when two or more substances act together) have an influence on the blood forming organs. As the combined effect of several harmful substances is not always the same as the total of their individual effects, an atypical clinical picture should be viewed as possibly caused by a mixture of different toxic solvents. Atypical cases seem more frequent in recent years, and especially in this country where the use of mixed solvents has greatly increased. To clarify the effect of the mixtures on blood formation exact determinations of all the air-contaminating substances, not only benzene, are necessary. The restriction of the use of benzene, its replacement by less dangerous (preferably innocuous) solvents is imperative in any industry in which the workers breathe the evaporated air. As long as benzene is used, medical supervision is indispensable and blood examinations must be made at least every month. When toluene and xylene are used, a blood examination every four or six months is sufficient.

Medical Annals of District of Columbia, Washington

10:1-38 (Jan.) 1941

- Rheumatoid Arthritis: Present Status of Sulfur, Vitamin D, Bee Venom, Chaulmoogra Oil and Gold as Therapeutic Agents. D. C. Crain, Washington.—p. 1.
Acute Coronary Thrombosis. E. C. Andrus, Baltimore.—p. 11.
Heart Disease in Pregnancy. F. B. Carr, Worcester, Mass.—p. 16.
*Pyrethrum in Medicine. W. K. Angevine, Washington.—p. 21.
Surgical Treatment of Acute and Chronic Lung Abscess. E. Horgan, Washington.—p. 25.

Pyrethrum in Medicine.—Angevine states that a recent survey of prisoners revealed that nearly 7 per cent suffer from one or more forms of parasitic infestation, and probably more than 2 per cent from scabies. One of the orthodox methods of treating these conditions is by the application of mercurial or blue ointment, a violent poison to man, whose vermifidal action is slow and cumbersome. To a 6 per cent jelly-like oleoresin of pyrethrum the author added petrolatum to make a finished product containing 2 per cent pyrethrins. He called it A-200 compound. The ointment is nonpoisonous to man. Large oral doses to guinea pigs produced no toxic effects or changes in hemoglobin, urine and blood. Almost as soon as the A-200 compound was applied to prisoners infested, the lice would die within a few moments. Even when it was spread

lightly over infested areas the parasites which had burrowed into the skin would back out from their retreats and might be seen to make convulsive movements with paralysis. Pyrethrum is a central nervous toxin to cold-blooded animals, and death is preceded by paroxysms. Ova, which are usually extremely tenacious, immediately become detached from the hairs. The action is almost instantaneous and decisive. In more than 200 cases a single application was sufficient to delouse the patient, and this with no instance of contact dermatitis or cutaneous irritation due to the use of the compound. The success of the ointment for the treatment of phthiriasis suggested its use as a specific for scabies. The author treated 70 cases of scabies with the A-200 compound and found that scrubbing and bathing were not essential to successful treatment. Pustular conditions did not contraindicate its use. The most severe cases required no more than three applications; usually lesions were found to heal after a single treatment. There have been no recurrences, cases of dermatitis or cutaneous irritation. The rapid healing offers conclusive evidence that the mites had been destroyed completely, thus removing the source of irritation.

Michigan State Medical Society Journal, Muskegon 40:1-80 (Jan.) 1941

- Medical Societies and Medical Progress. R. Cole, Mount Kisco, N. Y.—p. 19.
Sinusitis: Orbital Complications. W. H. Steffensen, Grand Rapids.—p. 30.
Industrial Hygiene: Responsibility of the Medical Profession. P. A. Neal and J. J. Bloomfield, Washington, D. C.—p. 32.
Carcinoma of Large Bowel: Problem of Early Diagnosis. J. B. Hartzell, Detroit.—p. 36.
Surgical Diseases of Colon: Diagnosis and Treatment. C. D. Brooks and L. B. Ashley, Detroit.—p. 43.

Public Health Reports, Washington, D. C. 56:41-88 (Jan. 10) 1941

- Summary of Physical Findings on Men Drafted in the World War. R. H. Britten and G. St. J. Perrott.—p. 41.
Report of New Type of Pneumococcus Which Crosses with Types X, XI, XX, XXIX, and XXXI Antipneumococcus Serums. Alice L. Chinn and Bernice E. Eddy.—p. 62.

War Medicine, Chicago 1:1-142 (Jan.) 1941

- Industrial Hygiene and the Navy in National Defense. E. W. Brown, New York.—p. 3.
*Amphetamine (Benzedrine) Sulfate: Review of Its Pharmacology. A. C. Ivy and L. R. Krasno, Chicago.—p. 15.
Aviation Medicine in the United States Navy. F. Ceres, Pensacola, Fla.—p. 43.
*March Fracture: Report of Three Cases. P. L. Moore and A. N. Bracher, Schofield Barracks, Hawaii.—p. 50.
Chemotherapy for Infectious Diseases and Other Infections. Circular Letter No. 81.—p. 55.

Amphetamine Sulfate.—Ivy and Krasno state that from 5 to 20 mg. of amphetamine sulfate will promote wakefulness in most normal subjects. Its use in narcolepsy is not curative, though it has been reported as such in mild cases. The drug's influence on mood is a subjective feeling of "augmented energy, relief from fatigue, mental stimulation, increased confidence, loquacity, general expansiveness, optimism and euphoria." On repeated administration the improvement diminishes and may disappear. After discontinuance for a period, its effect on mood returns. Its effect in diminishing fatigue is generally agreed to be due to an effect on the central nervous system and to be entirely subjective. Its use in normal persons to promote wakefulness and to elevate mood is not recommended. Its use to dispel sleepiness and fatigue in normal persons is not advisable, as it cannot replace needed rest and sleep and because objectionable side reactions (insomnia, anxiety, anorexia, nausea, palpitation and the like) and habit formation are possible. Any drug that produces euphoria is potentially habit forming. Amphetamine sulfate is not an exception. Neurotic persons craving euphoria and persons working under nervous strain are susceptible to habit formation, and withdrawal is objected to. The drug appears to help control the desire for alcohol in chronic alcoholism, provided the subject desires to be relieved of the addiction; otherwise one habit may be substituted for another. Repeated psychomotor tests indicate that

the effects on fatigue of amphetamine sulfate and of caffeine are similar. Both drugs increase psychomotor activity rather than decrease sensitivity to fatigue. Performance was favored by the two drugs, except steadiness, which was diminished by caffeine. The effect of amphetamine sulfate on the physiologic processes has not been studied adequately. It has been used to abolish persistent hiccup. Doses of 20 mg. or more may cause a slight rise in body temperature and a decrease in cutaneous temperature. In doses of from 15 to 20 mg. it usually increases basal metabolism. The decrease in body weight of obese persons using the drug as an aid to adhere to a low calory diet has been attributed to increased activity and increased metabolic rate, and the anorexia to inhibition of gastric tone and elevation of mood. The effect on blood pressure of doses up to 20 mg. is variable for the individual subject; because of this the suggestion that high pressures tend to fall and low pressures tend to rise is of little therapeutic value. The pulse rate of most subjects is increased after a single dose. On repeated administration a decrease often appears. The report that 20 mg. of amphetamine sulfate increased cardiac output has not been confirmed by studies on 12 normal subjects. Ordinary therapeutic doses do not cause significant electrocardiographic changes. It has been reported that the drug reduces mental depression caused by a simulated altitude. Its effect under such conditions probably is due to an improvement of cerebral circulation. However, it may have a direct effect on the cerebral cells. The acid-base balance of the blood is not significantly changed by 10 or 20 mg. of amphetamine sulfate under normal or anoxic conditions. From 10 to 30 mg. of amphetamine sulfate delays the rate of evacuation of the stomach and gallbladder if given after a fatty meal. It has been claimed to be effective in some cases of colonic spasm. In man and animals the size of the spleen has been reduced. There is no agreement regarding its effect on urinary output. It is claimed that it acts synergistically on the bladder with atropine. Its use for enuresis and incontinence has given favorable results. The tone of the human uterus is reported to be increased and the amplitude of the contractions decreased. Its use for relief of dysmenorrhea has been favorably reported. Libido in man is reported to be increased occasionally by the drug. A 0.25 per cent solution of amphetamine sulfate is reported to be more effective than ephedrine as a mydriatic. Its use for sea sickness has been favorable. It is reported to be a valuable adjuvant to prostigmine bromide in myasthenia gravis, but of no value in congenital myotonia.

March Fracture.—Moore and Bracher stress the fact that march fracture may be seen in persons engaged in activities not connected with the military service. They report 3 cases, 2 of which followed athletic participation and 1 a night march. Meyerding and Pollock define march fracture as "a fracture of the second, third or fourth metatarsal bones without known adequate cause." The onset of symptoms is usually insidious, beginning with mild discomfort or burning in the foot. This was not the case with the authors' patients, who could ascribe their disability to a definite period of activity followed by sudden, almost disabling, pain. Edema on the dorsum of the foot begins approximately twelve hours after the onset of pain, and pain is especially intense when pressure is made over the involved bone. The patient walks with a noticeable limp. Erythema over the fracture site may be present. Roentgenograms taken soon after the symptoms developed demonstrated metatarsal fracture in 2 of the cases; in the third case a roentgenogram taken four days after the onset of symptoms showed a questionable fracture line, but ten days later a definite metatarsal fracture was visible. With the scanty history that the 3 men gave each might have been treated for an injury to ligaments, a contusion or metatarsalgia. The authors believe that the condition known as "pied forcé," or forced foot, is as reasonable an explanation of march fracture as they have yet seen offered. It is simply another term for fracture of a metatarsal bone as a result of the foot being impacted between two forces: the weight of the body and the ground. These forces are not usually thought of as external. Flat feet or other structural inadequacies may or may not be a predisposing factor. The 3 patients had normal arches.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Disease in Childhood, London

15:201-278 (Dec.) 1940

*Gargoylism: Review of Principal Features: Report of Five Cases. J. L. Henderson.—p. 201.

*Report of Additional Case of Gargoylism. R. W. B. Ellis.—p. 215.
Proliferative Mural Bronchiolitis. S. Engel and G. H. News.—p. 219.
Gaucher's Disease: Diagnosis by Sternal Puncture and Improvement Following Splenectomy. J. N. M. Chalmers.—p. 230.

Nerve Cell Swelling of Juvenile Amaurotic Family Idiocy Type Associated with Tuberoses Sclerosis in Infant Aged 12 Months. R. M. Norman.—p. 244.

Blood Cholesterol Content in Childhood. Vida J. M. Stark.—p. 255.

Gargoylism.—Henderson discusses 5 cases of gargoylism, a type of congenital chondro-osteodystrophy in which the deformities of the head, trunk and limbs are associated with mental defect, corneal clouding and hepatosplenomegaly. Records of 57 cases have been found in the literature, although satisfactory details are lacking in 9. A number of cases were probably missed owing to lack of a standardized nomenclature. Four of the 5 cases presented were under the care of John Thomson of Edinburgh. Some of the clinical features of the disease are the following: Growth is usually retarded from the first year. Dwarfing is always severe of the children who survive childhood. The cranium is nearly always enlarged and, unlike the face, which is grotesque, its conformation is variable. Scaphocephaly is the principal type, while brachycephaly is almost as common. Hydrocephalus is a frequent complication. Bony ridges along the suture lines and unduly prominent supraorbital ridges sometimes occur. Closure of the anterior fontanel is always delayed. The nasal bridge is flat and wide, and the nostrils are often turned forward. This usually leads to rhinitis. The mandible is frequently broad and heavy, and the teeth are widely spaced, irregular and poorly developed. Dentition commenced at the normal time in about half of the cases; in others it was delayed. The lips are usually thick, and the large tongue, often fissured, lies well forward, sometimes actually protruding, in a slightly open mouth. The cheeks are full and often ruddy. The ears usually appear to be unduly low set and occasionally enlarged. Coarse, dark eyebrows frequently add to the uncanny appearance, but the hair is usually fine and silky. The neck is usually short, the head appearing to be planted on the shoulders. The chest is seldom well formed, but not malformed as in Morquio's disease. Flaring of the costal margins and minor degrees of pigeon breast are frequent. Roentgenograms show considerable broadening of the ribs. Dorsolumbar kyphosis is seldom absent and is caused by a dysplasia of one or more of the upper lumbar vertebrae, which are notably small, with a flattened or wedge-shaped body frequently bearing an anterior hooklike process. The abdomen is usually enlarged, often grossly. Umbilical and inguinal hernia is common. The arms are relatively short, with impaired mobility of the joints with slight permanent semiflexion. The hands are broad, short and clawlike. Coxa valga, genu valgum and pes planus have been observed. Roentgenologically the bones of the extremities are thickened and roughly formed, the latter condition being most apparent in the joints. Carpal ossification is retarded. Amentia is a most characteristic feature. Corneal clouding is a salient feature, but it is not always present. The clouding is usually congenital and diffuse, giving the corneas a ground glass appearance, but it seldom involves the superficial layers. Hepatosplenomegaly occurs in the majority of cases and occasionally is extreme. The muscles are poorly developed and weak. Hypertrichosis is a common feature. Retarded sexual development was a feature of 4 of the 5 patients who lived past the age of puberty. It was still apparent at 23 in the twins described by Nonne. The 5 cases reported by the author were encountered in two families. The affected infants were much larger at birth than their healthy siblings. The most constant pathologic changes (from the few necropsies reported) are found in the osseous and nervous systems. The bones are thickened, and many of them display characteristic deformities. In the brain there are widespread degenerative changes in the nerve cells with intracellular and extracellular lipid deposits.

Lipoid deposits may occur in the corneas, liver, spleen and other tissues. The disease is recessively inherited with a high familial incidence. There have been five instances of consanguineous marriages. The available evidence supports the view of several writers that the disease should be grouped with the congenital disorders of lipid metabolism. The relationship of the chondro-osteodystrophy to the other morbid features is obscure.

Case of Gargoylism.—As an addendum to Henderson's discussion, Ellis cites a case which illustrates a number of the clinical and roentgen features of the condition. The changes were not as definite as in many of the reports that have been published. The patient showed the following characteristic features of gargoylism: the peculiar facies, hepatosplenomegaly, chondro-osteodystrophy giving rise to flexion deformities (particularly of the hands), defect of the body of one of the upper lumbar vertebrae resulting in kyphosis, clouding of the corneas, depression of the nasal bridge with a purulent nasal discharge, an elongated sella turcica, low set ears and hernia. Minor stigmas were the deep grooves in the frontal veins and the sparse eyebrows composed of coarse, dark hairs. The child differs from most of the classic cases in her mentality. This appears almost normal for her age, although it is too soon to predict that mental deterioration will not occur. The prognosis seems relatively more hopeful. Because of the familial incidence of the condition, the parents were warned that even though the marriage is not consanguineous there is a possibility of a subsequent child being affected.

Edinburgh Medical Journal

48:1-72 (Jan.) 1941

The New Estrogens. E. C. Dodds.—p. 1.

Studies in Method and Standardization of Blood Examination: VII. Blood Sedimentation Rate, Sedimentation Volume and Centrifuge Volume. W. F. Harvey.—p. 14.

Modern Anesthesia. J. Gillies.—p. 26.

Studies on Stored Blood: V. Observations on Coagulation Mechanism in Stored Blood. A. Crosbie, H. Scarborough and J. C. Thompson.—p. 41.

Specialism. H. M. Traquair.—p. 52.

Lancet, London

1:33-66 (Jan. 11) 1941

Etiology of Polyneuritis. F. M. R. Walshe.—p. 33.

*Hematemesis from Peptic Ulcer: The Case for Operation. H. C. W. Nuttall.—p. 35.

Toxic Effects of Iroko, an African Wood. J. M. Davidson.—p. 38.

Exophthalmic Ophthalmoplegia: Case. L. Martin and V. Pennell.—p. 39.

Effects of Estrogens on Lactation. S. J. Folley.—p. 40.

Supravital Staining in Diagnosis of Monocytic Leukemia. R. MacKeith and Ursula M. Bailey.—p. 41.

Dressing of Open Wounds and Burns with Tulle Gras. D. N. Matthews.—p. 43.

Hematemesis from Peptic Ulcer.—Nuttall says that, in spite of what appears to be overwhelming evidence in favor of early operation for hematemesis due to peptic ulceration, it is far from being generally accepted, most textbooks advising medical treatment or operation only after the bleeding has ceased. The really severe hemorrhages are comparatively rare. A practitioner may see only one or two in several years, but that should be no excuse for complacency in a fatality; most patients can be saved by a timely operation. In the light of his own experience, the author pleads for a bolder attitude on the part of the average surgeon with experience in gastric surgery. Published mortality figures show that a considerable number of people die as the result of hemorrhage from peptic ulcer, and that an eroded vessel is usually present. Many of these deaths might be saved by operation. During the past eleven years the author operated on 18 patients suffering from profuse hematemesis. There were two deaths: one of a patient with carcinoma of the stomach and the other of a patient whose ulcer perforated shortly after the hematemesis. Of the patients who recovered, 1 had splenic anemia and 2 had gastrostaxis; the remaining 13 had ulcers with eroded vessels and would certainly have died if they had not been operated on. Blood transfusion and operation is the right treatment for severe hematemesis from a peptic ulcer. The methods used to arrest hemorrhage should be as simple as possible and need not aim at preventing further ulceration.

Presse Médicale, Paris

48:929-952 (Nov. 20-23) 1940

First Menstruation and Clinical Incipience of Tuberculosis. P. Nobécourt.—p. 929.

Unilateral Digital Hippocratism and Its Diagnostic Value in Aneurysms of Subclavian Artery and Brachiocephalic Trunk. M. R. Castex and E. S. Mazzei.—p. 931.

*Diabetes and Minimal Infections (Peripheral Diabetes). H. Zondek and A. Kaatz.—p. 933.

*War Tetanus: Effect of Anesthetic Infiltration of the Sympathetic. R. Simon and G.-A. Patey.—p. 935.

Diabetes and Minimal Infections.—Zondek and Kaatz discuss the effects of afebrile infections seemingly of such pathologic insignificance as to escape the attention of patient and physician but yet powerful enough either to aggravate a known diabetes or to activate a latent one. In the 4 cases discussed, morbid phenomena consisted in dental granuloma and pyorrhea, a small seropurulent abscess of the skin and rheumatic tenovaginitis associated with pain in one wrist. Prompt improvement of the sugar metabolism after control of the foci of infection suggested that physicochemical modifications of the liver or muscular tissues were also involved. The doubt whether minimal infections can affect the pancreatic structure unfavorably leaves out of account the possibility that a particular sensitivity to the toxins of infections released in other parts of the body may exist in the liver cells of diabetic persons and that it does not require pronounced quantities of such toxins to provoke serious consequences. Among the factors exerting adverse effects are abnormal impulses arising in the central nervous system, adrenal hyperfunction, hyperfunction of the anterior lobe of the hypophysis and obstruction of insulin in the periphery of the organ (liver or musculature). The authors suggest that apparently unimportant infections, especially in the advanced decades, be given attention. Not only was refractivity to insulin overcome, but a completely normal carbohydrate metabolism could be reestablished following the control of mild infections.

War Tetanus.—Simon and Patey report their observations in 14 cases of war tetanus and recommend infiltration of the sympathetic with procaine hydrochloride as an effective measure in cases in which extensive neurovascular lesions or amputations elicit intolerable pain and the other symptoms of tetanus. They call attention to the fact that war tetanus exhibits features not usually found in peace time tetanus. Sudden excruciating pain may flare up against a background of fatigue, deprivation of food and tetanus intoxication, while shock and long neglect act as a direct irritation of the nervous centers, especially those of the midbrain, which are particularly receptive of tetanus toxins, and induce death. Treatment of war tetanus not only must be directed against existing tetanus intoxication but should seek to prevent or mitigate nervous irritation. Since an extensive peripheral lesion or a painful stump cannot be controlled by local treatment, including procaine infiltration of the regional nerve, the therapeutic attack of choice should be by procaine hydrochloride infiltration of the sympathetic, either in the lumbar or in the stellate region. The dose must be large, 20 cc. of a 1:100 solution administered according to the established technic. No sequels were observed.

Schweizerische medizinische Wochenschrift, Basel

70:1137-1160 (Nov. 30) 1940

Pathogenesis and Symptomatology of Endemic Sprue. N. Markoff.—p. 1137.

Effect of Unisided Nutrition on Mineral Levels in Animals. H. Kapp.—p. 1139.

Diagnosis and Evaluation of Stenosis of Aortic Isthmus: Case. M. Kartagener and E. A. Zimmer.—p. 1146.

Failure of Sulfapyridine Therapy in Infantile Pneumonia: Case. W. Abegg.—p. 1150.

*Mesenteric Adenitis Simulating Appendicitis. E. Urech.—p. 1152.

Mesenteric Adenitis Simulating Appendicitis.—Urech discusses a pathologic condition, occurring principally in children, which is characterized by an inflammation of the lymph nodes in the ileocecal region and particularly in the inferior portion of the mesentery of the ileum. The symptoms, about identical with those encountered in acute appendicitis and including pain in the right iliac fossa, often make differential diagnosis impossible. Pain may be very acute and is often localized to the right of the umbilicus. Viewed at biopsy, the lymph nodes are

either isolated or aggregate, the latter forming an irregular mass of variable size (pea, bean, small hazelnut) sometimes significant in their massing but eluding palpation. These lymph nodes occur in greatest number in children aged from 2 to 3 years and gradually decrease with the growing years. In only one fourth of the children between 10 and 14 years are they seen and in only 5 per cent of those more than 18 years of age. The diseased lymph nodes observed studied histologically and by bacteriologic tests and guinea pig inoculation were found to be nontuberculous, though tuberculization may occur. A parallelism between mesenteric adenitis and enlarged tonsils or significant adenoid hypertrophy was not constant and hence diagnostically of limited value. Neither did the hematologic studies aid in the diagnosis. These indicated mild leukocytosis tending to lymphocytosis; the sedimentation rate was increased, especially during the days succeeding the operation, and the Wassermann test always gave a negative reaction. The prognosis was favorable but the cases exhibited a tendency to relapse. Mesenteric adenitis is classifiable with Pfeiffer's disease. Conservative treatment is in order; however, the author points out that, though the diagnosis may point to "abdominal adenoiditis" to the exclusion of appendicitis, surgical intervention may need to be resorted to in order to avoid grave consequences. Mesenteric adenitis is not a rare condition. The author's conclusions are based on observations covering all of the appendectomies performed during the course of from five to six years in a given hospital.

Medicina Sperimentale Archivio Italiano, Turin

6:609-672 (Oct.) 1940. Partial Index

*Action of Nicotinic Acid (Vitamin P-P) on Healing of Experimental Fractures and on Reticuloendothelial System. C. Scartozzi.—p. 609.

*Blood Choline Esterase and Arterial Hypertension. V. Longo and F. Sorrentino.—p. 629.

Nicotinic Acid in Healing of Experimental Fractures.—Scartozzi produced experimental fractures in young adult male rabbits, reduced the fragments and immobilized the limb. The animals were kept on a normal diet. One group received 0.05 Gm. of nicotinic acid every other day, a second group received 0.1 Gm., while a third group served as a control. Three animals of each group were killed on the sixteenth, thirty-first and forty-second day of the experiment. The results of microscopic studies confirmed those of roentgen studies previously performed. He found that nicotinic acid accelerated healing and stimulated formation of callus. The process of healing was more rapid and complete in the animals which received nicotinic acid than in the controls. Nicotinic acid stimulated also the function of the reticuloendothelial cells, especially in the liver and the spleen. The effects of nicotinic acid were the same for animals which received 0.05 Gm. as for those which received 0.1 Gm. of the substance. Apparently the administration of doses of more than 0.05 Gm. is not necessary. The effects of nicotinic acid were more evident during the first month of the experiment than in the later period.

Blood Choline Esterase and Arterial Hypertension.—

Longo and Sorrentino determined the amounts of choline esterase in the blood of 60 persons with normal, high, and low blood pressure. The mean figure of choline esterase for each hundred cubic centimeters of blood serum in normal persons was 0.0016 Gm., in patients with arterial hypertension 0.0008 Gm. and in patients with hypotension 0.0023 Gm. The differences in the choline esterase content of the blood had no relation to the age, the general condition and the diet of the patient. The results point to a relationship between disturbances of organic production of choline esterase and arterial hypertension. A normal arterial pressure depends on the normal state of the cardiovascular and renal apparatus, the carotid sinus and other structures and also on other factors, one of which is the supply of acetylcholine to the blood in proper amounts for the regulation of blood pressure. The blood pressure lowering properties of acetylcholine are due to the effect of choline esterase, which acts as a buffer substance for acetylcholine by neutralizing the useless and harmful parts of the substance. Age, in the presence of certain pathologic conditions of the aforementioned structures, brings about either a diminished organic production of choline esterase with consequent hypertension or an increased organic production of the esterase with consequent hypotension.

Book Notices

The 1940 Year Book of Industrial and Orthopedic Surgery. Edited by Charles F. Painter, M.D., Orthopedic Surgeon to the Massachusetts Women's Hospital and Beth Israel Hospital, Boston. Cloth. Price, \$3. Pp. 484, with 299 illustrations. Chicago: Year Book Publishers, Incorporated, 1940.

This is a welcome addition to the literature on industrial and orthopedic surgery. It is aimed at keeping a doctor abreast of developments in these specialties. It presents the essential working facts of two hundred and seventy-six articles chosen by the editor from eighty-six publications, forty-six of them issued in the United States and forty in fifteen foreign countries. Seventy-seven operations are presented, with step by step technic in thirty-seven; eighty-six clinical and operating room studies, each with an application to everyday orthopedic measures. Forty-two case reports cover a wide range of reconstructive surgery. Eighty-two lesions are discussed.

While it does not include every article published during the year, this volume presents a cross section of the more important contributions. The book is well organized and the summaries and abstracts are concise. There are numerous references to the foreign and American literature. The book reflects the various trends in orthopedic surgery and forms a useful and handy review for the busy surgeon. Its greatest usefulness would appear to be to the general practitioner, the pediatrician and the radiologist, who will find it a ready reference to a large orthopedic and industrial literature.

The qualifications of the editor are attested by his associations and his standing in his community and abroad. He has at his immediate disposal the enormous resources of the *Journal of Bone and Joint Surgery* and especially the intimate personal and professional contact of Dr. Brackett, its editor. While it is impossible to please everybody in the selection of articles, one will find that the editor has achieved his primary objectives, and the secondary benefits that will accrue are worthy.

Practical Handbook of the Pathology of the Skin: An Introduction to the Histology, Pathology, Bacteriology and Mycology of the Skin With Special Reference to Technique. By J. M. H. Macleod, M.A., M.D., F.R.C.P., Physician and Hon. Director of the Pathological Department, St. John's Hospital for Diseases of the Skin, London, and I. Muende, M.B., B.S., B.Sc., Pathologist in Charge of Out-Patients' Clinic, St. John's Hospital for Diseases of the Skin. Second edition. Cloth. Price, 42s. Pp. 415, with 152 illustrations. New York: Paul B. Hoeber, Inc.; London: H. K. Lewis & Co., Ltd., 1940.

It is ambitious to attempt to crowd histology, pathology, bacteriology and mycology into four hundred and two pages, yet the authors have made a highly creditable showing. It is inevitable that the data should be sketchy and the subjects more or less disconnected. Indeed, many parts of the book suggest students' lecture notes which have been more or less amplified. The end result is a book from which it would be difficult for the novice to gain a well connected idea of the subjects discussed. The book is well-nigh ideal for students who have had courses of lectures on the subject matter and who would value the opportunity to refresh their memories on key points.

Perhaps some room for additional details on tissue processes could be salvaged by omitting data which can be readily secured in standard textbooks on general pathology. For example, the technic for the examination of the blood occupies eight pages, and histologic technic occupies twenty-eight pages. It would serve dermatologic purposes sufficiently if only the phases which had a special application in dermatology were included in these sections, leaving the reader to secure the remainder of the information from standard sources. It would not be amiss if a chapter on the pathologic chemistry of the skin was substituted in place of these, gathering here the data on the changes in the blood and urine. Alkaptonuria is not indexed. About half of the book amounts to a treatise on the histopathology of the skin. The remainder extends further than histopathology and includes considerations of physiologic chemistry, embryology and parasitology. The data are thoroughly down to date and are dealt with in the sensible, clearcut way for which Britons are noted.

The book is excellently printed on enameled stock and illustrations are reasonably numerous. All of them are good. Typographic errors are few. A lapse in expression is noted in

figure 1, in which the authors use "palm of the hand" whereas in the text "of the hand" is consistently and properly omitted. The authors are not at all consistent in the use of capitals in connection with the names of diseases or even structures (Molluscum body, p. 68; Vernix caseosa, p. 38; Condyloma acuminata, p. 72; Stratum corneum, p. 57). On page 161, "appreciative pathologic changes" should probably read "appreciable." On page 352 the authors apparently regard lepothrix as synonymous with trichomycosis nodosa. However, these are not substantial criticisms and do not affect the practical value of the work as a whole. The authors are to be congratulated in the selection of subjects in dermatology which have for years needed textbook treatment and for having compassed so much within four hundred and two pages.

Gang und Technik der Röntgenuntersuchung auf Harnsteine. Von Dr. Eduard Pfäumer, a. o. Professor für Urologie an der Universität Erlangen, Erlangen, und Dr. Hermann Friedrich. Die Urologie in Einzeldarstellungen, herausgegeben von Prof. Dr. H. Boemlinghaus. Boards. Price, 8 marks. Pp. 96, with 50 illustrations. Leipzig: Georg Thieme, 1940.

This brochure narrates the procedure of roentgen examination for urolithiasis, with many illustrations and an exact roentgenographic technic. The monograph is evidently intended for the use of general practitioners as well as specialists in urology. All the essentials of roentgenographic technic which have been universally employed for a great many years are noted in detail and the authors make a plea for exact roentgen diagnosis from films rather than the use of urologic instrumental procedures. All the suggestions made are in vogue everywhere, and no new technics are advocated. Intravenous urography is suggested as a useful adjuvant in diagnosis, but the authors warn against the indiscriminate employment of cystoscopic and retrograde pyelographic procedures. This, of course, is contrary to accepted practices among well known urologists. The authors believe however that, if retrograde pyelography is utilized, oxygen is the most harmless pyelographic medium. As there is a general acceptance of iodide derivatives for both intravenous and retrograde urography, plea for the employment of oxygen is not warranted. For cystography, air or oxygen is universally employed. Considerable detailed information is given with regard to the use of roentgenography at the operating table when kidneys have been exposed for lithotomy. Some years ago, Carman of the Mayo Clinic, Beer of New York and Quinby of Boston recommended the use of roentgenograms in specially devised and sterilizable cassettes at the operating table, since which time urologists everywhere have employed this combination technical procedure. The authors believe that 50 per cent of patients operated on for nephrolithiasis have fragments of calculi which are overlooked. It is doubtful whether this is an accurate observation.

Orthopedic Surgery for Nurses Including Nursing Care. By Philip Lewin, M.D., F.A.C.S., Associate Professor of Bone and Joint Surgery, Northwestern University Medical School, Chicago. Third edition. Cloth. Price, \$3.50. Pp. 462, with 195 illustrations by Harold Laufman, M.D. Philadelphia & London: W. B. Saunders Company, 1940.

This book is full of practical material and is well illustrated. Although the book is intended primarily for nurses, it would be valuable in the libraries of practitioners of medicine and of medical students. It covers, in a general way, most of the problems of orthopedic surgery. Many parts of the book would be useful to physical therapists, especially those in the field. In Massachusetts under a law passed two years ago, all visible deformities must be reported on the birth certificate. This is probably one of the most powerful assets in knowing about the population of cripples. Mention might be made of this to secure similar action in other states. The chapter on orthopedic nursing gives some sound and practical points and should be read carefully by all nurses who intend to specialize in the care of orthopedic patients. There might be some criticism of some of the apparatus. For instance, the illustration of the shoulder spica on page 55 does not show that the spica grasps the crest of the ilium. This feature of the spica is important especially in cases of infantile paralysis, if one wishes to avoid curvature of the spine and make the patient more comfortable. Under the chapter

on osteomyelitis, the reviewer does not agree that surgical treatment should be started as soon as the diagnosis is made, since many of these patients are dehydrated. It is wiser to combat the dehydration and get the patient into better general condition before operating. As a part of the operative nursing setup it is probably far wiser not to have the anesthesia started until all preparations are made and the surgeon is ready to operate. The subject of *poliomyelitis in general* is well covered and gives a good idea of the management of such patients. The operative treatment naturally has to be abbreviated in such a short work, but some of the operations could be brought up to date. For example, on page 263, in the description of Legg's operation, the transplant of the tensor fasciae femoris muscle into the outer side of the femur to increase the power of abduction was later revised by Legg, and he transplanted the origin of the tensor fasciae femoris farther out on the crest of the ilium, not touching the lower portion of the fascia. The indications for stabilization for a flail shoulder are not clear. The author in the same chapter states that hip abduction contractures are uncommon. In paralysis of the whole leg it is the experience of the reviewer that they are common. The title of the book is rather misleading in that the author does not deal with orthopedic nursing care alone. There are so many valuable subjects in it, however, that it is recommended to nurses' training schools, graduate nurses, medical students, physical therapists and the medical profession in general.

A Family Doctor's Notebook. By I. J. Wolf, M.D. Cloth. Price, \$2. Pp. 315, with portrait. New York: Fortuny's, Publishers, Inc., 1940.

The author in his first fifty years of practice apparently could never find time to write. Now at 75 he is emeritus professor of medicine at the University of Kansas Medical School and has yielded to the urge to express his opinion on various subjects. Dr. Wolf was born in Germany near Stuttgart at a time when Jews and Gentiles lived there in harmony side by side. Why this good will cannot continue he does not understand. He discusses this question in the first chapter, which is one of two devoted to his own life. He went to Heidelberg, which was the most beautiful and most famous of all German universities. Students belonging to the fraternities at Heidelberg (the "Corps" and the "Burschenschaften") seldom attended lectures, and all they did, he says, was to learn to fight duels, frequent banquets, drink, sing and sleep. These fencing duels were in the nature of an exhibition of skill and rivalry in the art of fencing but were forbidden by law; yet twice a week students in the fraternities went out to their place of rendezvous and two hours later returned, some with their heads bandaged. The author could not fight duels or join a fraternity because he was not financially able. He left Heidelberg to continue his medical study at Munich and came to the United States in 1888, having passed his state examination and spent the required period of time in the German army. After fifteen years of practice in Kansas City he had accumulated by saving and investing about \$35,000. In 1905 he joined the faculty of the Medical Department of Kansas University as professor of medicine and he has been connected with the school ever since, teaching gastroenterology and dietetics. On his sixtieth birthday his friends and patients gave him an automobile, a diamond ring and a check for \$6,500, and with this money he and his family made a four months trip to Europe. In 1937 the staff of the Menorah Hospital gave a dinner commemorating the author's fiftieth year in practice; while responding to the addresses he was stricken with coronary occlusion, from which he has never entirely recovered. Following his brief autobiography he writes about the cooperation of the physician and patient, medical ethics, types of physicians, success in the practice of medicine, quacks and nervous patients. In part three he discusses medical economics, birth control, vivisection, periodic health examinations, family physicians and specialists. In part four he writes about the physician and religion. His book closes with the following sentence from Descartes: "If ever the human race is raised to its highest practicable level intellectually, morally and physically, the science of medicine will perform that service."

Man's Greatest Victory Over Tuberculosis. By J. Arthur Myers, Ph.D., M.D., F.A.C.P., Professor of Medicine and Preventive Medicine and Public Health, University of Minnesota, Minneapolis. Cloth. Price, \$5. Pp. 419, with 31 illustrations. Springfield, Illinois & Baltimore: Charles C. Thomas, Publisher, 1940.

The major part of this book is devoted to tuberculosis in cattle. There is recorded step by step in the single chapters the methods that have been used to diagnose, to treat and to prevent tuberculosis in cattle. The program of the veterinarian as emphasized throughout the book has been fully effective in the United States since, in 1917, veterinary science and administration made plans on a large scale to eradicate the disease in animals. The single chapters of the monograph give an excellent review of the history of tuberculosis in animals as well as in human beings. To mention only a few items: cattle as the core of civilization; diseases among animals; recognition, sacrifices and accomplishments of the veterinarians; the United States Bureau of Animal Industry; geographic distribution and prevalence of tuberculosis in cattle. There are some more chapters on the nature of tuberculosis, the tubercle bacillus, tuberculin and the tuberculin test. They are supplemented by an extensive chapter on the much discussed question of specific immunity in tuberculosis. Every student of tuberculosis will benefit from these critical explanations, in which the different methods of vaccination are carefully reported from Robert Koch's discovery to Calmette's BCG. The next chapters deal in greater detail with the early attempts to control tuberculosis among cattle in Europe and the United States, the practical eradication of bovine tuberculosis in this country and the economy of this achievement. These accomplishments of the veterinarians constitute man's greatest victory over tuberculosis.

The information about bovine tuberculosis, as the author points out in his preface, is widely separated in point of time and location. It "should be easily available to every physician, because in tuberculosis of humans many problems which today are considered controversial have already been solved by the veterinary profession." However, it must not be forgotten that the task of the veterinarian is somewhat easier. He can remove radically the sources of infection and eventually kill them, which the physician cannot. But also for man, Myers believes, there are almost as effective measures in controlling the disease, namely isolation, treatment and education, as the sharp decline of tuberculosis mortality has demonstrated during the last decades. Although the author seems throughout the book to overrate somewhat the purely contagious character of tuberculosis in man, neglecting almost entirely the social economic and hereditary components of the disease in human society (which is of course far different from a herd of cattle under human control), the contents and the conclusions deserve all attention of the medical world and public health administration. The book is well written and highly suggestive in every chapter, containing plenty of references to former and present research work. It closes with some lessons for physicians in human medicine and an ample bibliography.

Hydrocephalus: Its Symptomatology, Pathology, Pathogenesis and Treatment. By Otto Marburg, M.D. Cloth. Price, \$3. Pp. 217, with 28 illustrations. New York: Oskar Pleist, 1940.

The author has done much research on hydrocephalus. The book includes discussions of every phase of the disease and a critical review of the literature, also a discussion of cerebrospinal fluid both under normal conditions and in hydrocephalus. In the main, the author's conception of hydrocephalus is that it is a disturbance of water metabolism. "Undoubtedly more fluid than is normal enters into the brain in hydrocephalus, and reabsorption is also affected, both caused by a disturbance of the permeability of the hematoencephalic barrier. Since this mechanism is not able to reabsorb the large amount of fluid in the usual manner, the fluid enters into the ventricular system; and this increase of fluid in the ventricles enlarges them. It is not necessary to prove whether the active process of the increase of water or the passive of the reabsorption plays a greater role. All the other facts described as the causes of hydrocephalus are only incidental. By increasing the enlargements of the ventricles and by obstructing the communications, they establish the hydrocephalus." There are numerous good illustrations, particularly of the pathology of hydrocephalus. At the end of the book there is an extensive bibliography of the subject. The book is useful to any one who is interested in hydrocephalus.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

SEVERE CARDIAC FAILURE WITH ASCITES

To the Editor:—A man aged 37, of Swedish parentage, had inflammatory rheumatism seventeen years ago. Heart disease developed a year and a half ago, showing itself in edema of the legs which gradually increased until ascites developed, this becoming extreme, and at the time I first saw the patient his abdomen was tightly distended and he had extreme edema of the legs and scrotum but no evidence of fluid above the diaphragm. He was at that time (Sept. 28, 1940) excreting only about a pint of urine a day of specific gravity of 1.028, containing no albumin or casts, although the patient was told he had kidney trouble. He was at that time taking digitalis and a preparation of the enzymes and hormones of the kidney. The heart action was irregular and there were both systolic and diastolic (aortic regurgitation) murmurs with a blood pressure of 160 systolic and 10 diastolic and only an occasional systolic beat registering 160. Two quarts of ascitic fluid was removed on September 29, 4 quarts on October 2 and 5½ quarts on October 5. He stood the tapping well. Since then he has been tapped at frequent intervals, the operation yielding on one occasion as much as 8½ quarts and on a recent tapping as much as 9 quarts. Since Oct. 5, 1940 he has been getting salyrgan, 1 cc. (later changed to salyrgan-theophylline, 1 cc.). This is given in combination with nikethamide 1.5 cc. and occasionally an extract of unfatigued muscle is added. At one time under this medication the renal output was suddenly increased to 5½ quarts in twenty-four hours, the first few voidings of which were of low specific gravity. But mostly after administration of these preparations the voiding for the first twenty-four hours has been only the normal amount of 1½ quarts. The patient is kept in a recumbent posture most of the time but, being a young man and "feeling fine" after theappings, he does walk around a little and has some of his meals at the table. Fluids are restricted as much as possible and also salt. Thyroid medication in small amounts with iodine (soluble) was also tried for a short time but with no appreciable result. After theappings the heart action becomes more regular and the diastolic murmur of the virtual aortic regurgitation disappears, the mitral systolic murmur alone remaining. There is practically no dyspnea remaining after theappings, and only within the last ten days has any pulmonary edema appeared and then only slight, again disappearing after the tapping. The patient is gradually becoming more and more emaciated. His appetite is voracious and his digestion good. The case is one of practically pure and simple hemodynamics. The unusual feature is the large amount of fluid it is possible frequently (and of necessity) to withdraw. The specific gravity of this is 1.012. It is almost clear, slightly opalescent, straw yellow in color, and not having the slight orange tinge that urine has. I should like to know whether any additional medication can be given to increase the urinary output. Will a larger dose of salyrgan-theophylline help? He lives several miles from my office in his home and is attended by members of his family. He is unmarried and has at all times lived a wholesome life. I also should like to know whether an operation on the aortic ring would benefit him and who would be willing and competent to undertake such an operation.

M.D., New York.

ANSWER.—The case described is unusual with regard to the type of onset of heart failure. Ordinarily in aortic valvular disease a period of weeks or months of left ventricular weakness with pulmonary congestion, dyspnea and orthopnea precedes the development of edema of the legs and ascites, which are signs of right ventricular failure and systemic venous congestion. One wonders whether the patient does not have rheumatic tricuspid valvular disease in addition to aortic, and probably mitral, involvement. Tricuspid insufficiency or stenosis could readily produce the edema and ascites with relatively few pulmonary signs or could relieve the congestion of the lungs caused by left ventricular insufficiency. There should be obvious venous engorgement in the neck and cyanosis. The irregular heart action, if due to auricular fibrillation and not simply extra systoles, is rather atypical in uncomplicated aortic regurgitation and is much more likely to occur in mitral or tricuspid disease. Were it not for the history of acute rheumatic fever at the age of 20 and the presence of typical aortic murmurs, a high pulse pressure and low diastolic level, the syndrome of recurrent ascites and edema of the legs without hydrothorax should lead one to consider a thickened pericardium, with obstruction of venous inflow from the lower half of the body. The heart is usually not enlarged and its tones and pulsations (fluoroscopy) are noticeably reduced. There is certainly no urinary evidence of renal disease, and renal function appears normal. Cirrhosis of the liver is a possibility but further investigation is necessary, such as testing of liver function and the attempt to demonstrate esophageal varices by fluoroscopy. A final diagnostic possibility is an unrecognized large arteriovenous fistula, such as a patent ductus arteriosus, which can produce the peripheral signs of aortic insufficiency and right ventricular failure. In the heart itself a patent interventricular or interauricular septum could add various types of

murmurs and arrhythmias to the picture. Careful fluoroscopic and electrocardiographic study of the patient may yield decisive information on this point.

As to treatment, it is unwise to remove ascitic fluid repeatedly by paracentesis, because considerable wastage of plasma protein results, with eventual emaciation even if the patient is able to eat a good diet. It would be interesting to determine the plasma albumin and globulin level in this case. Instead ofappings, it might be desirable to give 1.5 or 2 cc. doses of an organic mercurial intravenously once a week, preferably preceded by three or four days of oral administration of 4 to 8 Gm. of ammonium nitrate, given in divided doses with meals. Nikethamide and muscle extracts are not indicated. Digitalis may be continued in maintenance doses unless signs of overdigitalization appear. An operation on the aortic ring would certainly not benefit the patient and might well result in serious immediate consequences.

DYSPNEA AND ULTRAVIOLET THERAPY

To the Editor:—A woman aged 68, whose chief complaint is shortness of breath, is fairly stout and tends to hypertension. Last March her blood pressure was 200 systolic and 100 diastolic, although of late it has been around 140 to 150 systolic and 80 to 90 diastolic. She is 5 feet 2 inches (157.5 cc.) in height and weighs 160 pounds (72.6 Kg.). She shows a distinct allergy to cold. Last March the heart action was rhythmic rate 90, while under examination. The second aortic was sligher than the second pulmonic sound. The heart outline was somewhat enlarged. The apex beat was diffuse and out to the left of normal. Submanubrial dullness was increased. A coarse systolic murmur was heard over the entire precordium, presumably the result of atherosclerotic changes. The electrocardiogram showed some changes that were corroborative of myocardial symptoms on the basis of her hypertension and inferentially due to slowly progressing coronary changes. The graph showed an atypical bundle branch block, not of high grade but construed as showing myocardial damage. The patient was recently given ultraviolet therapy. She was given irradiations every two days, beginning with a half minute to each of four areas and gradually increasing this to two minutes, which she is now receiving. The areas were divided as follows: 1. From the face down to the umbilicus. 2. From the umbilicus down to the toes. 3. In back from the crown of the head down to the area at a level corresponding to the level of the umbilicus in front to the level of the toes. In other words there were two areas in front and two in back. The patient states that she feels better after each treatment and that in general she feels better since these treatments were begun than she felt previously. Is there any contraindication to ultraviolet therapy in a case of this kind?

M.D., Michigan.

ANSWER.—From the information given the diagnosis is far from clear. The shortness of breath may be related to cardiovascular changes, obesity and age or to other undisclosed factors. The mention of increased substernal dullness suggests the possibility of a mediastinal lesion that might cause dyspnea. In the absence of a clear diagnosis the indications for ultraviolet therapy also are indefinite. The fact that the patient states that she feels better after each treatment and that she feels better now than she felt before the ultraviolet treatment was started may or may not mean much. The apparent improvement might be the effect of suggestion.

There does not appear to be any contraindication to ultraviolet therapy under the circumstances mentioned, provided the kidneys are functioning normally. However, it would be wise to exclude every factor that might cause dyspnea.

HICCUPING IN INFANT

To the Editor:—What is the probable cause of frequent hiccuping by a baby 2 weeks old? After every meal she is troubled distressingly with rather violent singultus. Water, change of position and like measures have caused little if any relief.

M.D., Massachusetts.

ANSWER.—Hiccuping consists in a clonic contraction of the diaphragm. There exists a medullary center adjoining the center for the vagus nerve in the medulla. Reflex stimuli may be transmitted to this center and incite the hiccup reflex. Four fifths of the stimuli which initiate this reflex originate in the stomach.

In a 2 week old infant who hiccups after each meal the afferent stimuli to the medullary center probably arise in the stomach and are transmitted to the diaphragm through the phrenic nerve. This reflex may be initiated by too rapid nursing, the ingestion of unduly hot or cold milk, dilatation of the stomach and aerophagia. The last-named condition is probably the commonest cause of hiccups in a newborn infant.

If the nursing is interrupted and the baby held on the shoulder and patted on the back, the belching of air ingested with the milk will empty the stomach of a considerable air bubble and will probably prevent the initiation of the hiccup.

Organic causes such as mediastinal irritation of the vagus or phrenic nerves by means of enlarged bronchial or medias-

tinal glands, or because of malignant mediastinal growth, would hardly be thought of in an apparently otherwise normal 2-week old infant. Likewise, direct irritation of the medullary center from organic cerebral disease would hardly be considered in so young a child.

CONVULSIVE SEIZURES IN PREGNANCY

To the Editor:—A white woman aged 23, in the fourth month of her first pregnancy, suffered a convulsive seizure in her sleep. Her physical examination when she came under my care revealed no abnormalities. There is no pertinent familial or traumatic history. The description of the attack as written by her husband could easily have been taken from a textbook description of a typical grand mal convulsion. Two and a half months later the same thing was repeated, also starting in her sleep. No significant facts were obtained in a detailed neurologic examination. Some authorities on obstetrics have noted first onset of such convulsions during pregnancy and not thereafter. This patient does not show any evidence of toxemia of pregnancy. Is the foregoing any reason to interrupt a pregnancy, or should subsequent pregnancies be interdicted even though she may have no convulsive seizures? M.D., California.

ANSWER.—Epilepsy occasionally manifests itself for the first time during a pregnancy. When this occurs, there may be some difficulty in ruling out possible eclamptic convulsions. In the absence of observations of toxemia of pregnancy, eclampsia need not be considered.

Epilepsy which first begins in pregnancy is likely to continue after the gestation and pursue a typical course. The interruption of pregnancy would not be indicated in this case because of the infrequent seizures. Furthermore, it is rarely advisable to resort to drastic procedures to prevent future pregnancies. The interruption of pregnancy and sterilization is advisable in cases in which the epileptic attacks occur at increasingly frequent intervals, in which the epilepsy cannot be controlled by measures that are available today and particularly when there are evidences of mental deterioration. There are probably some hereditary factors in the development of epilepsy, but these are not definitely known.

FOOT BATHS FOR RINGWORM PREVENTION

To the Editor:—I will appreciate any information furnished concerning the effectiveness of fungicidal preparations for foot bath use in the prevention of athlete's foot in shower rooms. Particularly, I would like your comments as to the usefulness of Mercurous Iodide Compound, P. C. 15 (mild mercurous chloride, potassium iodide, calcium iodide, sodium chloride, alcohol 50 per cent, acetone, soap and triethanolamine), manufactured by the Mer-Kil Chemical Products Company and Kalusoff's Floor Concentrate (4, 6 benzyl 2 chlorophenol in alcohol and oil soap, manufactured by Kalusoff, Limited) as compared to sodium hypochlorite. It has been stated that sodium hypochlorite when used for the described purpose is effective for not more than five hours. Is this true? Any other information regarding the prevention of athlete's foot in shower rooms will be gratefully received.

Francis C. Black, Oak Park, Ill.

ANSWER.—So far as is known, no controlled fungicidal studies have been made on either of the products mentioned. Fungicidal studies done on separate components do not indicate any superiority over the common and cheap sodium hypochlorite. In aqueous suspension, none of the ingredients mentioned can compare with the fungicidal activity of sodium hypochlorite. A 1 per cent solution of sodium hypochlorite standing in an open pan is effective against the common organisms of ringworm of the feet for forty-eight hours. It requires only 0.5 per cent sodium hypochlorite to kill the most resistant organism in aqueous suspension. None of these preparations are curative. For further information, refer to Osborne and Hitchcock (Prophylaxis of Ringworm of the Feet, THE JOURNAL, Aug. 1, 1931, p. 453).

VITAMIN B₆ AND PARALYSIS AGITANS

To the Editor:—Is the intravenous use of vitamin B₆ a recognized treatment of paralysis agitans? In what stage of the disease is it effective if at all? Is there much appreciable danger in its use? How many injections are necessary and what are the approved preparations?

Hilton A. Wick, M.D., New Bethlehem, Pa.

ANSWER.—The use of vitamin B₆ (pyridoxine hydrochloride) in the treatment of paralysis agitans is a purely experimental procedure. Spies has treated some 40 patients by this means and reports no cures. Approximately 20 per cent of the patients experienced considerable subjective relief and became less rigid, and in some instances a decrease in the tremors occurred. A few have been able to return to work. However, 80 per cent received no benefit at all. No explanation has been offered as to why it relieves some and not others. Spies injected intravenously 50 mg. of the synthetic product in sterile physiologic solution of sodium chloride three times a week. If there was no improvement within two weeks, Spies considered the therapeutic test a failure.

NASAL ULCER, EPISTAXIS AND HYPERTENSION

To the Editor:—A woman aged 65 has been under treatment for hypertension and pernicious anemia for several years. Nasal hemorrhages which occurred at intervals of several months have recently been occurring at weekly intervals with loss of about 8 to 10 ounces (235-300 cc.) of blood on each occasion. Blood pressure readings average between 240 systolic and 110 diastolic and 280 systolic and 120 diastolic, the latter usually at the time of hemorrhage. Examination of the nose revealed an ulcerated area on the left side of the septum (all bleeding is from this side) behind Kiesselbach's area. Opinion is divided as to the wisdom of cauterizing the area in an attempt to avoid these repeated hemorrhages. The question has arisen whether or not, with this source of relief during high pressure seizures gone, would hemorrhages be likely to occur elsewhere and possibly result in hemiplegia or other serious complications? What would you advise?

Samuel Turetsky, M. D., Brooklyn.

ANSWER.—The solution of this problem requires exceedingly good judgment. There can be no question that bleeding furnishes a temporary respite from hypertension. It must be remembered that such relief is temporary and that the pressure returns with a varying degree of rapidity to the prebleeding level.

Frequent hemorrhages place a considerable strain on the blood-forming tissue, and one always fears exhaustion of this tissue because of the repeated demands made on it.

In the case in question there is also the added hazard of pernicious anemia. In addition to this the lowest readings mentioned in this question are not incompatible with a circulatory accident.

In the absence of knowledge concerning the blood cell count and hemoglobin, it would seem safer to stop this source of bleeding if possible and depend on the more controllable method of venesection whenever bleeding seems necessary or desirable.

SHORT VAGINAL CANAL AND ATROPHIED UTERUS AND ADNEXA

To the Editor:—A woman of 33, married three years, has never menstruated but is otherwise normal physically in every respect. The vaginal canal is patent, but there is no cervix present, there being only a dimple where normally the cervix would be. The uterus is rudimentary, i.e., only a cordlike structure. Neither ovary can be felt, and the ovaries are evidently atrophied. Evidently there is frigidity, and I would appreciate any suggestions as how to overcome it. The patient also complains that the vaginal canal is short and there is dissatisfaction on the part of the husband during intercourse. Is there anything that can be done to remedy the condition?

M.D., New Jersey.

ANSWER.—The outlook for such a patient as described is rather discouraging. For the frigidity little can be done. A plastic operation on the vagina may make sexual contact much more comfortable. The recently described procedures of Counseller and of Frank and Geist have yielded encouraging results, and are less formidable than the Baldwin operation.

METRAZOL GIVEN INTRAMUSCULARLY AND TRIAZOL GIVEN ORALLY TO PRODUCE CONVULSIONS

To the Editor:—Has metrazol been given intramuscularly in the convulsive therapy of psychoses in cases in which there are no readily available veins? Has the drug triazol been given orally in the convulsive treatment of psychosis?

M.D., California.

ANSWER.—Metrazol may be used intramuscularly in the regular 10 per cent solution. It is often necessary to give a dose which is 1 or 2 cc. larger than the dose used by vein. The action is somewhat delayed and may not appear for three or four minutes after the injection.

Triazol has not, according to available information, been given orally, although it is also quite satisfactory if given intramuscularly. This drug is of German origin and has not been obtained since the outbreak of the war. It seems to have no particular advantage over metrazol and other convulsive drugs in the light of present knowledge.

FEW MOTILE SPERMATOZOA AFTER OPERATION FOR CRYPTORCHISM

To the Editor:—A married man aged 26 has recently been relieved of cryptorchism by operation. Both testes are now present in the scrotum and the surgeon satisfies me that the operation was successful. This procedure was done six months ago. The patient is healthy in every respect in all laboratory work except basal metabolic rate (—11), and thyroid medication has just been started. A week ago I examined a specimen of his spermatic fluid following intercourse and was able to find only a few motile sperm. These appear abnormal in shape. Please advise the best method of treating him, as he is desirous of having children.

M.D., Tennessee.

ANSWER.—The fact that some spermatozoa were found indicates that there is no occlusion of the genital tubes but that the condition is endocrine in character. However, at present there is no satisfactory method of inducing spermatogenesis.

